



COMMISSION OF THE EUROPEAN COMMUNITIES

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**COMMUNICATION FROM THE COMMISSION
TO THE EUROPEAN PARLIAMENT AND THE COUNCIL**

**Report on the use of financial resources earmarked for the decommissioning
of nuclear power plants**

1. BACKGROUND

During the discussions on Directive 2003/54/EC of the European Parliament and of the Council concerning common rules for the internal market in electricity, which was adopted on 26 June 2003,¹ Parliament wondered whether mismanagement of financial resources earmarked for the decommissioning of nuclear plants and management of their waste might not lead to distortions of competition.

The Commission emphasised how important financing for decommissioning was in the context of the internal market in electricity. However, it indicated that the issue needed to be addressed using the appropriate Community instruments and not via the Directive on common rules for the internal market in electricity. The Commission considered the Euratom Treaty to be an appropriate framework in this respect. Adoption of the Directive concerning common rules for the internal market in electricity was thus secured by adding two statements signalling the political commitment of the Community institutions to healthy competition on the internal market in electricity.

Interinstitutional statement

“The European Parliament, the Council and the Commission underline the need for Member States to ensure that adequate financial resources for decommissioning and waste management activities, which are audited in Member States, are actually available for the purpose for which they have been established and are managed in a transparent way, thus avoiding obstacles to fair competition in the energy market.”

Commission statement

“The Commission notes the importance of ensuring that funds established for the purpose of decommissioning and waste management activities, which relate to the objectives of the Euratom Treaty, are managed in a transparent way, and used only for the said purpose.

In this context, it intends, within the scope of its responsibilities of the Euratom Treaty to publish an annual report on the use of decommissioning and waste management funds. It shall pay particular attention to ensuring the full application of the relevant provisions of Community law.”

Decommissioning is a technically complex operation requiring considerable funding. The amount needed to rehabilitate the site of a nuclear plant is currently estimated to be around 10 to 15% of the initial investment cost for each reactor to be decommissioned. Even though they will not be used until decommissioning, the sums involved are so large that as soon as a nuclear installation's productive life begins the operator has to factor in not just the technological, social and economic components of production costs but also the financial viability of the project as a whole, including the installation's decommissioning. The chosen management strategy will determine the scale of the investment.

Whatever means nuclear operators select for setting aside resources, that these sums should be commercially managed is not in itself open to criticism. However, it is not easy to draw a dividing line between “normal” management of these resources and practices which may lead to distortions of competition on the internal market in electricity. The question may thus be

¹ OJ L 16, 23.1.2004, p. 74.

legitimately raised as to what types of investment can be envisaged. It would not appear right, for instance, for it to be possible to use such resources for equity participation between competing undertakings.

Aware of the potential distortions of competition on the internal market in electricity, the Commission stressed in its 2002 communication “Nuclear Safety in the European Union” that specific regulations should apply to the creation, calculation and management of financial resources earmarked for decommissioning so as to ensure that they were not used for other purposes. The proposal for a directive setting out the basic obligations and general principles for the safety of nuclear installations, which the Commission adopted on 30 January 2003, translated this mechanism into legally binding terms.

This report fulfils the Commission’s undertaking, delivered when the Directive on the internal market in electricity was adopted, to publish a report on the use of resources earmarked for the decommissioning of nuclear power plants.

2. METHODOLOGY

With a view to drafting this first report, on 28 April 2004 the Commission sent the 14 Member States and accession countries which have nuclear plants a letter asking for details of how financial resources earmarked for decommissioning were used. The following countries were contacted: Belgium, the Czech Republic, Finland, France, Germany, Hungary, Italy, Lithuania, the Netherlands, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

The Commission sent these States the information it held on the use of the said financial resources and asked them to confirm that it was accurate. It also asked them to supply it with any relevant additional information. In particular, it asked them to provide information on the chosen mode of management, the way their governments ensure that resources match requirements, and an estimate of decommissioning costs.

With one exception (Italy), all the above States responded to the Commission’s requests. It should be noted that while the Member States duly cooperated with the Commission, most of them went no further than confirming, or making slight corrections to, the information sent to them by the Commission. The exercise failed to provide the Commission with any additional information giving a clearer picture of the use made of financial resources earmarked for decommissioning.

3. RESULTS

The information sent by the Member States reveals widely differing situations, in terms both of decommissioning strategies and of the mode of management chosen for financial resources. The table in annex summarises the information sent by the Member States listed above.

3.1 Decommissioning strategies

(a) Immediate decommissioning

Six Member States have opted to decommission nuclear plants as soon as they are shut down. They are Finland, Germany, Italy, Lithuania, Slovenia and Spain. This option requires

provision to be made for substantial financial resources to be available as soon as decommissioning work starts.

It should be noted that Lithuania is in a rather special situation in that the two units at the Ignalina plant are due to close early as a result of commitments entered into during the EU accession negotiations. Lithuania has undertaken to close Unit 1 of the Ignalina nuclear plant before 2005 and Unit 2 by no later than 31 December 2009. These closure commitments were included in Protocol No 4 to the Act of Accession, which entered into force on 1 May 2004. In view of the situation it has inherited from the past and the proximity of the closure date, Lithuania was unable to deal with this situation by itself. Accordingly, a special international fund for the decommissioning of the Ignalina plant, administered by the European Bank for Reconstruction and Development (EBRD), was set up in 2001. The European Union is the main contributor to the fund. In addition, the Union, recognising the exceptional nature of this closure and in an act of solidarity towards Lithuania, agreed to include Community financing in the 2007-2013 financial perspective. It should be noted here that on 29 September 2004 the Commission adopted a proposal for a regulation to implement this financing.

(b) Deferred decommissioning

Four Member States have opted for a strategy of deferred decommissioning. They are the Czech Republic, Hungary, the Netherlands and Slovakia. This strategy does not require sums as large as those needed for immediate decommissioning to be made available as soon as a plant is shut down. Installations are in fact cocooned for several years to allow radioactivity levels to decrease. It is essential, however, to ensure that the chosen mode of management guarantees that the financial resources will be fully available and adequate when the time comes.

The Bohunice VI plant in Slovakia is also covered by an early closure commitment negotiated as part of the enlargement process. Units 1 and 2 of the plant are to be closed by no later than 31 December 2006 and 31 December 2008, respectively. The consequences of this early closure have been treated in the same spirit as for Lithuania. An international fund administered by the EBRD has been set up and the Union has again agreed to include Community financing in the 2007-2013 financial perspective. On 29 September 2004 the Commission adopted a proposal for a regulation to implement this financing.

Four Member States have not yet opted for a definitive decommissioning strategy. They are Belgium, France, Sweden and the United Kingdom.

3.2 Management of financial resources

(a) External management

Ten Member States have chosen the option of external management, i.e. separate from the accounts of the nuclear operator. They are the Czech Republic, Finland, Hungary, Italy, Lithuania, the Netherlands, Slovakia, Slovenia, Spain and Sweden.

This is the mode of management offering the greatest transparency and, probably, the best guarantee as to the ultimate use of financial resources, particularly in the event of the operator going bankrupt.

(b) Internal management

In France and Germany, financial resources earmarked for decommissioning are entered in the accounts of the electricity producers in the form of provisions. This mode of management allows very flexible use to be made of resources. It means that the same entity, in this instance the nuclear operator, has both financial and technical responsibility.

However, it does not offer the same transparency as external management. *A priori* it does not ensure that the resources will be available when the time comes or that they will not be used for purposes other than those for which they were created. Technically, the options for using these resources are vast and could possibly give rise to anti-competitive practices on the internal market in electricity.

(c) Other modes of management

Belgium has found an original solution. Until 2003 the financial resources were held in the accounts of the nuclear operator. Since the Law of 11 April 2003 was enacted,² these resources have been held in the accounts of the nuclear operator in the form of provisions in which the State holds a “golden share” enabling it to enter a veto if it considers that the management of the resources is liable to compromise their security.

In the United Kingdom, the nuclear operators are in different situations. In the case of BNFL, the financial resources remain in the internal accounts but are managed in a particular way which departs from the company’s general investment policy. The British Government is planning for them to be transferred shortly to the Nuclear Decommissioning Authority.³ The situation at British Energy is more complex on account of the company’s restructuring. A new fund is due to be set up to which the State would contribute. However, the British authorities have still to authorise this arrangement. It is interesting to note that it has already been approved at Community level.

4. CONCLUSIONS

The decommissioning of nuclear plants is set to become an increasingly important issue in the years ahead. It is a fair assumption that 50 to 60 of the 155 reactors currently operating in the enlarged European Union will need to be decommissioned by 2025.

The financing of decommissioning is a complex issue which may be approached from various angles. The main purpose of dedicating financial resources to decommissioning is to make sure that it will be possible to carry out the decommissioning work when the time comes, while ensuring a high level of nuclear safety. If it were not possible to decommission an installation under the right conditions for lack of adequate financial resources there could be significant consequences. That is why, in its proposal for a directive setting out the basic obligations and general principles for nuclear safety, the Commission chose to deal with this issue within the framework of Chapter 3 of the Euratom Treaty on health and safety. Measures relating to the financing of decommissioning need to be assessed in accordance

² Law on provisions created for the decommissioning of nuclear plants and for management of irradiated fissile materials from those plants.

³ Public body charged with formulating the United Kingdom’s decommissioning strategy. The NDA should be operational by 1 April 2005.

with the Euratom Treaty; however, to the extent that they are not necessary for or go beyond the objectives of the Euratom Treaty, or distort or threaten to distort competition on the common market, they need to be assessed in accordance with the EC Treaty.

The Commission believes it would be useful to obtain more information from the Member States so as to be able to reach a more informed verdict on the way decommissioning is actually being financed in the enlarged Union. Given the variety of situations in the Member States, an effort needs to be made to obtain more detailed information giving a clearer picture of such key factors as the way decommissioning costs are calculated, the adequacy of the assembled resources, the guarantee that resources will be available when the time comes, and the way they are managed.

These differences between Member States are largely explained by historical factors stemming from the economic context which preceded the creation of the internal market in electricity. The latter has brought an increased need for transparency and harmonisation in the management of these financial resources. More detailed and better structured information therefore needs to be obtained from the Member States. The contacts established with a view to compiling this first report will thus be pursued with a view to introducing a methodology for making meaningful comparisons between the various Member States.

This essential groundwork should in the long term result in harmonisation of the methods of financing decommissioning in the European Union. The Union should in fact ensure that resources, once set aside, are managed in accordance with Community law. As the law stands, the Commission may intervene in specific instances to check particular situations. Such intervention is thus reactive, not proactive.

The Commission believes it is essential to determine the most appropriate measures for ensuring both that financial resources set aside to meet the requirements of nuclear plant decommissioning will actually be available once the time comes, so that decommissioning work may be carried out to a high level of nuclear safety, and that the resources are managed with full transparency.

To that end, and until the Council adopts legally binding instruments in the field of nuclear safety and management of radioactive waste, the Commission intends, on the basis of the Euratom Treaty, to present a recommendation in 2005 asking the Member States to take the necessary measures to ensure that:

- financial resources are set aside during the operating period of nuclear power plants with a view to maintaining a high level of nuclear safety during decommissioning work;
- the resources set aside are available and sufficient to cover the cost of the decommissioning work when the time comes;
- these resources are used for the purpose for which they have been set aside and that they are managed with complete transparency.

ANNEX

SUMMARY BY MEMBER STATE

COUNTRY	MODE OF FUND MANAGEMENT	POSSIBLE USE OF FUNDS	ESTIMATED NEEDS (Future or total) (ie past and future)	AMOUNT PRESENTLY AVAILABLE IN THE FUND	SOURCES OF FUND CONTRIBUTION	REMARKS
LITHUANIA	Centralised (blocked) State Fund independent from plant operator	National fund: Decommissioning and radwaste management related including social consequences IIDSF: decommissioning + consequential measures of early closure.	1 Billion €	69 Million € (2004) in National Fund (11-14 Million € annual contributions) IIDSF: 285M € (1999 prices) for 2004-2006 period.	National Fund: 6 % of Ignalina NPP revenues. IIDSF: EC + other donors,	Also contributions from International Ignalina Decommissioning Support Fund (IIDSF). Late established National Fund and annual contributions to it are insufficient to meet liabilities.
SLOVAKIA	Centralised (blocked) State Fund independent from operator	Decommissioning, spent fuel and radwaste management and disposal related costs.	3.6 Billion €	State Fund (active since 1995) 317,94 M € as of 31.03.2004: IBDSF: 90 M € (2004-2006)	a) Contributions from nuclear operators b) Grants from State budget c) Penalties imposed by Nuclear Regulator d) Interest from Fund deposits.	Also contributions from International Bohunice Decommissioning Support Fund (IBDSF) due to the consequences of early closure of units 1 and 2.
SWEDEN	Nuclear Waste Fund (managed by the State) independent from operator	Decommissioning, spent fuel and radwaste management and disposal related costs.	63 Billion SEK (2003 price level, 13 billions already spent)	29 billion SEK (beginning of 2003)	Electricity price from nuclear origin	
FINLAND	State Nuclear Waste Management Fund holds and manage funds independent from operator	Decommissioning, spent fuel and radwaste management and disposal related costs. Contributors are entitled to borrow money from the fund against securities	1.3 Billion € (2004) (future liabilities)	1.3 Billion € (2004) (to cover all future liabilities)	Contributions from nuclear operators plus interest generated by the fund	
SPAIN	State company ENRESA holds and manage fund independent from operators	Decommissioning, spent fuel and radwaste management and disposal related costs	Total 11.5 Billion € (2004 value) Decommissioning of NPPs only: 2.3 Billions € (2004 value)	1.73 Billion € (31/12/2003)	Electricity price	

SLOVENIA	External. Managed by a specific agency	Decommissioning, spent fuel and radwaste management and disposal related costs	1.2 Billion €	Slovenian Fund 104 Million € (end 2003) Croatia shall form its own decommissioning fund	Levy on the produced electricity	Decommissioning and disposal of radwaste and spent fuel is a joint responsibility in equal shares of Slovenia and Croatia
ITALY	External. Managed by a State owned company: SOGIN also responsible for dismantling works		2.6 Billion € (2002) for power reactors plus 630 Million € (2002) for fuel cycle research plants.		Levy on the price of electricity added to the resources accumulated by ENEL and already transferred to the fund	All nuclear plants already permanently shut down and in the process of decommissioning
CZECH REPUBLIC	Dedicated Nuclear Account (NA) managed by the Ministry of Finance. Verification of cost estimates and withdrawal of funds from the NA monitored by State organisation: RAWRA independent from operators	Decommissioning, spent fuel and radwaste management and disposal related costs	860 Million € (1999) for decommissioning only 1550 Million € (1999) for disposal of spent fuel and high level waste		Electricity price	
HUNGARY	Central Nuclear Financial Fund in a dedicated Treasury account, managed by the Hungarian Atomic Energy Authority independent from operators. A Public Agency (PURAM) is responsible for the D & WM activities	Decommissioning, spent fuel and radwaste management and disposal related costs	1.4 Billion € (2003) for decommissioning + 1.7 Billion € (2003) for waste management including disposal	~60 Millions €	Electricity price, contributions from radwaste producers and State central budget	
NETHERLANDS	Funds for waste management transferred under 2002 agreement to the State together with ownership of responsible company COVRA. Operators have to make financial provisions for decommissioning requirements	Decommissioning, spent fuel and radwaste management and disposal related costs	180 Millions € (present value) for spent fuel management and decommissioning of Dodewaard. 145Million € for dismantling of Borssele 1270 Million € for COVRA fund	120 Million € (Dec. 2001) in Borssele fund Dodewaard fund under review	Contribution from nuclear operators and radwaste producers	Dodewaard out of operation since 1997. Borssele expected to be shut down in 2013

<p>BELGIUM</p>	<p>Before the law of April 2003: Provisions within the books of the electricity producers (i.e. internal)</p> <p>After 11.04.2003:Funds in Nuclear Provision Company (in which the State has a golden share giving the right to veto)</p>	<p>Decommissioning costs.</p> <p>The nuclear provision company can lend up to 75% of the total amount to the nuclear operators at industrial interest rates.</p>	<p>Slightly higher than 12% of investment costs.</p>	<p>By the end of 2003 all past provisions have been transferred to the Nuclear Provision Company.</p> <p>Nuclear operators pay each year a contribution to cover at the end of industrial operation (i.e. at least 40 years) the discounted dismantling costs.</p>	<p>Electricity price.</p>	<p>Recent shifts towards a management of the fund more independent from operators.</p>
<p>UNITED KINGDOM</p>	<p>There are three main nuclear operators: BE (private) and BNFL and UKAEA (public sector).</p> <p>There is not a single common regime for funding.</p> <p>BNFL: Internal not segregated fund but a Nuclear Liabilities Investment Portofolio earmarked for that purpose.</p> <p>BE: Internal independent Nuclear Generation Decommissioning Fund (NGDF).</p> <p>Under a new scheme presently under discussion a Nuclear Decommissioning Authority(NDA) would be responsible for securing the discharge of all public sector liabilities on civil public sector sites (i.e. owned by BNFL and UKAEA).</p> <p>Under a BE's restructuring plan, pending EC approval, the NGDF would be subsumed within new Nuclear Liabilities Fund (NLF).</p>		<p>BE's estimated nuclear liabilities (as of 31.03.2003 discounted at 3% per annum): £ 3.3 Billion for contracted spent fuel liabilities and £ 1.0 Billion for uncontracted spent fuel liabilities.</p> <p>NDA's estimated total undiscounted future expenditure on discharging nuclear liabilities : ~£ 50 Billion (~80% BNFL and 20% UKAEA liability share)</p>	<p>BE contributes around £ 18 Million per annum to the NGDF, which as of 31.03.2003 amounts to £ 334 Million.</p> <p>Under proposed BE's restructuring plan , BE would contribute to the NLF: £ 20 Million a year for the 15 BE reactors(adjusted for inflation); £ 275 Million of new bonds; £ 150,000 per tonne/ U loaded into Sizewell B; and 65% of BE's free cash flow.</p>	<p>Nuclear operators and Government contributions (historic spent fuel liabilities)</p>	<p>Recent shifts towards a management of the funds more independent from operators.</p>

GERMANY	Internal. Contingency reserves in operator's accounts and tax deductible.	No constraints on the allocation of reserves except the due care principle.	25 Billion € (decommissioning costs only) not including research reactors and those inherited from the former GDR.		In tax balance sheet funds for decommissioning accumulated in equal instalments over 25 years and discounted at 5.5%. Radioactive waste management funds constituted in proportion to the generated radwaste and discounted also at 5.5%	
FRANCE	Not separated Internal to the operator. EDF is fully responsible for its management. These provisions are tax deductible.	In addition to decommissioning the provisioned amounts have been used to reduce the company debt and to invest in new assets and to fund dedicated assets (bonds & equity)	Decommissioning cost estimated at 258.86 € (1998) per installed Kw. Decommissioning cost equal to 15% construction costs and discounted at 3%. Provision are calculated for 40 years operation and regularly re-evaluated.	Total provision at the end of 2003 for NPP's decommissioning : 9.4 Billion €. End of fuel cycle provision: 13.9 Billion € (i.e. 10.2 Billion € for reprocessing and 3.7 Billion € for disposal of waste fuel)	Provisions in the operator's (EDF) accounts.	