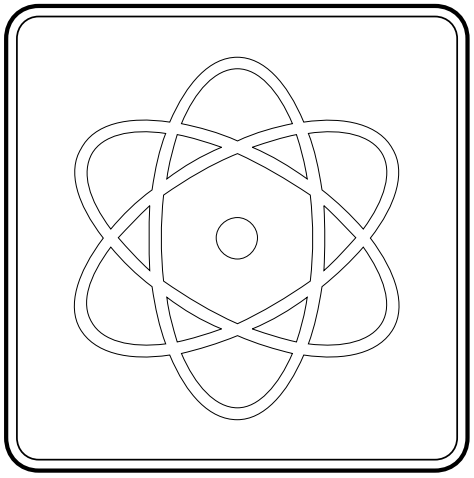
EURATOM SUPPLY AGENCY



ANNUAL REPORT

1995

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DOCUMENT

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INTRODUCTION

In 1995, supplies of nuclear fuels to users in the Union followed the same pattern as in previous years. Deliveries of both natural and enriched uranium continued primarily on the basis of multiannual contracts, with only a small proportion of requirements covered by spot contracts. As in the past, the Agency pursued a policy aiming at diversification of sources of supply and at prices reflecting production costs.

The Russian Federation was the Union's chief external source of supplies of natural uranium in 1995. When exercising its right to conclude supply contracts, the Agency continued to apply, flexibly and pragmatically, the policy initiated in 1992 with the above-mentioned general objective of diversifying sources of supply. This policy was supported by the Commission, which, in its Energy White Paper, emphasized the central importance of security of supply, through diversification of supply sources, as a general energy policy objective.

On 15 September, the Court of First Instance dismissed an action brought by the Portuguese natural uranium producer with the twin objectives of gaining recognition of preference for disposing of Community output, provided it is available at a reasonable price, and challenging the simplified procedure introduced by Article 5 bis of the Agency Regulation of 5 May 1960, as amended in 1975. At the same time, the Court stressed that the Agency has the discretion to refuse to conclude supply contracts which could run counter to attainment of the objectives of the Euratom Treaty.

As negotiations on a new Euratom/USA Agreement for Cooperation moved into their final phase during the course of 1995, the Supply Agency continued to play an active role in the Commission's negotiating team. The new agreement was signed in Brussels on 7 November 1995, but at the end of the year was not yet in force, pending Congressional approval. The old Euratom/USA agreement of 1960 expired on 31 December 1995.

VORWORT

Bei der Versorgung der Abnehmer in der Union mit Kernbrennstoffen gab es 1995 gegenüber den Vorjahren keine nennenswerten Veränderungen. Die Lieferungen erfolgten weiterhin im wesentlichen auf der Grundlage von Mehrjahresverträgen. Dies gilt für Natururan ebenso wie für angereichertes Uran. Nur ein kleiner Teil des Bedarfs wurde über Einzelverträge gedeckt. Wie schon in der Vergangenheit verfolgte die Agentur eine Politik der Streuung der Versorgungsquellen und war darauf bedacht, daß Preise angewendet werden, die sich nach den Produktionskosten bestimmen.

Die russische Föderation war wichtigster externer Lieferant der Union von Natururan in 1995. Die 1992 in dem erwähnten allgemeinen Bemühen um Diversifizierung der Versorgungsquellen eingeleitete Politik wurde von der Agentur bei der Ausübung ihres Rechts, Versorgungsverträge abzuschließen, auf flexible und pragmatische Art und Weise weiterverfolgt. Diese Politik wurde von der Kommission unterstützt, die in ihrem Weißbuch zur Energiepolitik die zentrale Bedeutung der Sicherheit und Diversifizierung der Versorgungsquellen als allgemeines Ziel der Energiepolitik betonte.

In seinem Urteil vom 15. September hat das Gericht erster Instanz die Klagen des portugiesischen Natururanproduzenten abgewiesen, die zum einen darauf abzielten, eine Präferenz für den Absatz der Gemeinschaftsproduktion anzuerkennen, sofern diese zu einem fairen Preis angeboten wird, und zum anderen versuchten, die Gültigkeit des vereinfachten Verfahrens nach Artikel 5 bis der Vollzugsordnung der Agentur vom 5. Mai 1960 in der Fassung von 1975 in Frage zu stellen. Bei dieser Gelegenheit unterstrich das Gericht, daß die Agentur die Möglichkeit hat, den Abschluß von Lieferverträgen zu verweigern, wenn diese geeignet sind, die Erreichung von Zielen des EAG-Vertrags zu beeinträchtigen.

Bei den Verhandlungen über ein neues Euratom-USA Kooperationsabkommen, die im Laufe des Jahres 1995 in ihre Schlußphase gelangten, nahm die Versorgungsagentur weiterhin aktiv an der Verhandlungsgruppe der Kommission teil. Das neue Abkommen wurde in Brüssel am 7. November unterschrieben, war aber am Jahresende noch nicht in Kraft getreten, weil die Zustimmung des US-Kongresses noch abgewartet werden mußte. Das alte Abkommen von 1960 lief am 31. Dezember 1995 aus.

INTRODUCTION

En 1995, l'approvisionnement en combustibles nucléaires des utilisateurs de l'Union a présenté les mêmes caractéristiques que durant les années précédentes. Les livraisons ont continué à être effectuées essentiellement en vertu de contrats pluriannuels, tant en ce qui concerne l'uranium naturel que l'uranium enrichi, et seule une part réduite des besoins a été couverte par des contrats ponctuels. Comme dans le passé, l'Agence a suivi une politique visant à la diversification des sources d'approvisionnement et à l'application de prix déterminés par les coûts de production.

La Fédération russe a été, pour l'Union, la plus importante source extérieure d'approvisionnement en uranium naturel en 1995. La politique, initiée en 1992 dans le cadre des objectifs généraux de la diversification des sources d'approvisionnement, a continué à être appliquée de façon flexible et pragmatique par l'Agence dans l'exercice de son droit de conclure les contrats d'approvisionnement. Cette politique a été appuyée par la Commission, qui, dans son livre blanc sur la politique énergétique, a souligné l'importance centrale de la sécurité des approvisionnements, par une diversification des sources, comme objectif général de politique énergétique.

Dans son arrêt du 15 septembre 1995, le Tribunal de première instance a rejeté les recours du producteur portuguais d'uranium naturel, qui visaient, d'une part, à faire reconnaître une préférence pour l'écoulement de la production communautaire, dans la mesure où celle-ci était offerte à un prix "non-abusif", et tentaient d'autre part de mettre en cause la validité de la procédure simplifiée prévue à l'article 5 bis du règlement de l'Agence du 5 mai 1960 tel que modifié en 1975. A cette même occasion, le Tribunal a souligné le pouvoir discrétionnaire de l'Agence de refuser la conclusion de contrats d'approvisionnement susceptibles de porter atteinte à la réalisation des objectifs du traité CEEA.

Alors que, dans le cours de 1995, les négociations d'un nouvel accord Euratom/Etats-Unis parvenaient en phase finale, l'Agence d'Approvisionnement a continué à jouer un rôle actif au sein de l'équipe des négociateurs de la Commission. Le nouvel accord a été signé à Bruxelles le 7 novembre 1995, mais n'était cependant pas encore entré en vigueur à la fin de l'année, dans l'attente de l'approbation du Congrès. L'ancien accord Euratom/USA de 1960 a expiré le 31 décembre 1995.

CHAPTER I

DEVELOPMENTS CONCERNING SUPPLY IN THE EUROPEAN UNION

SECURITY OF SUPPLY

ENERGY WHITE PAPER

The Commission's White Paper "An Energy Policy for the European Communities", adopted on 13 December 1995[1], stresses security of supply, along with overall competitiveness and environmental protection, as one of the main objectives of such an energy policy. The political proposals contained in the White Paper are mainly based on similar ideas in the Commission's Green paper of 11 January 1995[2], which was broadly discussed with the parties concerned and found wide support in the Council[3] and the European Parliament[4].

With regard, in particular, to supplies of nuclear fuels, the Commission stated the following:

"As far as the nuclear sector is concerned, assuring security of supply of nuclear fuels is one of the fundamental objectives of the Euratom Treaty. Although there are very large global inventories in various forms, due mainly to dismantlement of nuclear weapons, the present low level of world uranium production might be of potential concern, because these inventories are beyond the control of both operators and public authorities in the Community; in addition it is not yet clear how they will be released onto the world markets. Equally, as far as the Community's uranium enrichment industry is concerned, its viability is essential for the security of supply of enriched uranium. With these factors in mind, the Euratom Supply Agency and the Commission are applying a policy which aims at diversification of sources. This policy has been endorsed in a recent

[1] *Commission Document "An Energy Policy for the European Communities" COM(95) 682/final of 13 December 1995.*

[2] *Commission Document "For a European Union Energy Policy" COM(94) 659/final of 11 January 1995, published as a supplement to "Energy in Europe".*

[3] *Resolution of the Council of the European Union of 23 November 1995, O.J. N° C 327, 7.12.1995, p. 3.*

[4] *Resolution of the European Parliament of 10 October 1995, O.J. N° C 287, 30.10.1995, p. 34, see also Report by Mr. Van Velzen, Document of the European Parliament A4-0212/95.*

judgement of the Court of First Instance. The Supply Agency has to ensure that the Community's trading partners respect agreed trade obligations, and normal trade practices, thus avoiding for example the recent considerable influx of nuclear materials from CIS [Commonwealth of Independent States] countries at low prices." (Paragraph 79 of the White Paper).

NATURAL URANIUM

In 1995, deliveries of natural uranium for power production to EU utilities continued to be covered mainly by long term contracts, while deliveries under spot contracts represented about 18% of total deliveries under purchasing contracts. The CIS, in particular Russia, maintained its position as the EU's largest source of supply, with a comparable percentage of total deliveries to 1994 (see below).

Estimated annual total reactor requirements for natural uranium over the next 10 years will be on average 20,500 tU/year. According to data provided to the Agency and to informal contacts with utilities, it appears that unfilled requirements will remain very low over the next three years.

The Supply Agency's average price for deliveries under multiannual purchasing contracts in 1995 continued to decrease. This was due to the fact that a substantial portion of these deliveries were priced in accordance with market indicators or had been contracted for when prices were depressed. The inclusion of deliveries to utilities in the new Member States in the Supply Agency's figures also had a significant effect.

World natural uranium production remained substantially below the level of consumption (estimated to be around 58,000 tU for 1995), although according to preliminary reports, total world production slightly increased in 1995 to some 33,000 tU. This increase was mainly due to noticeable increases in production in Australia, the United States and Canada, although there were continued signs of CIS production decreasing. Uranium production in the EU continued to fall, especially in France.

Towards the end of the year prices showed signs of firming, which might constitute an incentive to increase mining activity in the near future. Some analysts expect that with the development of new mines, especially in Canada and Australia, production in market economy countries will increase by the end of the decade to some 38,000 tU per annum (compared to about 26,000 tU in 1995). However, exploration activities remained at a low level.

Even though an increase in production was felt likely by many to materialise towards the end of the decade, concerns continued to be expressed that additional investment was needed for new production centres to be developed to an extent which would cover world requirements. Others stressed that supply derived from the dismantlement of nuclear warheads would be necessary to cover the anticipated shortfall in production.

CONVERSION, ENRICHMENT, FABRICATION

The markets for uranium conversion, enrichment and fabrication remained stable. Facilities within

the EU provide adequate cover for its needs, and worldwide capacity is sufficient to meet future requirements. All enrichment supply took place under multiannual contracts. The estimated total requirements for separative work over the next 10 years will be on average 12,000 tSW/year.

SUPPLY OF CIS ORIGIN MATERIALS

The Republics of the CIS have become well established as suppliers to the EU in recent years. On their accession to the EU, Finland and Sweden brought with them significant long-standing supply commitments with the CIS. The Russian Federation was the EU's largest single supplier of natural uranium in 1995. Although legitimate concern continued to be expressed by some that the security of supply of EU users and the viability of EU producers was still under threat from CIS imports, a number of factors contributed to making the supply relationship between the EU and the CIS somewhat smoother than in recent years.

The Agency kept up its careful monitoring of contracts for supplies from the CIS, and was supported in continuing this task by a resolution adopted by its Advisory Committee in March. The Agency's flexible and pragmatic application of its policy designed to ensure security and diversity of supply, and to avoid over-dependence on any single supply source, continued to allow fair access for CIS supplies to the EU market. The support for the Agency's right to implement a policy of diversification of sources of supply given by the Court of First Instance in its judgement on the ENU cases confirmed that the Agency's policy has a sound legal basis.

Across the Atlantic, the "matched sales" programme under the amended Suspension Agreement between the US Department of Commerce (DOC) and Russia, and the first deliveries from Russia to the USA of LEU (Low Enriched Uranium) blended down from ex-military HEU (Highly Enriched Uranium), increased Russian access to the US market. Towards the end of the year, it became clear that at the same time as overall CIS uranium production was dropping, the rise in the spot uranium price which market analysts had been predicting for some time was taking hold. The price differential between CIS and Western production narrowed. Of the world's three largest uranium markets, only Japan remained effectively closed to supplies from Russia. It is hoped that these developments may help to ease the pressure on the EU market.

Purchases by EU utilities in 1995 of natural uranium equivalent of CIS origin were in the order of 5,000 tU, and a further 250 tU were acquired as a result of exchanges and return of loans. This brought the total acquisitions from the CIS to about 5,250 tU. CIS acquisitions represented 33% of total deliveries to EU utilities under purchasing contracts in 1995.

Deliveries of Russian origin enrichment to EU utilities in 1995 in the context of enrichment contracts or the separative work component of enriched uranium product represented about 23% of total deliveries under purchasing contracts.

In contacts between the Commission and the Russian authorities in the course of 1995, it was stressed that Russia had very good access to the EU nuclear fuel market, but that the Commission and the Supply Agency were willing nevertheless to examine the application of the policy with due regard to both sides' legitimate interests. The dialogue between the Commission and Russia on the issue of nuclear trade is due to continue in 1996 with the entry into force of the Interim Agreement putting into preliminary operation part of the Partnership and Cooperation Agreement with Russia, under which, inter alia, the two sides agree to take the necessary steps towards negotiating an arrangement/agreement between them covering nuclear trade.

PHYSICAL IMPORTS AND STOCKS OF CIS ORIGIN MATERIAL

Physical imports from the CIS of natural uranium or feed contained in Enriched Uranium Product (EUP) amounted to some 49,000 t of natural uranium equivalent in the period 1992-95, of which some 13,000 tU was imported in 1995. These quantities exceed by far deliveries to EU users, but include material in storage not yet contracted for delivery to EU customers, material in transit for final use outside the EU, and a small amount of uranium feed of non-CIS origin returned to the EU after enrichment in Russia.

US SUSPENSION AGREEMENTS

1995 saw further important amendments to the Suspension Agreements between the US Department of Commerce and several CIS Republics, which limit these countries' exports to the USA.

Under DOC's agreement with Kazakhstan and Uzbekistan, the so-called “enrichment bypass” option, through which Kazakh and Uzbek uranium enriched in the EU could be imported into the USA outside the quotas applicable under the relevant Suspension Agreements, was closed by amendments signed in March and October respectively. Discussions are reported to be continuing between DOC and US utilities on the extent to which contracts already concluded for the enrichment of Kazakh and Uzbek material in the EU could be "grandfathered".

The option available under the amended Suspension Agreement of 1994 with Russia of concluding "matched sales" of US and Russian-produced natural or enriched uranium entered its second year of operation, and was taken up more extensively by US producers.

LEU DERIVED FROM EX-MILITARY HEU

The 1994 agreement between the US and Russia for the sale over twenty years of 500t of HEU blended down to LEU was widely reported to have run into a number of complications in 1995. Amongst the apparent difficulties of bringing the blended-down HEU to market were, on the one hand, the strong desire expressed by the Russians to be paid concurrently for both the enrichment and feed components of the HEU, and on the other hand, the many complex issues surrounding the privatisation of the US Enrichment Corporation (USEC). These included the need to optimise privatisation revenues,

fears expressed in some quarters that USEC would become over-dominant if accorded sole rights to market ex-military material, and the question of how to comply with the restrictions on the sale of Russian material in the US imposed by the amended Suspension Agreement.

The USEC Privatisation Act, which envisages the sale of HEU-derived LEU according to a futures approach staggered in restricted yearly quantities from late in the decade to early in the next century, was passed by Congress in late November. However, as part of the budget reconciliation bill, which was not yet in force at the year end owing to the President's exercise of his veto, the exact framework and schedule for the privatisation of USEC remained uncertain.

Although the expected consequences of the disposition of ex-military HEU and the privitisation of USEC caused some tensions in the uranium market during the year, one important calming factor was the realisation that the uranium derived from HEU would not reach the market as soon as originally expected. A protocol concluded between USEC and the Russians scheduled deliveries of 6t of HEU in 1995 and 12t of HEU in 1996, and during 1995 Minatom stated that 12t per year in future years might be a more realistic amount than the 30t per year stipulated in the US-Russia HEU agreement. Whilst it seems likely that some of this material will be marketed in the EU, the time schedule over which this might occur remains uncertain.

The Supply Agency takes the view that, in principle, supplies of nuclear material derived from Russian ex-military HEU and marketed in the EU via USEC will be subject to the same policy considerations as supplies coming directly from the CIS.

OTHER DEVELOPMENTS

NEW MEMBER STATES

From 1 January 1995, the Euratom Treaty (and notably Chapter VI) applied to supply to users in Austria, Finland and Sweden[1], increasing the average annual requirements of the EU's reactors for the years 1995-2004 by some 2,100 tU for natural uranium and 1,200 tSW for enrichment. Users in the new Member States communicated their nuclear supply contracts in force as at 1 January to the Commission in accordance with Article 105 of the Euratom Treaty.

ENU CASES

On 15 September 1995 the Court of First Instance of the European Communities handed down its judgement in the cases brought by ENU (Empresa Nacional de Urânio, SA) against the European Commission[2]. For the applicant, ENU, the purpose of the two proceedings (an annulment action under Article 146 of the Euratom Treaty and a liability action under Articles 151 and 188, paragraph 2) was to insist on the application of a "Community preference" for Portuguese production and to have

[1] *Of the new Member States, only Finland and Sweden have power reactors; Austria has only research reactors.*

[2] *Cases T-548/93 and T-523/93 - not yet published.*

a binding "special course of action" ("volet spécial") imposed for the urgent solution of ENU's problems in selling its production[1].

The Court started by analyzing Chapter VI of the Euratom Treaty with regard to the objectives assigned to the Community, notably security of supply. In response to the claim that a "Community preference" should apply, the Court held that no Treaty provision guarantees preferential sales for Community production. In the absence of any legal or material obstacles within the meaning of Article 61, the Court held that the Agency cannot object to imports at a price lower than that for Community production, even if the price asked for such production is not "excessively high" within the meaning of Article 66. The Court concluded on this point that *"... the Agency could therefore only oppose imports of ores or other nuclear fuels at prices lower than those sought by Community producers if those imports might jeopardise the achievement of the aims of the Treaty, in particular by their effect on sources of supply"* (paragraph 64 of the judgement).

The simplified procedure set out in Article 5bis of the Agency's Rules[2] allows, in the case of ores and source materials, for direct negotiations between users and the suppliers of their choice, followed by the Agency's co-signature of the contract. As far as this procedure was concerned, the Court concluded that it was in conformity with the system governing supplies established by the Treaty.

The Court also confirmed the Commission's point of view that the "special course of action", an idea formulated in a letter from the responsible Commissioner to ENU, does not imply binding measures to oblige purchasers to buy ENU's production.

Consequently, the two actions brought by ENU were dismissed.

The Court made a special point of commenting on the role and discretionary powers of the Agency and the Commission. The Court first recalled the main relevant Treaty provisions : *"In particular, according to the second paragraph of Article 65 of the Treaty, the Agency may decide on the geographical origin of supplies only providing that conditions which are at least as favourable as those specified in the order are thereby secured for the user. Furthermore, the first paragraph of Article 61 requires the Agency to meet all orders unless prevented from doing so by legal or material obstacles so that it has no power, where there are no such obstacles, to oppose the importation of ores at a more competitive price in order for Community production to be disposed of at a higher price, even if that price is not excessively high within the meaning of Article 66"* (paragraph 62). It went on to state in paragraph 68 that the provisions of Chapter VI allow, in some cases, *"derogations to be made from the commercial mechanism for balancing supply against demand established by the Treaty"* (cf. Paragraphs 62 to 64). It considered that the Agency can refuse contracts if they could result in a negative

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[1] *For a summary of ENU's demands see O.J. N° C306, 12.11.1993, p. 7, and N° C312, 3.12.1992, p. 14, and the Euratom Supply Agency Annual Report 1994, p. 11-12.*

[2] *O.J. N° 60, 5.5.1960 and N° L193, 25.7.1975.*

effect on sources of supply, because *"such a risk could be regarded as a legal obstacle to the meeting of an order, within the meaning of the first paragraph of Article 61 of the Treaty"* (paragraph 64).

In assessing such a risk, the Court recognized that *"where decisions concerning economic and commercial policy and nuclear policy are concerned, the Agency has a broad discretion when exercising its powers"* and confined the Court's review to *"identifying any manifestly wrong assessment or misuse of power"* (paragraph 67). The Court went on to state that *"the Agency has a discretion to bar --using its exclusive right to conclude contracts for the supply of ores and other nuclear fuels so as to ensure reliability of supplies according to the principle of equal access to resources, in accordance with the task conferred upon it by the Treaty-- certain imports of uranium which would reduce such diversification"* (paragraph 68).

On 21 November 1995, ENU filed an appeal with the Court of Justice of the European Communities against the judgement of the Court of First Instance, which has been registered under case number C-357/95[1].

KLE CASE

In the KLE case[2], in which a Commission decision supporting the Agency's decision to exclude CIS origin deliveries for a certain German user was challenged before the Court of First Instance, the written arguments between the parties have been exchanged. However, no date for a hearing has so far been set.

RESEARCH REACTOR FUEL CYCLE

The difficulties affecting the research reactor fuel cycle in recent years, i.e. the supply of fresh HEU and the disposal of spent fuel, continued in 1995. The Supply Agency maintained its efforts to assist the reactor operators and other parties in finding acceptable solutions to these problems.

After long litigation in the US, the shipment of a limited number of spent fuel elements under the "Urgent Relief Acceptance of Foreign Research Reactor Spent Fuel" programme was completed.

The Environmental Impact Statement (EIS) relating to the return of spent fuel of US origin for disposal in the US over the next 10-15 years was virtually complete by the end of the year, after long delays, but was still awaiting signature by the Energy Secretary. This process appears to be drawing to a close, but the date for the resumption of shipments remains uncertain as the possibility of further litigation cannot be excluded.

The Atomic Energy Authority at Dounreay in the United Kingdom postponed its decision on closing down its research reactor fuel reprocessing facility, and was still re-evaluating the situation with reactor operators at the end of the year.

Cogema considered the possibility of offering reprocessing services to research reactor operators at its plant at La Hague. The spent research reactor

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[1] *For a summary of ENU's arguments see O.J. N° C16, 20.1.1996, p. 6.*

[2] *See Euratom Supply Agency Annual Report 1994, p. 11.*

fuel elements would be reprocessed together with commercial fuel.

No progress was made by Spain in obtaining authorization to reprocess CIEMAT's spent fuel stored at AEA (Dounreay) which had been imported under the US-Spain bilateral agreement. This material should in future qualify to be returned to the US under the EIS referred to above or to be reprocessed at Dounreay without further authorisation, when the inventory under the US-Spain bilateral is taken over by the new US-Euratom agreement.

REPROCESSING AND MOX

Developments in the Member States with regard to MOX fuel fabrication and reprocessing are covered in Chapter III.

CHAPTER II

SUPPLY OF NUCLEAR MATERIALS AND SEPARATIVE WORK IN THE EUROPEAN UNION

REACTOR NEEDS/NET REQUIREMENTS

During 1995, the fresh fuel loaded in EU reactors contained the equivalent of 18,700 tonnes of natural uranium and 10,400 tonnes of separative work - tails assays were in the range 0.25-0.30%.

Future EU reactor needs and net requirements for uranium and separative work, based on data supplied by EU utilities, are estimated as shown in Table 1 (rounded to the nearest 100 tU and 100 tSW respectively). Net requirements are estimated on the basis of reactor needs less the contributions from currently planned uranium/plutonium recycling, and taking account of inventory management as communicated to the Agency by utilities.

Average reactor needs for natural uranium over the next 10 years will be 20,500 tU/year, while average net requirements will be about 18,100 tU/year. Compared to last year's report, these figures show an increase in reactor requirements of 800 tU/year and an increase in net requirements of 1,100 tU/year.

Average reactor needs for enrichment over the next 10 years will be 12,000 tSW, while average net requirements will be in the order of 11,100 tSW/year. Compared to 1994, the figures show a decrease in reactor requirements and net requirements of 300 tSW/year and 400 tSW/year respectively.

Table 1 - Reactor needs and net requirements for uranium and separative work

Year	Natural Uranium (tonnes U)		Separative Work (tonnes SW)	
	Reactor needs	Net require-ments	Reactor needs	Net require-ments
1996	20,200	17,000	11,500	10,800
1997	19,800	17,400	11,500	10,600
1998	19,700	16,500	11,500	10,300
1999	21,400	18,500	12,000	10,900
2000	20,700	18,700	11,700	10,900
2001	21,100	19,200	12,500	11,900
2002	20,900	18,900	12,200	11,300
2003	20,400	18,500	12,200	11,200
2004	20,300	18,100	12,300	11,400
2005	20,200	18,000	12,300	11,500
TOTAL	204,700	180,800	119,700	110,800
Yearly average	20,500	18,100	12,000	11,100

NATURAL URANIUM

CONCLUSION OF CONTRACTS

The number of contracts and amendments relating to ores and source materials (essentially natural uranium) which were dealt with in accordance with the Agency's procedures during 1995 is shown in Table 2.

Table 2 - Natural uranium contracts concluded by or notified to the Supply Agency and quantities concerned

Contract Type	Number	Quantity (tU) *(1)*
Purchase (by a EU utility/user) *(2)*		
- multiannual *(3)*	12	16,600
- spot *(3)*	10	1,000
Sale (by a EU utility/user) *(2)*		
- multiannual	0	0
- spot	1	0
Purchase-sale (between two EU utilities/users) *(2)*		
- multiannual	0	0
- spot	0	0
Purchase-sale (intermediaries) *(4)*		
- multiannual	3	9,500
- spot	15	3,700
Exchanges (swaps) *(5)*	41	3,700
Loan *(6)*		
- pure	2	
- with exchange	2	
TOTAL	86	34,900
Including contracts of less than 10t	13	30
CONTRACT AMENDMENTS	7	2,100

Transactions (sales, purchases, loans, exchanges etc.) involving natural uranium totalled 34,900 tonnes, some 17,600 tonnes of which were the subject of new purchase contracts by EU utilities. The other 17,300 tonnes transacted related to purchases by producers or intermediaries, as well as exchanges, loans, etc. These quantities represent an increase of over 100% of the contracting activity in 1994, resulting in particular from a larger number of multiannual purchasing contracts and purchase-sales between intermediaries.

Notes

(1) In order to maintain confidentiality the quantity has been indicated only when there were at least 3 contracts of each type, but all quantities have been included in the total.

(2) These contracts involve at least one EU utility/end user:
***Purchase contract** - only the buyer is an EU utility/end user;*
***Sale contract** - only the seller is an EU utility/end user;*
***Purchase-sale contract** - both buyer and seller are EU utilities/end users.*

*(3) "**Multiannual**" contracts are defined as those providing for deliveries extending over more than 12 months, whereas "**spot**" contracts are those providing for either only one delivery or deliveries extending over a period of a maximum of 12 months, whatever the time between the conclusion of the contract and the first delivery.*

*(4) **Purchases/sales contracts between intermediaries** - both buyer and seller are not EU utilities/end users.*

*(5) This category includes **exchanges** of ownership, safeguards obligation codes, international safeguards obligations and U_3O_8 against UF_6.*

*(6) Transaction involving benefit for using material over time. If the material returned is of same category, code, mining origin and quantity it is considered as a **"pure" loan** otherwise it is a **loan "with exchange".***

VOLUME, PRICES AND ORIGIN OF DELIVERIES

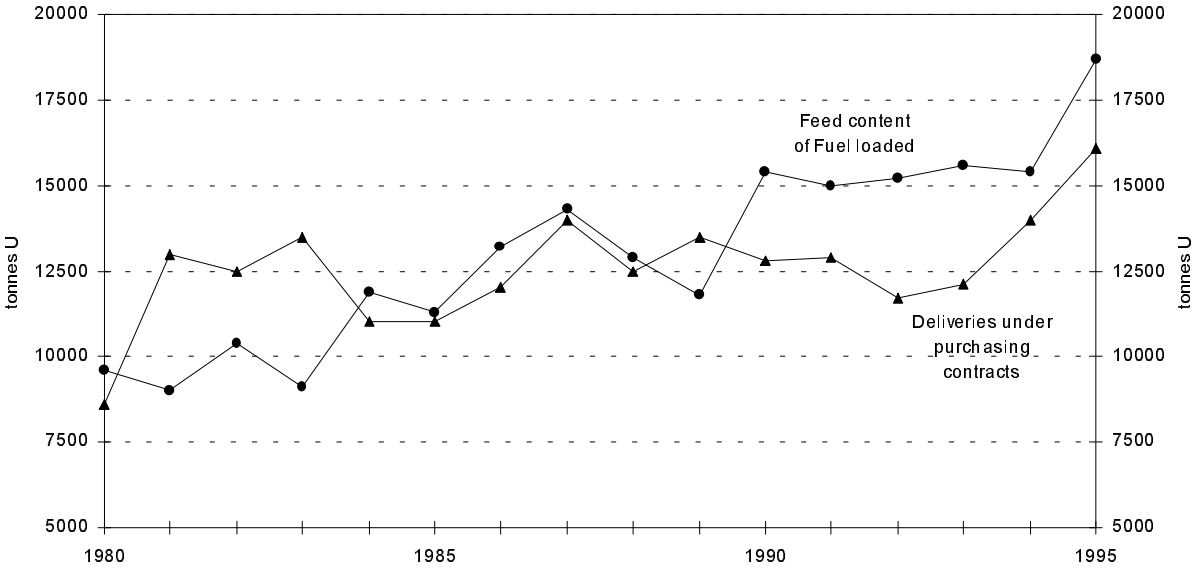
VOLUME

During 1995 natural uranium deliveries under existing contracts amounted to approximately 16,100 tonnes U compared to 14,000 tonnes in 1994. *(Note: The figure for 1995 covers all 15 Member States, while the one for 1994 is for the then 12 Member States only)*. Deliveries under spot contracts represented about 18% of the total (21% in 1994).

The only deliveries taken into account are those made under purchasing contracts to final users, namely the EU electricity utilities or their procurement organizations. Deliveries to other market operators are not included.

Deliveries under exchange and loan contracts as well as purchase-sales between utilities in the EU are also excluded. The quantities covered are those which were entered into accounting records during the year stated.

Deliveries under purchasing contracts and fuel loaded into reactors by EU utilities since 1980 are shown in Graph 1. The increase in 1995 is mainly due to the inclusion of the new Member States. The figures on which the graph is based (historical data) are presented in Annex 1.



Graph 1 - Natural uranium feed contained in fuel loaded into EU reactors and natural uranium delivered to utilities under purchasing contracts (in tU)

PRICES

- MULTIANNUAL CONTRACTS[1]

  For deliveries under multiannual contracts, prices were expressed in 8 different currencies. To calculate the average price, the original contract prices were converted into ECU and then weighted by quantity. For the conversion into ECU the Agency used the average annual exchange rate of the respective currency as published by Eurostat. A few contracts where it was not possible to establish precisely the price of the natural uranium component were excluded from the price calculation.

  The average price for 1995 rounded to the nearest 1/4 ECU was as follows.

  ECU 34.75 /kg U contained in U_3O_8
  (ECU 44.25 in 1994 for the 12 Member States)

- SPOT CONTRACTS[1]

  The 1995 average price, calculated according to the same principles, of material delivered under spot contracts was as follows.

  ECU 15.25/kg U contained in U_3O_8
  (ECU 18.75 in 1994 for the 12 Member States)

Graph 2 shows prices for deliveries under multiannual as well as spot contracts since 1980, expressed in ECU.

Figures for 1995 are not strictly comparable with those for previous years owing to the inclusion of deliveries to utilities in the new Member States.

For ease of reference, historical data on prices published in previous Annual Reports and variations in exchange rates are presented in Annex 2.

ORIGIN

Based on information provided by EU utilities or their procurement organisations, in 1995 they obtained approximately 91% of their supplies from 12 countries outside the EU including 4 CIS countries. The Russian Federation was the largest supplier, representing 29% of total external supply under purchasing contracts, or 27% of all purchasing contracts[2].

Acquisitions of CIS origin natural uranium by EU utilities since 1990 are shown in Graph 3, which is provided for reference purposes and brings together information already published in previous Annual Reports.

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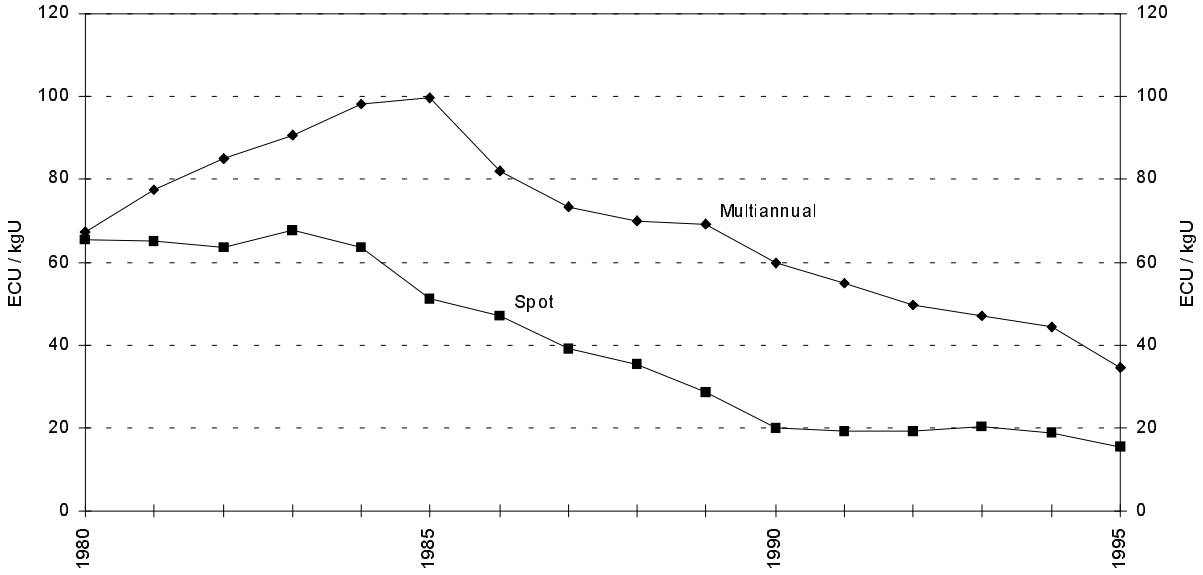
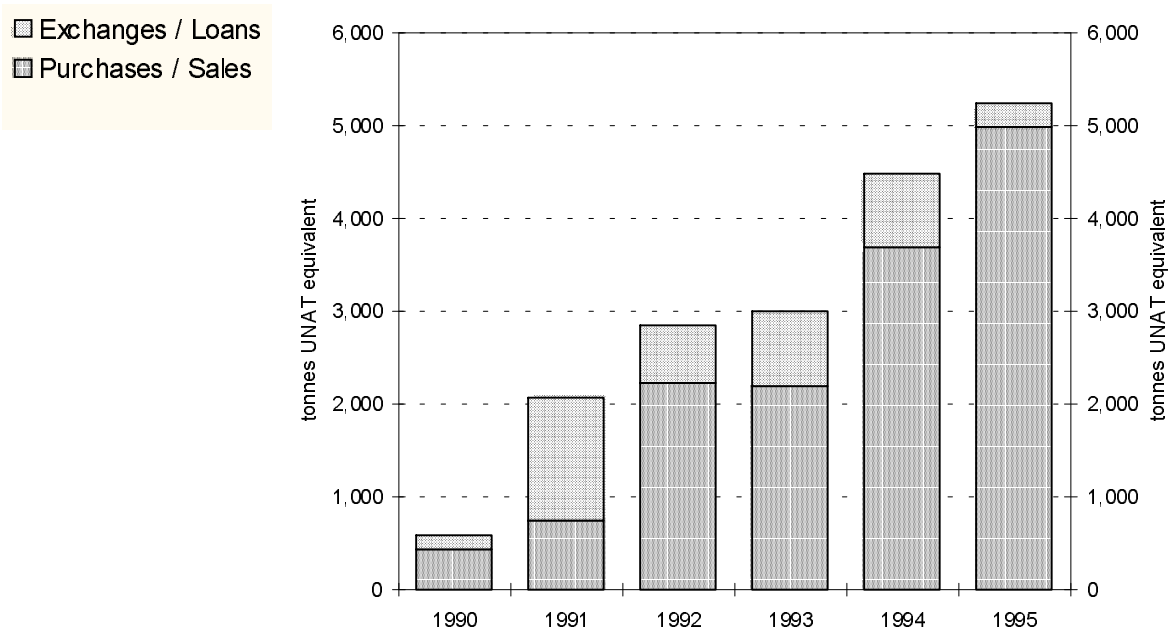
[1] *"Multiannual" and "spot" contracts are defined under Table 2, note (3).*

[2] *Total deliveries under all purchasing contracts amounted to 16,100 tU in 1995, of which 14,600 tU were imported.*



Graph 2 - Average price for uranium delivered under spot and multiannual contracts



Graph 3 - Acquisitions of CIS origin natural uranium by EU utilities

SPECIAL FISSILE MATERIALS

LOW ENRICHED URANIUM (LEU)

In 1995, deliveries to EU utilities totalled approximately 2,200 tonnes of LEU, containing 16,700 tonnes of natural uranium equivalent and 9,600 tonnes of separative work. Some 68% of this separative work was provided by EU companies (EURODIF and URENCO). All separative work was delivered under long term contracts.

It should be noted that some of the LEU delivered only involved purchases of separative work, in which case the natural uranium feed content was returned to the seller.

CONCLUSION OF CONTRACTS

The number of contracts and amendments relating to special fissile materials (enrichment, enriched uranium and plutonium) which were dealt with during 1995 in accordance with the Agency's procedures is shown in Table 3.

ENRICHED URANIUM FOR RESEARCH REACTORS

Enriched uranium for research reactors is normally supplied in two enrichment assays : just under 20% (Low Enriched Uranium or LEU) and about 90% (Highly Enriched Uranium or HEU).

Although the quantities involved represent a minor amount in terms of EU needs for enriched uranium, HEU supply is very important to the scientific community and is of high political significance.

Table 3 - Special fissile material contracts concluded by or notified to the Supply Agency

Contract Type *(1)*	**Number**
I. Special Fissile Materials	
Purchase (by a EU utility/user)	
- multiannual	4
- spot	11
Sale (by a EU utility/user)	
- multiannual	2
- spot	13
Purchase-sale (between two EU utilities/users)	
- multiannual	0
- spot	16
Purchase-sale (intermediaries)	
- multiannual	1
- spot	14
Transfer of title *(2)*	1
Exchanges (swaps)	20
Loan	
- pure	1
- with exchange	7
TOTAL	90
Including	
- Low enriched uranium	60
- High enriched uranium	6
- Plutonium *(3)*	27
CONTRACT AMENDMENTS	3
II. Enrichment Contracts *(4)*	
- Spot	7
- Multiannual	18
CONTRACT AMENDMENTS	18

Notes

(1) See explanations under Table 2, as appropriate.

(2) Title to the material is transferred without monetary compensation, e.g. for disposal of testing or scrap material.

(3) Some contracts may involve both LEU and plutonium.

(4) Contracts with primary enrichers only.

Supply of LEU to research reactors continued unhindered. Reactor requirements for HEU were met, but the source of future supplies was the object of considerable attention.

The Supply Agency continued to provide support to reactor operators in the procurement of fuels.

PLUTONIUM

In 1995, transactions concerning plutonium were again mainly related to its use for MOX fuel fabrication and the Agency concluded 27 such contracts.

CHAPTER III

NUCLEAR ENERGY DEVELOPMENTS IN THE EUROPEAN UNION MEMBER STATES

BELGIQUE/BELGIË - BELGIUM

In 1995, nuclear power stations in Belgium (including the French part of Tihange 1) generated about 39.1 TWh. This is slightly more than in 1994. It represents 55.3% of the total electricity production of the country in 1995. The decline in relative terms is due to faster growth in total production compared to electricity production of nuclear origin.

Nuclear production capacity has been increased slightly during 1995. Since March 1995 the output of Tihange 2 has been increased by 30 MWe, through increasing the mean core temperature and so producing higher steam pressure in the turbine. In September 1995 the output of Tihange 1 was increased by about 8%, through reinforcement of the turbine rotors and improvement of the thermodynamics.

Belgium produced 24 tonnes of natural uranium in 1995, derived from imported phosphates.

The production of MOX fuel by Belgonucléaire in its Dessel plant amounted to 30.3 tonnes in 1995, to be used in Belgian and German nuclear power plants.

The recommendations of the resolution of Parliament adopted on 22 December 1993 concerning the use of MOX-fuel in Belgium's nuclear power plants and the suitability of reprocessing spent fuel, have continued to be carried out. In this context the following developments took place in 1995 :

- The first 16 MOX fuel elements were loaded in Tihange 2 (8 elements in March 1995) and Doel 3 (8 elements in June 1995).

- In the framework of Synatom's programme for the encapsulation of spent fuel for direct disposal, the first phase, concerning the conceptual design of a reference container, was finalised. The second phase, concerning the definition of conceptual criteria and safety rules for a conditioning plant, has started.

- In the framework of the R&D programme on geological disposal both of high level, medium level and long-lived waste and of spent fuel, mainly carried out by the Nuclear Research Centre at Mol, but coordinated and managed by Niras/Ondraf, the following important activities took place :

  - a preliminary long term safety study of the direct disposal of spent fuel;

  - demonstration of manipulation techniques for lowering the waste canisters into the underground disposal facility and for

pushing them into the disposal galleries;

- modelling of the temperature field around the disposal galleries.

- One feature worth mentioning is the creation by Niras/Ondraf and CEN/SCK of the Economic Interest Grouping called GIE Praclay, intended to manage the activities, studies and research related to the Praclay project for the demonstration of the feasibility of radioactive waste disposal in clay strata. This GIE can be extended through the participation of other European institutions and/or companies.

- The construction of a supplementary storage building for spent fuel at Doel was completed. It received its operating licence in March 1995. The first elements were loaded in dry storage containers towards the end of the year. At Tihange the construction of a new wet storage building for spent fuel continued.

The new law of 15 April 1994 concerning the protection of the population and the environment against the dangers of ionizing radiations and the creation of a Federal Agency for Nuclear Control has not yet entered into force. The Royal Decrees necessary to permit this have been prepared. One of the most important of these decrees, namely that concerning the adaptation of the general regulation on ionizing radiation, has been approved by the European Commission. At the end of the year the draft royal decrees were under examination by the Council of State.

Concerning low-level and short-lived radioactive waste, the new Government stated in June 1995 in its declaration at the moment of its formation that a definitive choice would be made about the disposal of this type of waste on the basis of an examination of the different alternatives. In this respect, due account would be taken of the safety and price differences between the different options. This declaration needs an adaptation of Niras/Ondraf's programme, which was in preparation at the end of 1995.

At the end of June 1995, the material testing reactor BR2 of the Nuclear Research Centre CEN/SCK at Mol temporarily stopped operation to undergo a major refurbishment. This will last until the beginning of 1997, after which a new operating period of 10 to 15 years is foreseen. The exact operating regime has still to be decided. Studies on the integrity and life span of the pressure vessel, which gave rise to some uncertainty with regard to refurbishment, have given positive results, so that the uncertainty could be eliminated. The final conclusions will depend on the results of coming inspections.

The following developments should be mentioned with regard to the site of Belgoprocess, the daughter company of Ondraf/Niras :

- a major restructuring of the company was decided, in order to cope with the decrease in activities (lower waste arisings etc.);

- the new installation for treatment and conditioning of low-level waste and waste suspected to be contamined with alpha-bearing isotopes (CILVA) was put into full operation;

- the part of the buildings foreseen for the vitrified waste resulting from the reprocessing of Belgian spent fuel at La Hague is ready to receive this type of waste. The construction of the other parts, which will receive the other types of reprocessing waste, continued.

DANMARK - DENMARK

No new developments were reported.

DEUTSCHLAND - GERMANY

Germany's nuclear power plants generated 153.2 TWh in 1995, about 2.2% more than in 1994. The proportion of nuclear-generated electricity in the country's overall production of electricity remained stable at about 34%.

Production of uranium concentrates from the reclamation process at the Wismut mine was 40 tU. Of Wismut's total stock of 1,134 tU, 90% is under contract, and 50% has already been delivered to customers.

18 of Germany's 21 commercial nuclear power plants were connected to the grid almost continuously, and at a high level of availability. The Mühlheim-Kärlich nuclear power plant still remains disconnected because the Rheinland-Pfalz Administrative Court again revoked the newly formulated permit for partial construction. Würgassen, the first commercially operated reactor in the former West Germany, is being shut down. This decision was prompted by signs of fractures in the core shroud. It would have been technically possible to deal with these by replacing the core shroud, but an economic evaluation of the thorough modernisation of the plant which would then have become necessary led the operator Preussenelektra to decide on closure. After long outages for repairs, the Krümmel and Brunsbüttel power plants are now connected to the grid again.

The second round of cross-party talks about achieving a consensus on energy policy was again broken off because of irreconcilable differences of opinion over nuclear energy. The ruling coalition considered an energy mix which included nuclear power to be necessary in the long term, and believed that further development of nuclear technology in Germany should remain possible. The consensus talks fell apart in the end over the question of the nuclear option, even though the SPD opposition, in the person of its chief negotiator, had indicated a readiness to compromise.

On 7 June 1995, Siemens AG, in agreement with its German customers, decided, given the prevailing political conditions, to abandon production in Hanau of MOX fuel from civil plutonium. The equipment in the new MOX fabrication building, and a core team of personnel have been retained until further notice in order to be able to use the "Hanau option" in the framework of an international disarmament initiative.

As already announced, uranium processing at the Hanau fuel fabrication facility was discontinued on 30 September, and production moved overseas. The fuel fabrication facility at Lingen is now operating almost at full capacity, with output at 400t/year.

The addition of further centrifuges brought the capacity available at the Gronau enrichment plant to 760 tSW/year by the end of 1995. In August the facility completed ten years of successful operation. Since August 1985, roughly 4,000 tSW have been produced with almost 100% use of capacity. The process of getting planning permission for a 1,800 tSW/year extension of the facility is running to schedule.

All of the spherical fuel used in the THTR 300 has now been placed in the interim fuel store at Ahaus in 305 Castor casks. In April the first Castor cask, with 9 PWR fuel assemblies from the Philippsburg power plant, was placed in the identically constructed Gorleben interim fuel store. Further shipments of nuclear waste (spent fuel and vitrified high level waste from reprocessing), which were planned for autumn 1995, have had to be postponed until 1996 because of delays by the regional licensing authorities in processing the necessary documentation, and delays in the preparation of the vitrified waste blocks.

5,000 m^3 of radioactive waste containing mostly short-lived radionuclides have been disposed of at the Morsleben final disposal site in the past two years. There has been no noticeable progress in the licensing procedure for the planned Konrad final disposal site over the past year. The exploratory underground work on the saliferous rock at the Gorleben mine has seen the two shafts reach their final depth of about 840 m. The galleries which will link the two shafts are now being prepared.

ELLAS - GREECE

No new developments were reported.

ESPAÑA - SPAIN

Electricity production from nuclear power in Spain was 55,444 GWh, which represents 34% of total national production. As in recent years, the highly satisfactory operation of the nuclear park was reflected in the load factor of 85.5%.

Uranium concentrate production at the Quercus Plant (Ciudad Rodrigo) was 281 t $U_3 0_8$.

The following facts are worth mentioning with regard to the various different aspects of the nuclear industry in Spain during 1995.

NUCLEAR INSTALLATIONS

- The steam generators of the Ascó I nuclear power plant were replaced between the months of July and October in accordance with the planned programme. Fabrication of the steam generators for Ascó II and Almaraz at the factory of Equipos Nucleares S.A. continued, and replacement of the existing steam generators is planned to take place this year and the next.

- The José Cabrera plant, which had been out of the grid owing to cracks appearing in the reactor

vessel head, was restarted in June 1995 after repair work was completed and the necessary authorisations had been obtained. After technical and economic evaluation, the operating company decided to replace the reactor vessel head at the next refuelling outage.

- Ascó I had its electrical output increased from 930 to 947 Mwe, essentially as a result of modifications to the low pressure turbine.

NUCLEAR FUEL CYCLE

- In March 1995, the dismantlement and restoration work on the site of the Andújar (Jaén) uranium concentrates facility was completed. A ten year supervision programme will now begin prior to the closure of the facility being declared.

- In May, commencement of the project to extract, separate and pre-process waste arising from the fuel graphite sleeves from the Vandellós I nuclear plant was authorised. Once the conditioning of the operating waste from the plant, planned to be completed this year, has taken place, Empresa Nacional de Residuos Radioactivos S.A. will begin work on decommissioning the plant subject to authorisation by the Ministry of Industry and Energy. It is planned to reach the level 2 "restricted release of the site" by the year 2000, which will already leave an estimated 80% of the site area free for use. After an estimated waiting period of 25 years, dismantlement up to level 3 "unrestricted release of the site" will be completed, so as to leave the site of the plant completely free and unrestricted for other uses.

- In November, the Ministry of Industry and Energy authorised Empresa Nacional del Uranio, S.A. (ENUSA) to begin decommissioning the Lobo G uranium ore processing plant, located at La Haba (Badajoz). This plant ceased production in March 1990.

- The intermediate storage strategy for spent fuel continued to be developed with the commencement in 1995 of work on increasing the capacity of the spent fuel pools at the Vandellós II and Trillo plants. These plants have installed racks of compact design, and at Trillo an additional building for the storage of metal spent fuel containers will be built, to be used once the capacity of the spent fuel pool has been filled.

- ENUSA's Quercus uranium concentrates plant continued operating at reduced capacity, with production at about 300t $U_3 0_8$.

- ENUSA's Juzbado (Salamanca) fuel fabrication plant continued to manufacture PWR and BWR fuel elements, destined both for Spanish reactors and to a large extent also for export to various European countries. 1995 saw the opening of a line for the fabrication of uranium and gadolinium oxide fuel.

- ENRESA's intermediate and low-level waste storage facility at El Cabril (Córdoba) continued to operate on an industrial basis. Over the next 15 years, the installation will receive all of Spain's radioactive waste in these categories, which make up 95% of the radioactive waste produced in Spain.

REGULATORY ASPECTS

- A Royal Decree on the physical protection of nuclear materials, promulgated in accordance with the provisions of the Convention on the Physical Protection of Nuclear Materials, as signed and ratified by Spain, was approved in March.

FINLAND

In 1995, the electricity produced by the two Finnish nuclear power plants, both comprising two units (2x445 MW, 2x710 MW),totalled 18.1 TWh and covered 26% of Finland's electricity consumption. The weighted average load factor for the four units was 89.6%. There were no level two or higher level incidents (on the INES scale).

There are no concrete projects for new nuclear power plants in Finland. Preparations to raise the power levels of the existing units are under way. Preliminary decisions concerning the carrying out of an environmental impact assessment of raised power levels have already been taken by the Ministry of Trade and Industry.

The two companies, IVO and TVO, which operate the nuclear power plants, have established a joint company, Posiva Oy, to make preparations for the final disposal in Finland of all their existing and future spent nuclear fuel. The responsibility for final disposal, however, still lies with the power companies.

A new Act, the Electricity Market Act, liberalising the electricity markets, entered into force in June 1995. It is not expected greatly to affect nuclear power production in Finland.

FRANCE

NUCLEAR POWER AND ELECTRICITY GENERATION

Gross national consumption of electricity rose to 397 billion kWh, an increase of 2.2% compared with 1994.

Industrial consumption was up by 1.5% compared to 1994. Consumption by tertiary industries increased by 3.3% and domestic consumption by 4.5%. Exports of electricity greatly increased, and the export balance amounted to 70 TWh (a 10.4% increase compared with 1994).

Total net production of electricity rose to 471 billion kWh, i.e. 3.6% more than 1994. 358.2 billion kWh were produced by nuclear power stations, representing approximately 76.1% of national production. Thermal production from fossil fuels was 36.9 TWh. Hydroelectric production (of 75.5 TWh) decreased by 6.3% compared with 1994, which was an outstanding year.

As regards nuclear operation, 1995 showed stability in availability levels, which stand at 81% compared to 81.3% in 1994. The improvement in unplanned shutdowns balanced out the decrease in availability due to the number of shutdowns.

All vessel heads but two were inspected (Golfech and Penly 2), and six were replaced in 1995. Two steam generator replacements took place, at St. Laurent B1 and Dampierre 3.

The number of safety related incidents per unit per year decreased slowly. There were no level two incidents (compared to two in 1994), and none of a higher level.

At the end of 1995, seven reactors were operating with MOX fuel. The last fuel assemblies were unloaded from Chooz A and Bugey 1 (France's last gas-graphite unit, operated until 1994).

Four 1,400 MW nuclear power plants were under construction, and commissioning is planned to take place before the end of the decade. Chooz B1 is now scheduled to be commissioned in 1996.

URANIUM MINING

The Société des Mines de Jouac (SMJ), a subsidiary of Cogema, and the Cogema Mining Divisions (La Crouzille and l'Hérault) produced 980 tonnes of uranium in concentrates altogether, a 5% decrease compared with 1994.

In March 1995, Cogema announced the start-up of the development stage of the McClean project in Saskatchewan (Canada). Cogema owns 70% of this project, which has resources amounting to 23,500 tonnes of uranium. Production is scheduled to begin in 1997.

URANIUM ENRICHMENT

The capacity of the W installation in Pierrelatte was doubled. In 1995 it transformed around 12,000 tonnes of enrichment tails into oxide.

The start-up authorisation for the TU5 installation, at first expected in 1995, was received at the beginning of January 1996. The installation is devoted to the conversion of reprocessed uranium into oxide.

REPROCESSING

The UP3 plant operated satisfactorily during 1994. More than 200 spent fuel casks were received and unloaded for reprocessing. 800 tonnes of oxide fuel were reprocessed in 1995 (reaching the nominal capacity of the plant).

UP2 increased its production to 758 tonnes of reprocessed fuel.

A total of 1,558 tonnes of oxide fuel was reprocessed in 1995, bringing the cumulative quantity reprocessed to 8,553 tonnes since 1976.

IRELAND

Ireland does not have a nuclear power industry and there are no plans for such. Ireland's nuclear policy objectives place a heavy emphasis on nuclear safety and radiological protection. The Radiological Protection Institute of Ireland advises and assists the Government in implementing that policy.

ITALIA - ITALY

The main Italian operators (ENEA, ENEL, ANSALDO and FIAT) continue to pursue, to the extent of carrying out experimental activities in the field of safety, the development of new types of reactors characterised by a high passive safety level. In this framework, a great deal of attention is paid both to the AP 600 reactor and its adaptation to European safety standards, and to the European evolutionary reactor EPR. International cooperation on the development of the AP 600 reactor was started some time ago.

In addition, activities relating to the decommissioning of nuclear power plants which are no longer working are continuing. In particular, the research and development activities relating to the decommissioning of the Latina and Garigliano power stations, the dry storage of irradiated fuel and ENEL's vitrified waste, the decommissioning of ENEA's experimental fuel cycle facilities, and the management of the associated radioactive material are being carried out with the participation of the national industry (FIAT, ANSALDO, NUCLECO).

NEDERLAND - NETHERLANDS

NUCLEAR ELECTRICITY GENERATION

There are two nuclear power plants in the Netherlands :

- Dodewaard (1969) BWR 56 net MWe (planned to be in operation until 2004);
- Borssele (1973) PWR 449 net MWe (to be in operation until 2004).

Together, their percentage of centralised electricity production capacity was 8%.

URANIUM ENRICHMENT

Uranium enrichment is carried out by Urenco Nederland B.V, located at Almelo. Urenco Nederland B.V. belongs to a multinational company, Urenco Ltd, located at Marlow, which has three shareholders : Ultra Centrifuge Netherlands (UCN NV) in the Netherlands, Uranit in Germany, and INFL in the UK. The Netherlands government owns the majority of the shares (99%) in UCN.

Uranium enrichment is the most important part of the fuel cycle for the Netherlands and is a major international success for the country. Urenco Nederland B.V. has a licence for a capacity of 2,500 tSW/year. The total uranium enrichment market share of Urenco in the western world is about 10%. Urenco has concluded contracts in EU countries, in Switzerland, the United States and in the Far East (Korea, Japan).

Several years ago Urenco recognised, in seeking more business in the USA, that there would be several advantages in having a centrifuge enrichment plant on US territory. With this aim Urenco formed a Joint venture, Louisiana Energy Services, which is now well advanced in its plant licence application with the US Nuclear Regulatory Commission. The licence is expected to be granted in the course of 1996. However, the decision on

plant construction will have to be made in the light of the business and financial conditions at that time.

ENERGY POLICY

In the closing days of 1995 the Dutch Minister of Economic Affairs, Dr. Hans Wijers, sent a White Paper to Parliament on the energy policy for the Netherlands in the years to come. Its upshot is :

- Dutch electricity-producing utilities will be encouraged to merge into one company;
- the markets for natural gas and electricity will be opened up, with government responsibilities restricted;
- the use of all renewable energy sources will be stimulated to cover 10% of national energy demand by the year 2020, with CO_2 emissions not exceeding 1990 levels by that time and with an improvement in energy efficiency of 33%;
- although at the moment no increase in nuclear capacity is foreseen, Dutch nuclear capacity will be maintained in order to "board the train" in the next century if desirable. Part of the nuclear research programme will consist of participation in innovative work in cooperation with institutes from other countries. The Netherlands has no ambition to be able to construct nuclear power plants in due course entirely by itself, but, if such plants should be built in the Netherlands, it does want to be an effective discussion partner.

Nuclear R&D is managed by the Netherlands Energy Research Foundation (ECN). ECN is working in intensive cooperation with the Euratom Joint Research Centre at Petten, which makes use of a High Flux Reactor HFR (55 MW). By special arrangement with the European Commission, ECN, other Netherlands research centres and industry can make use of about half the irradiation capacity at the HFR. In addition to the HFR, ECN has its own Low Flux Reactor (30 kW).

ECN's nuclear research focuses on safety issues (advanced and innovative nuclear technology), waste disposal and non-proliferation. Many R&D activities are already carried out in connection with international projects. Some examples are partition and transmutation research in order to contribute to a solution of the radioactive waste problem. Another example is the development of a passively safe BWR in close cooperation with international suppliers. Furthermore, there is research on HTR development, which aims at a more inherently safe reactor concept which also has attractive economic characteristics. These examples include both theoretical and experimental research.

ÖSTERREICH - AUSTRIA

Austria has no nuclear power plants. However, three research reactors are in operation in Vienna, Seibersdorf and Graz.

ATOMINSTITUT

The Austrian Universities' Atomic Institute operates a research reactor of the TRIGA type, of which about 60 similar reactors have been built around the world. It has a maximum thermal power output of 250 kW. However, it can also be operated in

so-called pulse mode up to a maximum output of 250 MW. In operation since 1962, the reactor is used exclusively for university research and teaching.

As a result of the low thermal output of 250 kW, 57 fuel elements from the reactor's entry into service are still in the core. A further 22 fuel elements have been loaded in subsequent years. In the past 33 years, 8 fuel elements have been removed permanently, and a total of 8 fresh fuel elements are in storage, guaranteeing the operation of the reactor until the end of the decade.

ÖSTERREICHISCHES FORSCHUNGSZENTRUM SEIBERSDORF

The ASTRA research reactor at the Austrian Research Centre in Seibersdorf, a 10 MW thermal water-cooled and moderated swimming-pool type reactor, has been in operation since 1960. The reactor is mainly used for the production of radioisotopes for industrial and medical purposes, irradiation of materials, and irradiation of samples for the analysis of neutron activation. Having taken delivery of 16 fresh fuel elements from the Paul Scherrer Institute in Switzerland, the fuel requirements of the reactor (uranium enriched to 20% in a U_3Si_2 matrix) are covered until the year 2000, after which the plan is to shut down the reactor.

REAKTORINSTITUT GRAZ

The Graz Reactor Institute has been operating a 10 kW Siemens ARGONAUT reactor since 1965. The fuel enrichment levels are 20% and 90%. The reactor is mostly used for university training, and the available reserves of fuel will be sufficient for the next 10 years.

PORTUGAL

NATURAL URANIUM

Yellow cake production is currently being carried out at a reduced level that amounted to 21.6 tonnes of U_30_8 in 1995.

Studies are being conducted by ENU (Empresa Nacional de Urânio, SA) in order to be prepared for the launch of a production centre with a capacity of 130 tU/year to exploit the uranium ore deposit of Nisa, located in the region of Alto Alentejo, if the uranium market allows it.

RESEARCH AND DEVELOPMENT

The ITN (Instituto Tecnológico e Nuclear) which, as indicated in the 1994 report, was moved out of INETI and made an autonomous establishment, has now been placed under the recently created Ministry for Science and Technology and will have its mission redefined.

SWEDEN

ELECTRICITY PRODUCTION AND CONSUMPTION

Electricity production in 1995 was 141.3 TWh, up about 2.4% from 1994.

Electricity production in 1994 and 1995 was (in TWh):

	1994	1995
Hydroelectric power	57.9	66.9
Nuclear power	70.2	66.7
Wind power	0.1	0.1
Combined heat/power	8.6	8.7
Condensing/gas turbine	0.9	0.7
Total production	137.7	143.1
Net export/import	-0.3	1.8
Net consumption	138.0	141.3

Production is based mainly on hydroelectric and nuclear power. Normally the production of nuclear power and hydroelectric power is roughly the same, each with a share of 45-50% of total production. During a climatically statistically average year, hydroelectric power production amounts to about 63.5 TWh. The production of nuclear and hydroelectric power differed a great deal between 1994 and 1995. The year 1994 was a dry year, and the flow to hydroelectric power reservoirs was low, leading to low production of hydroelectric power. This is the reason for the variation in the production of nuclear power between 1994 and 1995. During years with an extremely high level in the hydroelectric power reservoirs the production of hydroelectric power could be up to 60% and nuclear power less than 40%.

NUCLEAR POWER

During 1995 all reactors in Sweden except Oskarshamn 1 were in operation. An in-depth inspection was carried out at Oskarshamn 1 resulting, amongst other things, in a comprehensive replacement of pipes in the primary system. The Swedish Nuclear Power Inspectorate issued a permit for operation on 18 December 1995, and the start-up of the reactor was due to begin on 22 January 1996. It is expected to operate at the nominal maximum power level at the end of January 1996.

New steam generators were fitted to the Ringhals 3 reactor. The replacement was successfully performed within planned budgetary and time constraints. Radiation doses were well below prescribed limits. Ringhals 3 is now operating at the nominal maximum power level.

POLITICAL SITUATION

The Government appointed an Energy Commission with members from the political parties in July 1994. The Commission's tasks were :

- to review the ongoing programmes for the development of the energy system and analyse the need for changes;
- with the deregulation of the electricity market as a background, to review the development of the Swedish electricity market and propose measures to ensure a secure supply of electricity;
- to propose a programme for the conversion of the energy system, including timing.

The Energy Commission recommended in February 1995 that the proposed deregulation of the electricity market should take place. A government

Bill was presented in May 1995. The Parliament approved the Bill in October 1995, and the reform will become effective on 1 January 1996.

The Energy Commission issued its main report on 18 December 1995. The main recommendations of the Swedish Energy Commission were :

"The Energy Commission believes that both economic and environmental arguments support the idea that the reorganisation of the energy system should take place over a sufficiently long period of time for the objectives of the 1991 energy policy agreement to be attained.

The Commission considers that a number of conflicts of objectives remain to be resolved. This is apparent from the climate issue. There are also problems for employment and welfare and difficulties in retaining competitiveness if all nuclear power generation is to be phased out by the year 2010. The results of greater energy efficiency, the supply of renewable energy and the possibilities of maintaining internationally competitive prices will determine the speed at which nuclear power is phased out. With regard to the Energy Commission's forecasts and assessments, the exact time limit for the year in which the last reactor is finally taken out of operation should not be specified.

The Commission considers that it is important that the phase-out be begun at an early stage so that the adjustment process can be initiated. In this context, powerful economic control measures are of crucial significance. The Energy Commission believes that one nuclear power reactor can be shut down during the present mandate period without noticeably affecting the power balance."

THE BACK END OF THE NUCLEAR FUEL CYCLE

In mid-1995, the Central Interim Storage Facility for Spent Nuclear Fuel, CLAB, marked 10 years of smooth operation.

Four local municipalities, Storuman and Malå in Northern Sweden, Nyköping and Östhammar in Southern Sweden, have agreed to carry out a pre-study for a final repository of spent nuclear fuel together with the Swedish Nuclear Fuel and Waste Management Company, SKB.

These studies are focused on the social, environmental and economic consequences of a final repository located in their municipalities. SKB has established local offices.

The municipality in Storuman arranged a referendum in September 1995 when the pre-study was finalized, where the issue was whether the municipality should allow SKB to continue investigations there. The result of the referendum was that around 70% of the votes were against a continuation of the investigations. SKB has closed its local office and ceased activities in Storuman.

SKB is continuing with the other three pre-studies.

UNITED KINGDOM

The conclusions of the Government's Nuclear Review were announced on 9 May 1995. The Review confirmed the Government's commitment to nuclear power, provided it remains competitive and is able to maintain rigorous standards of safety and environmental protection. The review concluded, inter alia, that the United Kingdom's AGRs and PWR and their liabilities should be transferred to the private sector during 1996. The Magnox power stations and their liabilities are to be kept in the public sector, initially in a stand alone company but in due course to be transferred to BNFL.

As an outcome of the Review, the Government has expressed an intention to restructure the industry through a holding company called British Energy, with the parts of Nuclear Electric and Scottish Nuclear which it is intended be privatised as subsidiaries. The holding company's headquarters are to be in Edinburgh. The new subsidiary companies will continue to participate in their respective markets in England and Wales and in Scotland.

The Government is holding detailed discussions with the companies concerned about the methodology of restructuring and the steps that need to be taken to achieve it. The holding company, British Energy, was formed in December 1995 and "shadow trading" started on 1 January 1996. It is proposed that the privatisation of British Energy will take place in the summer of 1996.

In December 1995, British Energy announced that it had decided not to proceed with the early construction of a second PWR nuclear power station in the United Kingdom. The application to build Sizewell C would be withdrawn and no use would be made of the existing planning consent for Hinkley Point C. The announcement made clear that British Energy would not be investing in new generation of any sort in the short term.

Construction of Sizewell B was completed within the budget which Nuclear Electric set in 1990. The reactor started to produce electricity to the national Grid in mid-February 1995, reaching full load in July.

In November 1995, legislation to enable the Government to sell AEA Technology, the UKAEA's commercial arm, received Royal Assent. During the legislation's passage through Parliament, the Government confirmed that its aim was to sell AEA Technology as a single company. Decisions on the method of sale of AEA Technology will be taken in due course, based on performance in the market place and the extent to which the various options would meet customer requirements, enhance competition, help to improve UK competitiveness and maximise the return to the taxpayer.

The ownership and responsibility for the safe management of UKAEA nuclear liabilities, as well as certain other functions more appropriate to Government, including fusion research and representation on international bodies, will remain in the public sector.

Significant commercial milestones were achieved in the United Kingdom's nuclear industry during 1995 when Nuclear Electric and Scottish Nuclear signed contracts worth about £18 billion with BNFL

covering the provision of fuel cycle services. The contracts with Scottish Nuclear cover the AGR fuel requirements to 2006 and the reprocessing in THORP of approximately 60% of the expected AGR fuel arisings with the balance of arisings being long term stored by BNFL. The deal with Nuclear Electric covers the manufacture of all Magnox and AGR fuel up to the year 2000, reprocessing of Magnox arisings to 2009 and the reprocessing in THORP of about half of the expected AGR fuel arisings with the balance as yet uncommitted.

At BNFL Springfields the first enriched uranium hexafluoride was introduced into the New Oxide Fuels Complex (NOFC) in May and by the end of the year the first $U0_2$ powder for export had been despatched to Spain. The site's existing oxide fuel plants are expected to close during 1996 as manufacturing and assembly capacity is switched to NOFC.

BNFL continued to develop its business in international markets; exports trebled since the previous year and offices were opened in both Tokyo and Beijing. BNFL Inc. in the USA is part of a consortium which has been awarded a $325 million contract to manage and operate all environmental restoration and waste management at Rocky Flats in Colorado.

THORP's Chemical Plants had a successful active start-up in January and they have since completed five active runs with over 200 tonnes of irradiated fuel separated into plutonium, uranium and fission products. Active commissioning of the plutonium finishing line commenced in October.

In November BNFL delivered the second batch of MOX fuel assemblies to Switzerland. The batch of 12 assemblies is due to be loaded into NOK's Beznau reactor in the summer of 1996. The building and civil work for the Sellafield MOX Plant is now complete. Equipment installation is progressing well, with engineering commissioning due to commence in February 1996.

Following the purchase of the A3 enrichment plant from BNFL the Urenco enrichment capacity at Capenhurst now represents 33% of Urenco's total enrichment capacity of 3,450 tSW. As a result of recent marketing success in the US, East Asia and Europe some additional enrichment capacity will be required before the end of the decade and this will be partly installed at Capenhurst.

The public inquiry into UK Nirex's application for planning permission to construct an underground Rock Characterisation Facility as the next stage of its investigations into the suitability of a site adjacent to BNFL's Sellafield works for its proposed deep repository for low and intermediate level radioactive wastes began in September 1995. The Inspector's report is expected to be received in September 1996.

CHAPTER IV

INTERNATIONAL RELATIONS

INTERNATIONAL AGREEMENTS AND RELATED DEVELOPMENTS

As is now well established, EU operators acquire nuclear materials and services from a number of external supplying countries. Moreover, EU operators also process materials on behalf of foreign clients. Whilst in the EU, nuclear materials in the civil fuel cycle are subject to the safeguards provisions of the Euratom Treaty and also to the related agreements entered into by the Community, its Member States and the International Atomic Energy Agency. In addition, nuclear material received from three non-Community countries - Australia, Canada and the USA - is subject to international agreements concluded by the Community and the country concerned. These agreements provide for some additional conditions which apply to such material. During 1995, these agreements continued to operate and deliveries made under them generally did not raise problems, except in the case of HEU (see Chapter I).

In accordance with the provisions of the Euratom Treaty, international agreements are negotiated on behalf of the Community by the European Commission in accordance with directives issued by the Council of Ministers. Where these agreements relate to the supply of nuclear materials, the Supply Agency takes part in the Commission's negotiating team and in any ongoing consultations with the authorities of the countries concerned.

EURATOM - AUSTRALIA

Routine consultations with Australia under Article XIII of the Euratom/Australia agreement took place in Canberra in November. *Ad referendum* agreement was reached with the Australian authorities on arrangements for the folding-in to the inventory of the Euratom/Australia agreement of the inventories of Australian-obligated material present in Finland and Sweden under their existing bilateral agreements with Australia. This merging of the inventories of new Member States is an important element in ensuring that the same conditions for the use of Australian-obligated materials apply for industry throughout the Community. Discussions were continuing at the year-end with the parties concerned to complete the process of folding-in. There were also further discussions on the future establishment of Australian generic prior consent for retransfers of plutonium obligated to Australia only from Euratom to Japan. A prior generic consent for Euratom-Japan retransfers of plutonium subject both to the Euratom-Australia and Euratom-USA agreements was agreed in 1993.

EURATOM - CANADA

In similar consultations held in Ottawa in late September/early October under Article XIII of the Euratom/Canada agreement, Canada informed the Commission that a simpler administrative procedure with regard to retransfers of Canadian-obligated nuclear items involving Australia had been agreed with that country. Extension of this simplified mechanism to include Japan and Russia as well was also discussed. In addition, *ad referendum* agreement was reached on the process of folding into the Euratom/Canada inventory the inventories of Canadian-obligated nuclear items in Finland and Sweden held under their bilateral agreements with Canada. As is the case with the Euratom/Australia agreement, talks were continuing at the year-end between Canada and Euratom to complete the process of folding-in.

Regular consultations of the kind held with Canada and Australia are useful in allowing fine-tuning of agreements which are generally recognised as functioning well, in particular to reduce the administrative burden on industry where appropriate, and to facilitate legitimate commercial operations involving material subject to these agreements.

EURATOM - USA

After two further rounds of negotiation in early 1995 between US Government and Commission officials, a high level meeting between US State Department Under-Secretary Lynn Davis and Commissioners Papoutsis and Sir Leon Brittan on 29 March permitted *ad referendum* agreement on a text to be reached between the two sides after further high-level contacts. The Commission adopted the *ad referendum* text for presentation to the Council of Ministers on 10 May, and the Council subsequently adopted the text, after thorough examination in the Council framework, on 3 August. Commissioners Papoutsis and Sir Leon Brittan, and United States Ambassador to the EU Stuart Eizenstat, signed the agreement on 7 November, and President Clinton passed it to Congress on 29 November, where it must sit for 90 days of continuous session before it can enter into force. Subject to US Congressional approval, the agreement is expected to enter into force in the spring of 1996. The old Euratom/US agreement expired on 31 December.

The Commission and the Supply Agency consider that the new 30-year agreement, which can be extended by 5-year rollover periods, provides a stable legal framework for the EU nuclear industry to operate with US-obligated materials and should simplify and accelerate administrative procedures for the Community industry in a number of areas. Non-sensitive nuclear activities (including enrichment up to 20%) are unconditionally allowed under the new agreement, whilst reprocessing and alteration in form or content are subject to a programmatic prior consent which is valid, except under the most extreme circumstances, for the life of the agreement. The retransfer system under the old agreement, which required case-by-case US consent for exports from the Community involving US-obligated materials, has been replaced in the new agreement by an advance consent mechanism which represents a marked improvement. It is also set down in the Agreement that export licences should

be issued expeditiously (generally within 2 months), with the possibility of consultations between the parties if no licence is issued after 4 months. The US also agrees to terminate its 5 remaining bilateral agreements with individual Euratom Member States. Finally, by introducing into the new agreement a framework for later consultations should the need arise, the question of the indefinite application of US consent rights over the large inventory of US-obligated material already in the Community under the old Euratom/US agreement has been deferred.

The annual waiver required under the US Nuclear Non-Proliferation Act of 1978 for supplies and transfers of US-obligated nuclear material and equipment to the Community to continue under the old Euratom/US agreement was granted by President Clinton on 9 March, but with an expiry date of 31 December. A letter of 14 December from the US Nuclear Regulatory Commission (NRC) to all US licensees who export to the EU confirmed that since the new agreement would not enter into force until after 31 December 1995, existing licences for exports of reactors, source material and special nuclear material to the EU would be suspended and no new licences issued until the new agreement came into force. In addition, NRC's letter stated that pending the issuing of peaceful use, safeguards and retransfer assurances covering supply to Euratom Member States of non-major nuclear components falling outside the scope of the new agreement, transfers of such components to the Community could not take place. These assurances would replace those provided to the US in 1979 for such transfers, whose validity was linked to that of the old agreement. At the year end the Commission, in consultation with Euratom Member States, was working closely with the US authorities to ensure that the relevant assurances were put in place as soon as possible.

Supply of nuclear materials from the USA remained relatively stable and was comparable to 1994. Under purchasing contracts natural uranium from the USA accounted for 4% of deliveries to EU final users, and US enriched uranium accounted for about 8% of EU deliveries of separative work.

THE RUSSIAN FEDERATION

The Commission and Russia discussed nuclear trade issues on several occasions in 1995. After a delay of several months by the EU because of the situation in Chechnya, the Interim Agreement bringing into initial operation certain key parts (including the provisions on nuclear trade) of the Partnership and Cooperation Agreement (PCA) with Russia of June 1994 was signed by Council President Javier Solana, Commissioner Hans van den Broek and Russian Foreign Affairs Minister Andrei Kozyrev on 17 July[1]. The Interim Agreement enters into force on 1 February 1996. Under its terms (Article 15, which corresponds to Article 22 of the PCA), the parties agree to take the necessary steps to negotiate an arrangement covering trade between them in nuclear materials. However, until such an arrangement is reached, nuclear trade with the Russian Federation will continue to be covered by the Interim Agreement, which in relation to nuclear trade maintains in operation certain key provisions of the 1989 agreement between the Community and the former Soviet Union[2]. In addition, under a Joint

[1] *O.J. N° L24, 13.10.1995.*

[2] *O.J. N° L68, 15.03.1990, p.1.*

Declaration in relation to the PCA and the Interim Agreement, Russia recognises the rights, powers and responsibilities of the Euratom Supply Agency and the Commission under the Euratom Treaty.

OTHER REPUBLICS OF THE COMMONWEALTH OF INDEPENDENT STATES

Although the Council approved negotiating directives for nuclear safety and nuclear fusion agreements with Kazakhstan and Ukraine in June 1995, the Commission's September 1994 proposal to the Council of directives for the negotiation of nuclear trade agreements between the Community and 5 CIS Republics (Kazakhstan, Kyrgizstan, Tajikistan, Ukraine and Uzbekistan) had not yet been adopted by the Council at the end of the year.

The Supply Agency already recognises these five republics as separate suppliers to the EU, and, as far as possible, takes into account separately supplies of uranium originating from them.

ARGENTINA

On 5 December, the Council adopted negotiating directives for the Commission to begin negotiations with Argentina on a peaceful nuclear cooperation agreement.

ENERGY CHARTER TREATY

The Energy Charter Treaty, opened for signature in Lisbon on 17 December 1994[1], was held open for signatures until 16 June, by which point it had been signed by 50 signatories to the European Energy Charter. It will enter into force once ratified by thirty signatories, but in the meanwhile is in provisional application by most signatories. Nuclear aspects may be covered by a special protocol which is still under discussion. A declaration attached to the Final Act of the Treaty states that nuclear trade between the EU and the republics of the CIS will be covered by bilateral agreements between those parties.

RETRANSFERS

Under the terms of the Community's agreements with Australia and Canada and both the old and the new agreement with the USA (not yet in force at the end of 1995), those supplier countries retain the right of consent over the retransfer from the Community of nuclear material subject to those agreements to other countries outside the Community.

Under the Euratom/Canada agreement, simplified procedures relating to retransfers of certain Canadian-obligated nuclear items, whereby prior notification is given to Canada shortly before shipment, are in place for most of the EU's nuclear trading partners. In the case of the Euratom/Australia agreement, retransfers from the Community of Australian-obligated material can take place to countries with which Australia has a cooperation agreement in place for activities for which Australia has accepted those countries as a destination. Again, this includes most of the EU's nuclear trading partners.

[1] *O.J. N° L380, 31.12.1994, p.3.*

Under the new Euratom/US agreement, a mechanism providing for advance generic consent for retransfers of nuclear items subject to the agreement will be in place based on a list of destinations outside the EU which will include most of the EU's nuclear trading partners. Advance generic consent, already granted under the old Euratom/US agreement, for the retransfer to Japan of plutonium, including plutonium contained in mixed oxide fuel, is maintained under the new agreement, and the US has agreed to extend a similar mechanism to retransfers of this kind to Switzerland once it has concluded a new nuclear cooperation agreement with that country.

Applications for retransfer consents falling outside the generic consents provided for under the above agreements are handled by the Supply Agency. During 1995 no such retransfers took place.

Figures relating to retransfer consents for material obligated to the USA, which in 1995 still followed the case-by-case procedure pertaining under the old Euratom/US agreement, were as follows :

Pending end 1994	6
Applications made during 1995	10
Consents received in 1995	9
Pending end 1995	7

Some of the applications for retransfers of US-obligated material which were pending at the end of 1995 will be covered by the advance generic consent mechanism which will come into place with the entry into force of the new Euratom/US agreement.

COMMISSION AUTHORIZATIONS FOR EXPORT

Under the provisions of Article 59 (b) of the Euratom Treaty (and Article 62.1 (c) in the case of special fissile materials), the authorization of the Commission is required for the export of nuclear materials produced in the Community. Requests for these authorizations are introduced to the Commission by the Supply Agency.

During 1995, 7 authorizations for export were granted by the Commission.

CHAPTER V

ADMINISTRATIVE REPORT

PERSONNEL

The staff establishment of the Agency at the end of 1995 was 24.

FINANCE

The Agency's expenditure for 1995 amounted to ECU 197,964. This amount was financed principally from the budget of the Commission, as a result of a Council decision of 1960 to postpone the introduction of a charge on transactions to defray the operating expenses of the Agency as provided for by the Euratom Treaty.

ADVISORY COMMITTEE

The Advisory Committee held meetings in March and December 1995. Activity at the first meeting of the year focused on following up the work which had been done in late 1994 by an Ad Hoc Working Group on certain practicalities related to the future implementation of the June 1994 Partnership and Cooperation Agreement (PCA) with Russia. After extensive discussions, a resolution was adopted by the Committee which, inter alia, recommended to the Agency to continue monitoring supply contracts for materials of Russian origin, and to report regularly to the Committee on its findings.

The Committee also provided a useful forum for the discussion of the year's developments in international agreements relating to nuclear trade. Commission services were able to inform the Committee of developments with regard to proposals for negotiating directives with five CIS Republics, the Energy Charter Treaty and consultations with Canada and Australia. Exchanges of views also took place on the complex negotiations with the US for a new nuclear cooperation agreement, and their implications for the EU's nuclear industry.

Elections for the officers of the Committee were held at its second meeting of 1995. The new officers of the Committee, elected for a term of two years, are recorded in the Organisational Chart.

The Agency's Annual Report and accounts for 1994, and its budget for 1996, received favourable opinions from the Committee.

ORGANISATIONAL CHART

(AS AT 31 DECEMBER 1995)

EURATOM SUPPLY AGENCY

Director General	M. GOPPEL
Assistant to the Director General	D. MONASSE (a.i.)
• Nuclear fuels supply contracts and research	J.C. BLANQUART J. MOTA A. BOUQUET A. MUIJZERS
• General Affairs; Secretariat of the Advisory Committee	D.S. ENNALS E.F. MATHEWS

ADVISORY COMMITTEE OF THE SUPPLY AGENCY

Chairman	Mr. J.L. GONZALEZ (ENUSA, Spain)
Vice-Chairmen	Mr. S. SANDKLEF (Vattenfall Fuel, Sweden) Mr. B. GRESLEY (Urenco, UK)

WORKING PARTY

Chairman	Mr. R. MOTTA GUEDES (ENU, Portugal)
Vice-Chairmen	Mr. P. GOLDSCHMIDT (Synatom, Belgium) Mr. W. SCHOBER (Bayernwerk, Germany)

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ANNEX 1

Natural uranium feed contained in fuel loaded into EU reactors[1] and natural uranium delivered to utilities under purchasing contracts in tU

Year (2)	Fuel Loaded	Deliveries (3)	% Spot Deliveries
1980	9,600	8,600	(4)
1981	9,000	13,000	10
1982	10,400	12,500	<10
1983	9,100	13,500	<10
1984	11,900	11,000	<10
1985	11,300	11,000	11.5
1986	13,200	12,000	9.5
1987	14,300	14,000	17.0
1988	12,900	12,500	4.5
1989	11,800	13,500	11.5
1990	15,400	12,800	16.7
1991	15,000	12,900	13.3
1992	15,200	11,700	13.7
1993	15,600	12,100	11.3
1994	15,400	14,000	21.0
1995	18,700	16,100	18.1
TOTAL	208,800	201,200	

Notes:

(1) Tails assay used in the calulation varied over the years but it was normally in the range 0.20 - 0.30%.

(2) From 1986 onwards figures include data for Spanish reactors; Finnish and Swedish reactors are included in the figures for 1995.

(3) Under purchasing contracts.

(4) Figure not available.

ANNEX 2

ESA average price for multiannual and spot contracts involving natural uranium

Year	Multiannual contracts		Spot contracts		Exch. Rate USD per ECU[2]
	ECU/kgU	USD/lb U_3O_8[2]	ECU/kgU	USD/lb U_3O_8[2]	
1980	67.20	36.00	65.34	35.00	1.392
1981	77.45	33.25	65.22	28.00	1.116
1982	84.86	32.00	63.65	24.00	0.978
1983	90.51	31.00	67.89	23.25	0.890
1984	98.00	29.75	63.41	19.25	0.789
1985	99.77	29.00	51.09	15.00	0.763
1986[1]	81.89	31.00	46.89	17.75	0.984
1987	73.50	32.50	39.00	17.25	1.154
1988	70.00	31.82	35.50	16.13	1.182
1989	69.25	29.35	28.75	12.19	1.102
1990	60.00	29.39	19.75	9.68	1.273
1991	54.75	26.09	19.00	9.05	1.239
1992	49.50	24.71	19.25	9.61	1.298
1993	47.00	21.17	20.50	9.23	1.171
1994	44.25	20.25	18.75	8.58	1.190
1995[1]	34.75	17.48	15.25	7.67	1.308

Notes :

(1) Figures include deliveries to Spanish utilities from 1987 onwards (EC12) and to Finnish and Swedish utilities in 1995 (EU15).

(2) An average exchange rate for each year is used to calculate the price in $/lb.