

ENRESA IN THE INTERNATIONAL FRAMEWORK

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INTRODUCTION

The Empresa Nacional de Residuos Radiactivos, S.A. (ENRESA) was set up in Spain in 1984 as a state – owned company, independent of waste producers in order to be responsible for all waste management activities in the country, including the decommissioning of nuclear installations. The company is supervised by the Government, through the Ministry of Industry and Energy, to whom is obliged to submit an Annual Report of Activities and a proposal for a General Radioactive Waste Plan on a yearly basis.

During all this time ENRESA has achieved important capabilities and has gained a remarkable experience in the different steps of the radioactive waste management field. In particular the company has developed an integral management system for Low and Intermediate Level Waste, the focal point being El Cabril disposal facility, in operation since 1992. In the decommissioning field it is worth mentioning the completion in 1994 of the dismantling of the disused Andújar uranium mill, as well as the remediation programme for the uranium mines. Also, the dismantling project of Vandellós I nuclear power plant, an old gas – graphite reactor which had been phased out in 1989, is currently in progress since 1998.

The strategy for the management of spent fuel and high – level waste is being developed progressively in several steps. On the one hand, the storage capacity of the pools of nuclear power plants has been increased, in agreement with the nuclear power plants, by means of reracking, while a preliminary design of a centralized interim storage facility is also underway. On the other hand, ENRESA is also developing since 1987 a disposal programme aiming at providing a final solution for the spent fuel and high level waste. This programme is oriented to integrate site information, repository design and research data at a sufficient level to undertake safety assessments which will provide quantitative indications of the expected performance of the repository.

INTERNATIONAL COOPERATION

Since the very early stages of its creation ENRESA has been fully conscious of



General view of El Cabril

the importance of the international cooperation programmes, both the multinational and bilateral frameworks, as they constitute a key reference for sharing developments, experiences and costs.

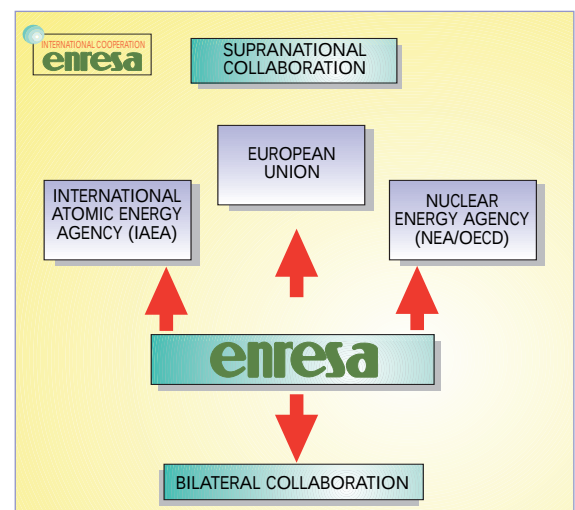
The guiding objectives for the participation of ENRESA in international cooperation programmes may be summarized as follows:

- Gaining access to a far-reaching source of information facilitating decision making in relation to the Spanish radioactive waste management programme.
- Sharing and contrasting experiences with other countries having similar programmes, through the joint development of research projects providing mutual advantages in their results and for allowing more economic solutions to be identified.
- Contributing to the harmonization of the criteria, standards and practices used in the management of radioactive wastes and decommissioning.
- Recovering to the extent possible the investments made within the Spanish radioactive waste management program-

me, through assistance programmes to other countries.

With these criteria in mind ENRESA participates in the radioactive waste management programmes promoted by the two largest multinational organizations active in this field:

the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency of the Organization for Economic Cooperation and Development (NEA/OECD). It also collaborates in all



those activities relating to radioactive waste management which are promoted by the corresponding departments of the Commission of the European Union.

These two lines of activity are complemented by collaboration with counterpart organizations in different countries by means of collaboration Agreements and Joint Projects Development Contracts.

EUROPEAN UNION

In the framework of the European Union ENRESA participates very actively in the R & D Framework Programme managed by the Directorate General XII, in the Plan of Action managed by the Directorate General XI and in the Technical Assistance Programmes (PHARE and TACIS) managed by the Directorate General IA.

The collaboration in the R & D Framework Programme (Specific Programme on Safety in Nuclear Fission) is mainly carried out through the participation in joint shared – cost projects developed with other organizations, whose objectives are well in line with ENRESA's R & D programme. In this respect ENRESA is involving in this participation to Spanish research centres, universities and service companies with a view to share experience, knowledge and costs with foreign entities. During the period of the Fourth Framework Programme (1994 – 1999) ENRESA, either directly or indirectly, participated in 27 projects with a total cost for the Spanish participation of some 2200 Mpta and a return to ENRESA from the European Commission of some 900 Mpta.

The collaboration in the Plan of Action is mainly achieved through the assistance to the European Commission in develop-

ing technical co-operation at Community level in relation to the disposal or long – term storage of radioactive waste, as well as in providing technical cooperation to Eastern European Countries. This collaboration is materialized mainly through the participation in the Programme

Advisory Committee and Working Groups responsible to develop the different areas of the Programme, as well as in some of the studies carried out with a view to harmonize different topics.

The TACIS and PHARE programmes are two initiatives designed by the European Union in order to provide assistance to the countries forming the Community of Independent States (CIS) and the Central and Eastern European Countries. The participation of ENRESA in these programmes is mainly through CASSIOPEE (Consortium for Operational Assistance to the Eastern European Countries), which was set up in 1993 by six European Radioactive Waste Management Agencies: ANDRA of France; COVRA of the Netherlands; DBE of Germany; ENRESA of Spain; NIREX of the United Kingdom and ONDRAF of Belgium.

Within these programmes, ENRESA is leading the PHARE programme, where the Consortium is assisting the European Commission in the definition of the programme, mainly through the participation in assessment and strategic studies needed

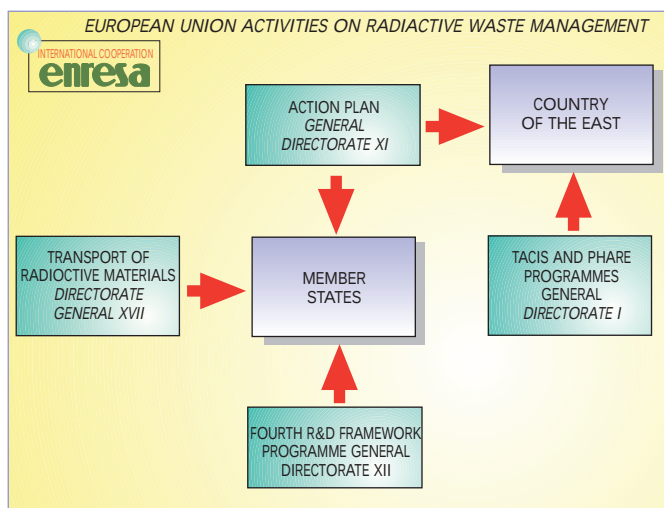
for the definition of priorities, as well as in the elaboration of Terms of Reference (TOR) for selected projects and participation in evaluation committees in the tendering processes. This assistance role is being implemented on a contract basis with the European Commission. Besides of leading the contracts for the elaboration of the programmes, preparation of TOR and par-

MAIN NEA/OECD COMMITTEES AND WORKING GROUPS IN WHICH ENRESA PARTICIPATES		
COMMITTEE	MAIN GROUPS	OTHER GROUPS
STEERING COMMITTEE	CRESP	
RADIOACTIVE WASTE MANAGEMENT	Coordinating Group on Site Evaluation and Design of Experiments (SEDE)	Water flows in clay
	Performance Assessment Advisory Group (PAAG)	Human Intrusion
LIAISON COMMITTEE FOR DISMANTLING	Technical Advisory Group (TAG)	Features-Events-Processes Recycling and Reuse of Materials
NUCLEAR DEVELOPMENT		Future Costs of Dismantling Expert Group of Costs of LLW Repositories
RADIATION PROTECTION AND PUBLIC HEALTH		Spent fuel management options
NUCLEAR LAW		
DATE BANK		

ticipation in evaluation committees, ENRESA participated in all survey studies and expert missions needed for the programmes. In this respect, a study entitled "Detailed Regional Study of Management Schemes for the Backend of the Nuclear Fuel Cycle, Radioactive Waste Management and the Decommissioning of Obsolete Nuclear Installations" was carried out in 1993-1994. The study covered the countries of Bulgaria, the Czech Republic, Hungary, Lithuania, Poland, Romania and the Slovak Republic, and focussed on the identification of problems and their respective urgencies, the consideration of short – term and long – term solutions, as well as the elaboration of recommendations. The analysis of the region was completed with similar studies for Slovenia in 1997 and for Latvia in 1998.

Also, in this assistance framework, and in order to support the Hungarian authorities in their site selection national programme for low and intermediate level waste, two expert missions were carried out to Hungary. The objective of these missions was two – fold, on the one hand to provide an expert opinion on a draft report prepared by the Hungarian authorities on the site selection for detailed investigation and licensing and, on the other hand, to obtain the relevant information to prepare and assistance project for the characterization of the selected candidate site.

During the last years, the European Commission, following the recommendations of the Consortium, was paying important attention to the organizational schemes in these countries. In this respect, it is worth mentioning the recently completed project for the Czech Republic, under the leadership of ENRESA, to provide technical assistance in establishing the National Radioactive Waste



ENRESA ACTIVITIES IN IAEA WORKING GROUPS AND JOINT RESEARCH PROJECTS

NAME	ENRESA ACTIVITY
Safety Standards Advisory Committee on Radiactive Wastes (WASSAC)	Participation on Committee
Radioactive Waste Safety Principles and Standards Sub-Group	Participation in Sub-Group
Advisory Group on the Transport of Radioactive Materials (TRANSAC)	Participation in the Group
Peer Reviews (WATRAP)	Slovakia Review
Permanent Advisory Committee on Spent Fuel	Participation in the Group
Group of Experts of the Convention on the Safety of Spent Fuel and Radioactive Wastes	Participation in the Group
Long-term behaviour of low and intermediate level waste packages under repository conditions	Participation in joint research project
Barriers behaviour in low level waste repositories	Participation in joint research project
Long-term behaviour of spent fuel and disposal facility components	Participation in joint research project
Enhancement of methodologies for the assessment of long-term safety in shallow underground Storage facilities (ISAM)	Participation in joint research project
Modelling and treatment of radionuclide transfer in the biosphere (BIOMASS)	Participation in joint research project

Management Agency (RAWRA) and in developing all necessary documents and regulations for its operation.

In the TACIS programme it is also worth mentioning the leadership of ENRESA in a contract awarded to CASSIOPEE aiming at proposing improvements regarding the storage and disposal conditions of non – NPP radioactive waste generated in the Moscow region. The work carried out in 1995 – 1996 consisted of an assessment of the situation of institutional waste management in the Moscow region through technical audits.

NUCLEAR ENERGY AGENCY (NEA/OCDE)

The NEA constitutes a high technical level forum, whose working procedures are mainly oriented to the exchange of information among the participating countries, as well as to the development of joint projects in those areas where technical consensus is needed. It performs its work basically through Committees and Working Groups which constitute qualified forums for the exchange of experiences and for mutual assistance between the member countries.

The participation of ENRESA is mainly oriented to the following subject areas:

- Safety Assessment and Site Evaluation Experiments for disposal facilities.

- Tracking and evaluation of the State of the art of Separation and Transmutation Technologies.

- Creation of databases and exchange of information in dismantling programmes.

- Analysis of costs of waste disposal solutions and dismantling projects.

INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)

The activities of the IAEA in the field of radioactive waste management activities are mainly oriented to the development of safety standards and to technical co-operation programmes to assist developing countries in the organization of their waste management systems. Due to the large number of member countries, as this is an Agency of the United Nations, it also promotes and provides secretariat services for a large number of Conventions.

ENRESA participates in the developing of the RADWASS: (Radioactive Waste Safety Standards) Programme and the different Consultant meetings, Advisory Groups and Technical Committees convened by the Agency to develop the basic material both for the standards and for the technical cooperation programmes.

It also provides assistance to the Agency in the technical co-operation programmes by performing expert missions to developing countries, and by receiving ex-

perts from developing countries for training in ENRESA's premises and facilities.

BILATERAL RELATIONS

ENRESA has developed a policy of links and co-operation with its counterparts in other countries, in order to promote the exchange of information and experiences and to develop joint projects in areas of mutual interest.

This bilaterally organized co-operation is established by way of Framework Collaboration Agreements. To date ENRESA has signed collaboration agreements with different overseas institutions, these in most cases being the organizations in charge of radioactive waste management in their respective countries.



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COLLABORATION AGREEMENTS SIGNED BY ENRESA WITH COUNTERPART ORGANISATIONS IN OTHER COUNTRIES

INSTITUTION	COUNTRY	DATE OF SIGNING	DURATION
AGENCE NATIONALE POUR LA GESTION DES DECHETS RADIOACTIFS (ANDRA)	FRANCE	1993*	5 YEARS
AGENCIJA ZA POSEBNI OTPAD (APO)	CROATIA	1995	5 YEARS
COMMISSARIAT A LA ENERGIE ATOMIQUE (CEA)	FRANCE	1996	5 YEARS
COMISION NACIONAL DE LA ENERGIA ATOMICA (CNEA)	ARGENTINA	1994	4 YEARS
JAPAN NUCLEAR FUEL (JNFL)	JAPAN	1996	5 YEARS
NATIONALE CENOSSENSCHAFT FÜR DIE LANGERUNG RADIOAKTIVER ABFALLE (NAGRA)	SWITZERLAND	1994	5 YEARS
UNITED KINGDOM NIREX LIMITED (NIREX)	U.K.	1996	5 YEARS
OFFICE FOR CIVILIAN RADIOACTIVE WASTE MANAGEMENT (OCRWM/DOE)	USA	1992*	5 YEARS
UNITED STATES GEOLOGICAL SURVEY (USGS)	USA	1996	5 YEARS
SVENSK KÄRNBRÄNSLEHANTERING (SKB)	SWEDEN	1997	5 YEARS
BRITISH NUCLEAR FUEL LIMITED (BNFL)	U.K.	1997	5 YEARS
RADIOACTIVE REPOSITORIES AUTHORITY (RAWRA)	CZECH REPUBLIC	1998	5 YEARS

(*) Renewed in 1998 for a further five years