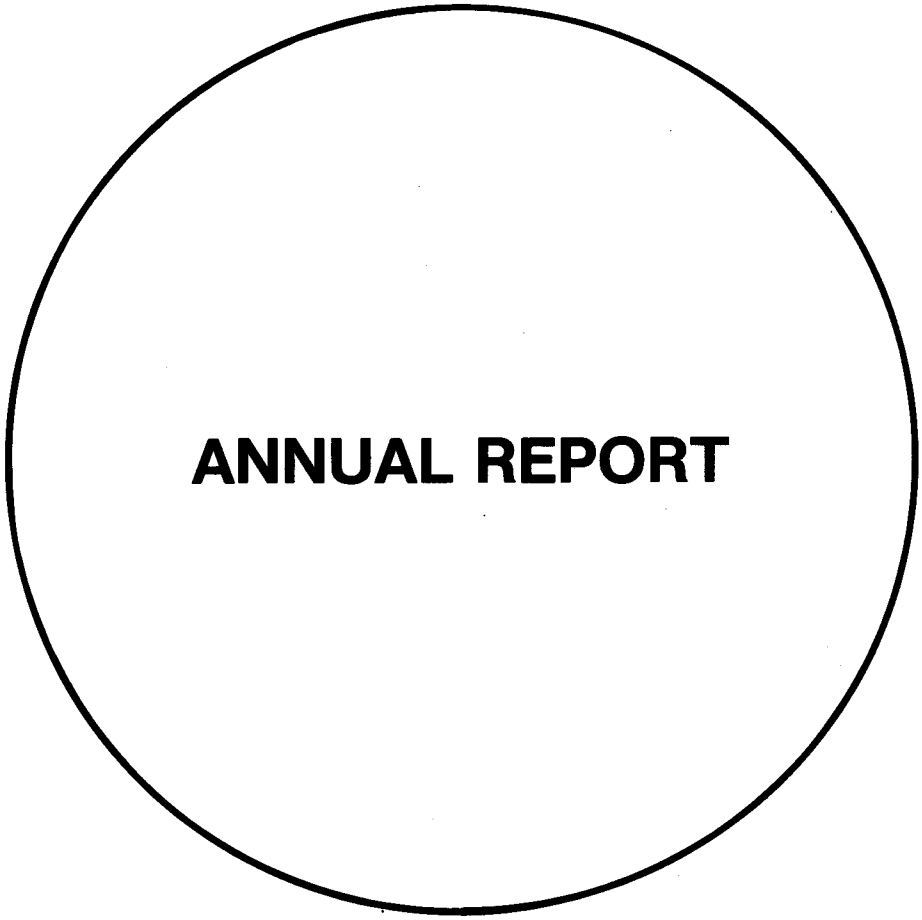
EURATOM
SUPPLY AGENCY



1983

This publication is also available in

DE ISBN 92-825-4836-8
FR ISBN 92-825-4838-4

Luxembourg: Office for Official Publications of the European Communities, 1984

ISBN 92-825-4837-6

Catalogue number: CB-40-84-755-EN-C

Printed in Luxembourg

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CHAPTER I

OVERALL REVIEW

SECTION 1 SUPPLY SITUATION OF THE COMMUNITY IN BRIEF

The Supply Agency is able to report that :

1. During 1983 supplies of natural and enriched uranium and fuel cycle services to users in the Community have been maintained satisfactorily and in general without significant problems.

2. Adequate supply of uranium and associated services should be available in the short to medium term.

3. Prospects for uranium supply in the longer term are reasonably good in terms of worldwide known resources, but considerable investment may be needed in order to create production capacities to replace depleted mines and satisfy future expanding demand. The discovery rate of new resources could decrease if the reduction in exploration expenditures arising from current market conditions should continue.

   For fuel cycle services it can be expected that capacity will be sufficient or capable of expansion, as required, to meet demand.

SECTION 2 ACTIVITIES OF THE SUPPLY AGENCY

§ 1 MAIN ACTIVITIES

In furtherance of the Community's task to ensure that all users receive a regular and equitable supply of ores and nuclear fuels, the Agency's main activities have been :

1. constant monitoring of the markets for nuclear fuels and their developments and of policies of governments which might affect supply or demand,

2. the conclusion of contracts for the supply of nuclear fuels, including in connection therewith advice to contracting parties, in particular on matters relating to the Euratom Treaty or international agreements entered into by the Community,

3. the handling of applications from Community undertakings for export authorizations by the Commission and retransfer authorizations from third countries and the provision of advice concerning export licences from third countries,

4. liaison with and assistance to the Commission in the negotiation and implementation of international agreements and in the resolution of day to day problems related to safeguards and affecting supply.

In connection with all these activities, the Agency constantly seeks to facilitate and ensure the flow of nuclear materials by such means within its powers as seem appropriate, including frequent dialogue with industrial and governmental parties.

§ 2 1983 SPECIAL FEATURES

For the Agency, 1983 had two dominant, though unconnected features, namely the general situation of the market and the Commission's proposal for a revision of Chapter VI.

The tendency noticed in the two previous years for a generally slack primary market both for natural uranium and enrichment services continued throughout the year. The causes are well known : slower than expected increase in nuclear programmes, which has led to high inventories and which has co-incided with the coming on stream of uranium production from new mines.

However, whilst these conditions might suggest a stagnant market, the opposite has been the case, at least in what has become known as the secondary market.

Financial constraints have caused many undertakings in the western world holding excess natural or enriched uranium or rights to enrichment services to dispose of these assets, reschedule their deliveries or make adjustments in a number of other ways. For the Agency this meant an increase in workload, not simply because of the number of operations involved, but often because the transactions contained new features or were complex and thus required special attention.

The publication in December 1982 of the Commission's proposal (*) to revise Chapter VI of the Euratom Treaty led to a further round of intense activity. Not only did frequent consultations by the Commission's services on specific points continue, but, in particular, the Commission invited the Agency's Advisory Committee to give an opinion on the proposal. This was finally done in October after the preparation and organization of a number of meetings by the Agency. During this time, however, the Agency has had to operate to the best of its ability under the provisions of Chapter VI as applied in practice. Its activities during the year have therefore been undertaken in a climate of uncertainty about the future of Chapter VI and the role of the Supply Agency and against a background of reservations towards the Commission's proposal voiced from many quarters throughout the nuclear industry and from some Member States.

SECTION 3 LONG TERM SUPPLY SITUATION

For the time being, the Supply Agency can draw some conclusions from its observations on the market for nuclear fuels. Basically, as far as the Community is concerned, there should be adequate supply to meet demand of natural uranium in stable conditions at least until the early 1990's, provided no political or other obstacles occur in the countries from which the Community's imports come. Thereafter some additional mining output may be necessary to obtain a stable market for natural uranium.

(*) O.J. C 330 of 16.12.1982

Concerning the fuel cycle services it may also be concluded that adequate supply will be available in the long term; in particular in respect of enrichment and reprocessing ,the Community based industry is expected to be capable of expansion if the demand should so require.

CHAPTER II

THE DEVELOPMENT OF NUCLEAR ENERGY IN THE COMMUNITY

SECTION 1 GENERAL CONSIDERATIONS

During 1983 total electricity production increased in the Community by 2.2 % compared with production in 1982. This increase was mainly generated by nuclear power stations.

The development of nuclear energy was maintained under a sustained construction programme in the course of which conventional thermal electricity production continued to be replaced by nuclear electricity generation.

The nuclear investment programme was favourably influenced by clarifications and new developments in the field of licensing in some Member States. It is interesting to note that the average increase in the construction cost of nuclear power stations has been less in the Community than in some countries outside the Community.

Long term prospects for nuclear energy are, however, largely dependent on the future growth of electricity demand and on its competitiveness with other energy forms.

In this context it should also be reported that European co-operation on fast reactor development progressed in January 1984 with the signing of a Memorandum of Understanding by the Governments of five member states - Belgium, France, Germany, Italy and the United Kingdom - who might be joined by the Netherlands. The aim is to promote the development of fast reactor technology.

Co-operative agreements between utilities, research bodies, the nuclear construction industries and fuel cycle companies will follow. In this way it is intended to reduce the cost to individual contributors of fast reactor development including fuel cycle and waste management aspects. This cooperation may be extended to other countries within or outside Europe.

SECTION 2 DEVELOPMENTS IN THE MEMBER STATES

- Belgium

The TIHANGE unit 2 (900 MWe net) went into commercial operation in 1983.

Two units of 980 MWe each currently under construction are scheduled for connection to the grid in 1985. When these will be on line, the share of nuclear power generated will reach 60 % of the total electricity production.

A parliamentary debate recommended the restart of the EUROCHEMIC reprocessing plant. In addition, Belgium, France and the Federal Republic of Germany, to be joined later by the United Kingdom, initiated in 1983 a common feasibility study on the reopening of the EUROCHEMIC reprocessing plant.

- Denmark

No change has taken place in the situation as stated in the annual report for 1982. The investigations into the questions of nuclear safety and the disposal of radioactive waste referred to in last year's report are expected to be ready during the spring of 1984.

- France

In 1983, 4 PWR units were connected to the grid : CRUAS 1 (880 MWe net in April), BLAYAIS 4 (910 MWe net in May), BLAYAIS 3 (910 MWe net in August), CHINON B2 (870 MWe net in November).

The number of pressurized water reactors amounted to 27, with a total net power of 24 280 MWe; EdF's total nuclear capacity was of 26 310 MW plus the PHENIX breeder (233 MWe net) and various participations in other plants.

In July 1983 it was decided to start the construction of two units in 1983 (PENLY 1 and GOLFECH 1, each of 1 290 MWe net), of two units in 1984 (CATTENOM 4 of 1 290 MWe net and CHOOZ B1 of 1 390 MWe net) and of at least one 1 300 MWe unit in 1985 (PENLY 2).

At 31st December 1983 24 PWR units were under construction (7 of the 900 MWe type and 17 of the 1 300 MWe type) for a total net power of 28 015 MWe as well as the breeder reactor at CREYS-MALVILLE (1 200 MWe).

Nuclear electricity production in France amounted to 137 TWh, which represented an increase of 33 % compared with 1982 and 48.3 % of the total electricity production (283.4 TWh). The latter increased by 6.4 % during 1983 over the previous year.

- Germany

New permits were issued during the year for the continuation of construction work on several reactors.

Utilities are oriented towards the concept of submitting groups of planned reactors to licensing authorities (convoy concept).

The power stations of KNK II, WÜRGASSEN and BRUNSBÜTTEL were shut down for modifications. The new reactor of Krümmel (1 260 MWe net) was in the course of being commissioned, and the thorium high temperature reactor THTR-300 at UENTROP underwent its first test run.

The carrying out of the so-called integrated waste management concept, comprising interim storage, reprocessing conditioning and a final repository, continued according to plan.

A facility for the interim storage in transportation casks of spent fuel elements was completed by the end of 1983 at GORLEBEN and has a capacity of 1 500 tonnes of uranium.

Construction of the Pamela demonstration plant, financed by the Federal Republic of Germany, for high level waste conditioning at MOL, Belgium, went on according to plan.

The safety analysis reports for a reprocessing facility with a planned yearly throughput of 350 tonnes uranium were drawn up for the locations DRAGHAN and WACKERSDORF. A decision on siting and construction is expected during 1984.

Inquiry and licensing procedures were initiated for the planned final repository of low level waste and waste from the decommissioning of nuclear installations in the former iron mine Konrad near SALZGITTER. Commissioning of the site is planned for 1988.

The preliminary shaft drillings in the salt body at GORLEBEN were completed and have shown that the planned shafts will be located in particularly hard rock salt. This is a major condition for the further investigation of the salt body's adequacy as a final repository for all kinds of radioactive waste and spent fuel.

- Greece

In 1983 no progress was registered in the nuclear sector as compared with the previous year. Fossile fuel accounted for 90.1 % of the production of electricity and hydro power for 9.9 %.

- Ireland

No new development occurred in 1983.

The CARNSORE-POINT nuclear power plant project remains in abeyance.

- Italy

In two regions, PIEDMONT and LOMBARDY, in April and October respectively, ENEL obtained authorization to evaluate areas designated for possible installations of nuclear power stations.

The results of investigations to determine a potential site in each such region will be submitted to the authorities concerned with safety during the period of 12 months from the above-mentioned dates.

A further period of 8 months is allowed for the safety authorities to give an opinion.

The regional authorities on the basis of this advice will fix the sites of the power stations. The construction of the two plants, each of 2 units, is expected to begin in 1985.

In January the Italian Parliament voted a law granting funds to regions and municipalities receiving new reactors. This financial aid is intended to contribute to the socio-economic development of regions concerned and to facilitate the change in the designated use of the selected sides.

- Netherlands

In October 1983, the Dutch government concluded firmly on the basis of an independent review, that the two existing nuclear power plants would remain in operation. The public debate on (nuclear) energy, that commenced in 1981, was finalised at the end of 1983. The final report by the independent steering Committee was published in January 1984. A government decision is expected in the course of 1984.

- United Kingdom

During 1983 the first unit at three CEGB twin-unit AGR stations entered pre-commercial operation; these were at DUNGENESS B, HARTLEPOOL and HEYSHAM I. Two further twin-unit AGR stations are under construction, one for the CEGB at HEYSHAM II and the other for the SSEB at TORNESS. Construction of these stations is proceeding according to schedule and they are expected to enter into commercial operation in 1987/88.

In January 1983 a Public Inquiry commenced into the CEGB's proposal to construct a 1 155 MWe PWR at SIZEWELL in Suffolk. During the past year the need and economic aspects of the Board's proposal have been examined and during 1984 safety and siting aspects will be dealt with. If consent is granted, it is anticipated that a PWR at SIZEWELL B may be commissioned at the end of 1993.

SECTION 3 COMMUNITY DATA

The following tables show the installed nuclear power and electricity production in the Community in 1983.

NUCLEAR POWER PLANTS IN THE COMMUNITY - END 1983

Net power in GWe

	Commercial operation		Connected and/or critical	Nuclear as % of total installed generation capacity	Under construction		To be built		Total
	End 1982	Added in 1983			Prior to 1983	As from 1983	Advanced projects	Planned	
Belgium	2.6	0.9	-	27	2.0	-	-	-	5.5
Germany	9.8	-	1.6	13	11.6	-	3.7	3.8	30.5
France	20.7	4.4	1.7	34	26.6	2.5	4.0	1.3	61.2
Italy	1.3	-	-	3	2.0	-	-	10.0	13.3
Netherlands	0.5	-	-	3	-	-	-	-	0.5
United Kingdom	6.5	-	1.9	13	4.4	-	-	1.2	14.0
	41.4	5.3	5.2		46.6	2.5	7.7	16.3	125.0
Community	51.9			15	49.1		24.0		125.0

NUCLEAR POWER PLANTS IN THE COMMUNITY - END 1983

Number of units

	Commercial operation		Connected and/or critical	Under construction		To be built		Total
	End 1982	Added in 1983		Prior to 1983	As from 1983	Advanced projects	Planned	
Belgium	5 (*)	1	-	2	-	-	-	8
Germany	15	-	2	10	-	3	3	33
France	29	5	2	23	2	3	1	65
Italy	3	-	-	3	-	-	10	16
Netherlands	2	-	-	-	-	-	-	2
United Kingdom	32	-	3	7	-	-	1	43
	86	6	7	45	2	6	15	167
Community	99			47		21		167

(*) BR 3 included.

TOTAL NET ELECTRICITY PRODUCTION AND NUCLEAR NET ELECTRICITY PRODUCTION

IN THE COMMUNITY IN 1983

(TWh = 10^9 KWh)

	B	DK	D	F	IRL	I	LUX	NL	UK	GR	Community
TOTAL NET ELECTRICITY PRODUCTION 1983	49.9	20.7	351.8	283.6	10.7	174.5	0.8	57.0	258.1	22.3	1 229.4
1983 / 1982 in %	+ 4.1	- 7.5	+ 2.0	+ 6.5	+ 2.4	- 0.9	- 11.2	- 1.0	+ 1.4	+ 2.4	+ 2.2
NUCLEAR NET ELECTRICITY PRODUCTION 1983	22.8	-	62.4	136.9	-	5.6	-	3.4	43.9	-	275.0
1983 /1982 in %	+ 54.7		+ 3.8	+ 32.8		-15.6		- 8.1	+ 13.4		+ 21.2
NUCLEAR ELECTRICITY AS % OF THE TOTAL											
IN 1982	30.9		17.4	38.7		3.7		6.4	15.2		18.9
IN 1983	45.7		17.8	48.3		3.2		6.0	17.0		22.4

Source : EUROSTAT, ELECTRICAL ENERGY, 5 - 1984.

SECTION 4 NUCLEAR FUEL REQUIREMENTS

In the European Community the quantities of fresh fuel inserted in reactors in 1983 amounted respectively to 9 102 tonnes of natural uranium and 5 279 000 separative work units (*).

For 1985 estimated (**) supply requirements are 12 900 tonnes of natural uranium and 7 200 000 separative work units.

For 1990, the estimated (**) annual requirements amount to 16 700 tonnes of natural uranium and to 9 600 000 separative work units.

(*) Tails assay in the range 0.20 - 0.25 %.

(**) These estimates are based on the following assumptions :

- 0.25 % tails assay
- 65 % load factor
- lead times of 1 year for reloads and one half of first cores and 2 years for the second half of first cores.
- installed nuclear production capacity of 74 GWe in 1985, 81 GWe in 1986, 86 GWe in 1987, 102 GWe in 1990, 106 GWe in 1991 and 113 GWe in 1992.

CHAPTER III

SUPPLY OF NUCLEAR MATERIAL AND SERVICES IN THE COMMUNITY

SECTION 1 NATURAL URANIUM

§ 1 CONCLUSION OF CONTRACTS

The number of natural (and depleted) uranium supply contracts concluded in accordance with the procedures of the Agency during 1983 amounted to 68, signed by 22 companies (mining companies, electricity utilities, middlemen, fuel cycle companies) in the Community with suppliers from 10 different countries. Of the 68 contracts for the supply of uranium 27 related to "spot" transactions, that is contracts providing for a maximum duration of 1 year between the date of signature and the date of delivery. The remaining contracts included one long term contract, 4 medium term contracts, as well as 28 swap or leasing contracts and 8 contracts for the purchase of depleted uranium.

Concerning the volume of trade in natural uranium there were 53 purchase, swap and lease contracts whose quantities exceeded 10 tonnes. Natural uranium purchase contracts concluded in 1983, as known to the Agency, covered approximately 6000 tonnes to be delivered between 1983 and 2000.

Virtually all the quantities covered by these purchase contracts originate from non-Community countries.

§ 2 VOLUME, PRICE AND ORIGIN OF DELIVERIES

1. Volume

Natural uranium deliveries (*) made during 1983 to the electricity utilities of the Community amounted to approximately 13 500 tonnes, the deliveries made under spot contracts representing less than 10 % of the total.

2. Price

a) For deliveries made under medium or long term contracts (i.e. for which the time between the date of signature and the date of the last delivery exceeds one year) the prices were expressed in seven different currencies. In order to calculate an average price , these prices have been converted into European Currency Units (ECU) and US $. The average price, weighted by quantity, corresponded in 1983, after conversion on the basis of the average annual exchange rate of the different currencies against the ECU or the US $, to :

ECU 34.75/lb U_3O_8 (against ECU 32.25 in 1982) or
US $ 31.00/lb U_3O_8 (against US $ 32.00 in 1982).

Of these deliveries, 90 % by quantity were in the price range ECU 27-46 (US $ 24-41) per lb U_3O_8 and 80 % in the price range ECU 28-41 (US $ 25-37) per lb U_3O_8 (**).

(*) The only deliveries taken into account are those made to final users, namely the electricity utilities or their procurement organizations; deliveries to middlemen or fuel cycle companies are not included. The sales from one utility to another are also excluded. The quantities taken into account are those which were entered into inventories during the year stated.

(**) The determination of the volume of the deliveries (by quantity) contained in a given price range is made as follows : for the determination of the range containing 90 % of that volume, an equal percentage, namely 5 % of the total volume, is symmetrically cut off from the two extremities of the spectrum of all the transactions plotted along the price scale. In a similar fashion 10 % of the total volume is cut off from each end of the spectrum in order to obtain the price range containing 80 % of the quantities delivered.

b) The average price, calculated according to the same principles, of material delivered under spot contracts was :

ECU 26.00/lb U_3O_8 (against ECU 24.25 in 1982) or
US $ 23.25/lb U_3O_8 (against US $ 24.00 in 1982).

c) In relation to the above figures, the following two factors must be taken into account :

- for nearly half of the quantities considered, prices were fixed in a currency included in the ECU currency basket, and for about one third of the quantities, they were fixed in US $;

- in the course of the year the currencies making up the ECU basket underwent variations of value against each other, and the other currencies used in the transactions also underwent variations. This is well illustrated by the fact that the average annual ECU-US $ exchange rate was, in 1982, ECU 1.02071 for US $ 1, and in 1983, ECU 1.12332 for US $ 1 - i.e. a variation of some 10 %, which explains for instance why the price expressed in ECU of the deliveries under medium and long term contracts increased by about 8 % and the price in US $ decreased by about 3 %.

3. Origin

In 1983 the Community was dependent on supply from outside sources for more than 75 % of its needs. The foreign supplier countries were 7 in number, none, however, represented more than 30 % of the total supplies.

§ 3 URANIUM PRICE TRENDS

At present there appears to be a number of objective factors likely to restrain prices in the medium and long term : the existence of stocks (exceeding, as far as the Community is concerned, the minimum level of two years future consumption recommended by the Agency's Advisory Committee), the fact that the demand of most buyers is already covered for the coming years, the prospects for development of nuclear energy, in particular in the United States, and, finally, the presence of production capacities, idle for the time being but which can be put into operation, if required.

Purchases by US utilities on the non-US market, which could be boosted by the significant reduction of the domestic production of uranium, however, might exert a countervailing influence on prices in the second part of the decade. Recognition by market participants of an interest in maintaining the price at a sufficiently remunerative level to secure regularity of supply may be regarded as an additional stabilizing factor.

These factors are likely to affect the medium and long term trends of the market. Generally speaking, it may be said, however, that the actual evolution of the price of natural uranium will always be marked by some uncertainty and instability, in view of the fact that political and psychological factors play a role in its determination. This is in particular the case as regards short term prices which often bear little relationship to structural long term supply and demand trends, as can be seen for many other commodities. For this reason, already in its Annual Report for 1981, the Agency expressed the opinion that, "it is not advisable to tie the pricing of medium and long term contracts too closely to developments on a market which is not representative of structural economic trends and which at times is difficult to comprehend in statistical terms". In the view of the Agency, the risk of such a linkage continues to exist.

This does not mean the Agency underrates the difficulties of finding values representing medium and long term trends which could replace spot indicators and satisfy both producers and users.

SECTION 2 CONVERSION

The role of the conversion facilities in the nuclear fuel cycle is twofold :

- to refine uranium concentrates in order to obtain nuclear purity of the final product, since the uranium concentrates delivered to conversion plants contain generally only about 70 % of uranium and often up to 30 % of impurities,

- to transform uranium concentrates by chemical means into UF_6.

Normally conversion contracts are concluded between utilities and converters. The value added by the converter is relatively low : less than 10 % of either concentrates or enrichment values.

Two major companies provide conversion services within the Community. In France Comurhex facilities are located at Malvesi and Pierrelatte with a nominal annual capacity of 12 500 tonnes of uranium as UF_6. In the United Kingdom, BNFL has a facility at Springfields near Preston with a nominal annual capacity of 9 500 tonnes of uranium as UF_6. Together these plants have more than sufficient capacity to meet the Community's requirements.

However it occurs that European users have yellow cake converted for practical reasons in the USA or, mainly because of a policy constraint, in Canada.

Both plants in the Community are under-utilised despite substantial exports to third country users.

SECTION 3 ENRICHMENT

§ 1 GENERAL SURVEY

Developments in the nuclear industry outlined in previous chapters combined with the long duration and lead times of enrichment contracts led to a further reduction in primary supply transactions and increase of stocks of enriched uranium. The market and also the Agency's activities were, however, significant for what were sometimes complex secondary transactions, particularly in the field of separative work contained in enriched uranium.

Community customers' requirements for enrichment services were covered up to approximately 80 % by Community suppliers. In addition, substantial quantities of uranium enriched in the Community were sold for immediate or later export under contracts concluded in 1983.

For the enrichment industry potential problems may arise concerning the acceptance of feed other than natural uranium (i.e. slightly enriched material separated through reprocessing). It is hoped that any necessary amendments to specifications for feed will be developed by fuel cycle organisations concerned working in close collaboration.

§ 2 COMMUNITY SUPPLIERS OF ENRICHMENT SERVICES

1. Eurodif

Having reached a capacity of 10.8 million swu per year in 1982, the Eurodif plant operated without major technical problems during 1983. According to Eurodif the overall operation has proved the validity of the technological choices made.

With the economic recession having lowered the nuclear programmes in Eurodif's partner countries the consequent reduction in expressed demand led to a decrease of the output of the installation. A modification - reversible if required - of the operating regime was therefore realized without major technical problems, with an operation better than anticipated.

Eurodif reports that the product deliveries to the partners and to other customers were executed under fully satisfactory conditions.

2. Urenco

The total enrichment capacity in operation at Urenco's plants in the Netherlands and in the UK at the year-end was about 1.1 million swu per year. The installation of new capacity in the first 400 000 swu tranche of a one million swu plant at Almelo and in the first half of a 430 000 swu plant at Capenhurst was completed during the year. Construction work on subsequent extensions to these plants and at Urenco's third enrichment site at Gronau in Germany continued on schedule. First production capacity at this site is expected to be brought on line as planned at the end of 1985.

Deliveries totalling some 750 000 swu were made during 1983 from production during the year and deliveries are still expected to reach a level of 2 million swu per year in 1987, despite delays notified under certain contracts. Two new long-term enrichment contracts were concluded during the year. According to Urenco, the flexibility of its centrifuge technology permitted good matching of overall capacity and delivery commitments in what remained a difficult market situation.

§ 3 NON-COMMUNITY SUPPLIERS OF ENRICHMENT SERVICES

1. Techsnabexport

Some of the long term contracts concluded in the mid-seventies were amended in order to better match the current requirements of the utilities i.e. the quantities to be delivered in the near future were reduced, while the duration of those contracts was extended. Concerning the execution of the contracts, no particular problems were reported. Prices remained aligned to the published American prices. One contract was discontinued.

2. US DOE

a) Quantities

In 1983 197 tonnes of low enriched uranium were imported into the Community from the USA, about two thirds of which was destined for use within the Community, the remainder being destined for use in third countries after processing (e.g. fuel fabrication).

b) Prices

US DOE prices for a separative work unit were maintained at $ 149.85/swu for Requirements and at $ 138.65/swu for Fixed Commitment Contracts throughout 1983.

c) Contract Administration

The Agency and its Washington desk continued to support utilities in the implementation of the DOE long term enrichment contracts (e.g. the filing with DOE of time-to-time agreements on feed and product deliveries, the release of authorizations concerning the shipment of US material to and its use in the Community, etc..).

No new long term enrichment services agreement was concluded in 1983, but some existing contracts were amended, for example partial terminations of requirements contracts were requested in order to allow substitute supplies.

On an ad hoc basis the Agency advised contract holders in the making of some decisions or in the solving of contractual problems. Thus, at the end of 1983 the Agency reached a satisfactory settlement with DOE on an important and long standing issue in the framework of the Permissible Deferred Payment Inventory (PDPI) contracts held by the Community.

d) Contract policy

As reported last year, US DOE was due to publish rules for the conversion of existing contracts into a new "Facility Requirements" contract; in fact, no such rules were made known.

Instead and with the intention of adjusting its offer to the market, DOE presented two new contracts :

1) Interim Sales Contract (ISC)

In July 1983, and with modifications in October 1983, DOE offered to its oldest requirements contracts customers (i.e. those having concluded contracts before November 1971 with a 3 1/2 years termination provision) the lower fixed commitments price for deliveries through Fiscal Year 1985. In addition to the price cut these customers were offered the option to fill up to 40 % of their requirements in Fiscal Year 1984 and up to 60 % in Fiscal Year 1985 with US origin enrichment services from secondary market sources. Customers taking up this offer were to convert to DOE's Utility Services Contract, once it was offered. One Community customer has accepted this offer.

2) Utility Services Contract (USC)

On the 30th December 1983 the USC together with the terms for the conversion of existing contracts was published for comment. The final contract and conversion terms took account of the critical comments that had been made to the draft and to which the Agency had contributed; it became available on the 18th January 1984.

The USC is a requirements type contract destined to cover, at the customer's option 70 to 100 % of his needs. The price of the separative work is based on cost recovery with a ceiling price of US $ 135 per swu to be adjusted mainly for inflation as from September 1985. Termination is possible with financial penalties on a declining rate basis and with zero charges at 10 and more years advance notice. Conversion of existing contracts into the USC is guaranteed until the 30th September 1984; the terms allow for some reduction of current contractual commitments during a transition period.

The impact of the USC on the world enrichment market will be difficult to assess until it is known how many DOE customers will convert their existing contracts and to what extent they will make use of the option to contract for less than 100 % of their requirements from DOE.

From the contract and the conversion terms it appears that the holders of Fixed Commitment contracts may have an interest to accept DOE's offer but that is less apparant for customers holding requirements contracts, in particular those with a 3 1/2 years zero cost termination provision. Customers holding a mix of both types of contracts are confronted with a difficult choice.

If a majority of DOE customers convert to the USC and if they contract for less than 100 % of their requirements it can be expected that

a) excess separative work inventories and commitments will be worked off in a few years and that

b) up to 30 % of DOE's enrichment market and particularly the US domestic part of it will become open to enrichers others than DOE.

§ 4 SECONDARY MARKET FOR ENRICHMENT SERVICES

Substantial amounts of material have accumulated in stocks and also continue to be delivered by the enrichment facilities under existing enrichment services contracts, though sometimes at a reduced rate, to those utilities whose nuclear programmes have been reduced.

Some of this material has been offered on the so-called "secondary market" both inside and outside the Community. During the reporting period 30 such contracts were signed by the Agency for delivery during the period 1983 to 1990. The majority of these transactions concerned separative work contained in enriched uranium, the separative work being partly of Community and partly of foreign origin.

The prices for such transactions were at discounts generally larger than those offered on the secondary swu market in previous years.

§ 5 SUPPLY OF HIGHLY ENRICHED URANIUM (HEU)

For research and material testing and for high temperature gas cooled reactors and other special purposes, supplies of HEU continued to come from the USA.

In 1983 only about 65 kg HEU in total were received of which more than 80 % was destined for final use outside the Community. At present most customers have material to cover their requirements up to 1985 and beyond.

The international efforts to develop and qualify high density fuel at lower degrees of enrichment were continued. In particular, collaboration between Community HEU customers and fuel fabricators and the US authorities continued on the Reduced Enrichment for Research and Test Reactors (RERTR) programme, which was also the case for several customers in third countries for whom fuel is fabricated in the Community.

Licensing, economic and other problems, however, still remain to be fully assessed before further progress on core conversion could be made and brought to conclusion, in particular for reactors extensively used for experiments.

A review with European research reactor operators is being planned to take place at the Joint Research Centre at Petten in June 1984.

SECTION 4 FUEL FABRICATION

The fuel fabrication industry is well established in the Community with a production spectrum covering the complete range of reactors operating or under construction.

In 1983 fourteen companies were involved in the fabrication of fuel for :

- light water reactors including mixed oxide fuel
- gas cooled reactors
- fast breeder reactors
- high temperature reactors
- research and materials test reactors.

The most important part, by volume, of the fuel fabrication activities in the Community is presently dedicated to LWR fuel. Production capacities are in general more than sufficient to cover Community needs and are oriented towards export to third countries.

SECTION 5 REPROCESSING AND PLUTONIUM

§ 1 REPROCESSING

Reprocessing of irradiated nuclear reactor fuel has been undertaken within the Community for a number of years.

The following is a summary report of the activities of the companies in commercial operation.

- BNFL

BNFL continued to receive and reprocess irradiated Magnox fuel at their reprocessing plant at Sellafield. In addition, construction was started on facilities for the thermal oxide reprocessing plant (THORP) which is also to be sited at Sellafield. This plant is due to commence operation in 1990 and will be capable of reprocessing irradiated AGR fuel from the CEGB and SSEB stations as well as fuel from the UKAEA and water reactor fuel from Community and non Community customers. Following refurbishment the UKAEA fast reactor reprocessing plant at Dounreay has been operated successfully and the PFR fuel cycle has been closed with the loading during the year of fuel containing plutonium recovered from fast reactor fuel reprocessing and fabricated into new fuel at BNFL Sellafield.

- Cogema

During 1983 COGEMA's facility at la Hague continued to reprocess irradiated LWR fuel. During the reporting period additional 221 tonnes have been reprocessed which leads to a total of 731 tonnes reprocessed LWR fuel at La Hague. This represents more than half of the quantities reprocessed since 1966 throughout the world in this fuel category.

New installations were put into service (a new plutonium treatment plant and a new plutonium oxide store).

Finally, the extension work which will increase the reprocessing capacity at La Hague to 1 600 tonnes/year continued on schedule.

- EUREX

During 1983 ENEA's facility EUREX at the Saluggia Centre completed a reprocessing compaign of Candu fuel from the Canadian Pickering nuclear power station. Some modifications of the EUREX facility were considered with a view to reprocessing LWR type fuel in the coming years.

- WAK

After the installment of the new dissolver and the carrying out of general maintenance and commissioning works, WAK (near Karlsruhe) resumed in October 1982 normal operation and continued reprocessing throughout 1983.

§ 2 PLUTONIUM

Nine contracts were concluded in 1983 for a total quantity of about 900 kg of fissile plutonium.

Beside the use of plutonium in European fast breeder reactors there is a growing interest in the Community to recycle plutonium in light water reactors.

In several Member States studies on this option have been undertaken and are still in progress, with the particular intention of assessing technical and economic implications. In addition contractual arrangements have been developed between several utilities with the view of coordinating and optimizing the use of plutonium in light water reactors.

SECTION 6 VARIOUS

In addition to the above-mentioned activities, the following can be reported :

- the receipt and recording of notifications under Art. 75;
- the conclusion of loan contracts for fissile material,
- collaboration with the services of the Commission in the authorization of swaps and
- the procurement of standard materials and samples of special isotopes.

CHAPTER IV

ADVISORY COMMITTEE

OF THE SUPPLY AGENCY

In March, the two year mandate of the Committee expired and members were appointed for a further two year period by the Council in accordance with the Agency's statutes. The Committee elected Mr. P. Goldschmidt (Synatom) as Chairman and Mr. A. Noé (Pechiney) and Mr. W. Schober (Bayernwerk) as Vice-Chairmen. The Committee also appointed Mr. A. Petit (CEA) as Chairman and Mr. M. Palandri (AGIP) and Mr. Townsend (CEGB) as Vice-Chairmen of its Working Party. The six officers together make up the "enlarged" Bureau.

In December 1982, the Commission presented to the Council of Ministers a proposal (*) for the revision of Chapter VI of the Euratom Treaty. Following its work during that year on Chapter VI, the Committee was invited by Vice-President Davignon to consider and give an opinion on the Commission's proposal. The Committee devoted itself almost exclusively to this task. Four meetings took place, after much effort by the "enlarged" Bureau in their preparation. At one meeting, the Committee was able to hold a dialogue with Vice-President Davignon. After lengthy and sometimes difficult discussion, the Committee finally adopted unanimously an opinion on the Commission's proposal.

(*) O.J. C 330 of 16.12.1982

CHAPTER V

INTERNATIONAL AGREEMENTS AND IAEA ACTIVITIES

In its role of monitoring the market, the Agency follows closely developments relating to international agreements entered into by the Community with supplier countries. It is also involved in certain aspects of their implementation relating to supply. Because of the inevitable link between government policies on non-proliferation and the supply of nuclear fuels, the Agency maintains an overall watch on developments in this field as far as possible, including activities taking place under the aegis of the International Atomic Energy Agency (IAEA) concerned with such problems.

SECTION 1 COMMUNITY AGREEMENTS WITH SUPPLIER COUNTRIES (Australia, Canada, USA)

The Agency can report that contractual supplies subject to agreement with supplier countries continued to be delivered without interruption during the year. Developments relating to suppliers from these countries were as follows:

- Euratom - Australia

In November, it was announced that the Australian Labor Party had accepted the government's recommendation on uranium policy to the effect, inter alia, that (I) if a commercial decision were made to proceed with the Roxby Downs venture, the export of uranium produced therefrom would be permitted, (II) no other new mines would be authorized, (III) no new contracts for the export of uranium would be approved until the outcome of a government enquiry (due to report in 1984) into Australia's role in the nuclear fuel cycle were known and

(IV) all future exports be made subject to the most stringent supply conditions, which are to be determined by the government after the above-mentioned enquiry has reported.

This decision, coming after a threat during the same year to interrupt for political reasons deliveries under a contract concluded by a Community utility, lead many investors and customers to consider that the long period of uncertainty about the reliability of Australia as a uranium exporter was not definitely over.

For the time being Australia is out of the market as a uranium supplier for new contracts, and even if the above-mentioned inquiry comes to a positive conclusion, the number of sources of supply available in Australia may remain very limited. It is to be hoped that the measures will be taken after this new inquiry which will finally enable Australia to be considered as a predictable and reliable supplier.

- Euratom - Canada

During the year, the Canadian government undertook a review of its uranium export policy, the first such review since 1974. Key points emerging from this review are as follows :

> The basic principles underlying the 1974 policy remain. The domestic supply needs are considered to be adequately catered for, and, in consequence, as long as there is no urgent security of supply problem, producers will be free to sell uranium for export without the need to reserve a part for domestic use unless it has been so contracted. Uranium export contracts may now be approved for up to 15 years, instead of 10 years plus 5 years conditional option previously. Concerning commercial terms and conditions, it has been decided to reaffirm the requirement for a floor price or similar mechanisms to protect investment and employment in uranium production facilities.

The terms of sale should equitably balance benefits and risks and should generally be in accord with those being obtained by Canadian and international producers for uranium under contracts of similar duration. The requirement for upgrading to UF_6 has been affirmed with exemptions being permitted virtually only if Canada does not have the necessary capacity or is not generally competitive. Uranium export contracts continue to be subject to review by the Uranium Exports Review Panel before approval by Ministers, and all exports still require an export licence.

At the request of the Community, negotiations commenced with Canada during the year to up-date certain aspects of the Euratom - Canada agreement, in particular with a view to facilitating retransfers of nuclear material from the Community and to enhancing security of supply. At the end of the year, these negotiations were still on-going.

- Euratom - USA

Supplies of nuclear material from the USA to the Community continued as the annual waiver required under the US Nuclear Non-Proliferation Act was renewed by the US President in March.

Since the passing of the US Nuclear Non Proliferation Act in 1978, the US authorities have indicated that they wished to negotiate with the Community an amendment to the US-Euratom Agreement for Co-operation so that it conforms with the legislation of that Act. Subsequently, a further series of exploratory talks commenced, which were on-going at the end of the year.

SECTION 2 RETRANSFERS

Under the Community's agreements with Australia, Canada and the USA, those supplier countries retain the right of consent over the transfer of nuclear material, originating from their territory, to another country outside the Community. Only the Australian agreement so far provides generic consent for the retransfer of some categories of material to certain specified countries. Retransfers of material originating from the other two suppliers require consent on a case by case basis. Such retransfer applications are handled by the Agency. During the year, applications for consent to retransfers were made as follows :

	Canada	USA
Total applications made	11	43
Consents received	9	20
Pending at the year end	2	23

SECTION 3 ACTIVITIES UNDER THE AEGIS OF THE IAEA

- Committee on Assurance of Supply (CAS)

The IAEA Committee on Assurance of Supply continued its work throughout the year. It has at present three topics under discussion, namely : "Principles of international co-operation in the field of nuclear energy in accordance with the mandate of CAS", "Emergency and back-up mechanisms" and "Revision mechanisms". In September CAS adopted a report on "Emergency and back-up mechanisms" and in December virtually completed its work on "Revision mechanisms". Some progress was made in the discussion of "Principles", but further work will be required before a consensus can be reached.

The Committee will continue to meet during 1984. The Commission is represented at the meetings of CAS with observer status.

- International Plutonium Storage (IPS)

In February, the IAEA Board of Governors received the report from its Expert Group. The differences of view-point on plutonium storage which were evident in the Group's work seem to be reflected at Board level. No other significant developments took place during the year. The Board is due to discuss the matter further in 1984.

CHAPTER VI

ADMINISTRATIVE REPORT

SECTION 1 PERSONNEL

The staff establishment of the Agency during 1983 was 22.

Mr. J.B. Mennicken resigned as Director General of the Agency with effect from 31 January 1983 to take up a new appointment in the service of the Federal Republic of Germany. In his place, the Commission appointed Mr. G. von Klitzing as Director General with effect from 16th June 1983. In the intervening period, Mr. J.C. Blanquart was in charge of the Agency's affairs.

SECTION 2 FINANCE

The Agency's budget for 1983 amounted to ECU 1 195 200. This amount was financed principally (97.91 %) 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.

SECTION 3 ORGANISATIONAL CHART OF THE EURATOM SUPPLY AGENCY

(AS AT 31 DECEMBER 1983)

Director General	G. von KLITZING
Head of Division - Natural uranium and General Affairs	J.C. BLANQUART
Secretariat of the Advisory Committee	D.S. ENNALS
Special Fissile Materials Sector	J. JASPERT

Advisory Committee of the Supply Agency

Chairman	P. GOLDSCHMIDT
Vice-Chairmen	A. NOE W. SCHOBER

Working Party

Chairman	A. PETIT
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APPENDIX 1

A. NUCLEAR REACTORS IN SERVICE IN THE COMMUNITY END 1983

Reactor (+)	Country	Type (x)	Commencement of operation (xx)	Net installed power (MWe)
Calder Hall	UK	GGR	1956 - 59	200
Chapelcross	UK	GGR	1959 - 60	192
Marcoule G 3	F	GGR	1960	40
VAK Kahl	D	BWR	1961	15
Berkeley	UK	GGR	1962	276
Bradwell	UK	GGR	1962	245
Latina	I	GGR	1963	200
Hunterston A	UK	GGR	1964	300
Trino Vercellese (++)	I	PWR	1964	257
Chinon A 2	F	GGR	1965	180
Hinkley Point A	UK	GGR	1965	430
Trawsfyndd	UK	GGR	1965	390
Dungeness A	UK	GGR	1965	410
Sizewell A	UK	GGR	1966	420
MZFR Karlsruhe	D	HWR	1966	51
BR 3 Mol	B	PWR	1966	10
Chinon A 3	F	GGR	1967	360
Chooz	F	PWR	1967	305
Winfrith	UK	HWR	1967	100
Les Monts d'Arrée EL 4	F	HWR	1967	70
Oldbury-on-Servern A	UK	GGR	1967	416
AVR Jülich	D	HTR	1967	13
KWO Obrigheim	D	PWR	1968	328
GKN Dodewaard	NL	BWR	1968	52
St Laurent A 1	F	GGR	1969	390
St Laurent A 2	F	GGR	1971	450
Wylfa	UK	GGR	1971	840
KWW Würgassen	D	BWR	1972	640
KKS Stade	D	PWR	1972	630

(+) Some reactors consist of more than one unit.

(++) Reactor shut down for modifications.

Reactor	Country	Type (x)	Commencement of operation (xx)	Net installed power (MWe)
Bugey 1	F	GGR	1972	540
KNK II Karlsruhe (+)	D	FBR	1973	19
Borssele	NL	PWR	1973	447
Phenix Marcoule	F	FBR	1973	233
PFR Dounraey	UK	FBR	1974	200
Biblis A	D	PWR	1974	1 146
Doel 1	B	PWR	1974	395
Tihange 1	B	PWR	1975	870
Doel 2	B	PWR	1975	395
Hinkley Point B 1	UK	AGR	1976	500
Hunterston B 1	UK	AGR	1976	550
Biblis B	D	PWR	1976	1 240
GKN 1 Neckarwestheim	D	PWR	1976	785
KKB Brunsbüttel	D	BWR	1976	744
Hinkley Point B 2	UK	AGR	1976	540
Fessenheim 1	F	PWR	1977	880
Hunterston B 2	UK	AGR	1977	550
Fessenheim 2	F	PWR	1977	880
KKI-1 Ohu	D	BWR	1977	870
Caorso	I	BWR	1978	840
Bugey 2	F	PWR	1978	920
KKU Unterweser	D	PWR	1978	1 230
Bugey 3	F	PWR	1978	920
Bugey 4	F	PWR	1979	900
KKP-1 Philippsburg	D	BWR	1979	864
Bugey 5	F	PWR	1979	900
Gravelines 1	F	PWR	1980	910
Tricastin 1	F	PWR	1980	915
Dampierre 1	F	PWR	1980	890
Tricastin 2	F	PWR	1980	915
Gravelines 2	F	PWR	1980	910
Tricastin 3	F	PWR	1981	915
Tricastin 4	F	PWR	1981	915

(+) Since 1977 equipped with a fast core.

Reactor	Country	Type (x)	Commencement of operation (xx)	Net installed power (MWe)
Dampierre 2	F	PWR	1980	890
Gravelines 3	F	PWR	1980	910
Dampierre 3	F	PWR	1981	890
Dampierre 4	F	PWR	1981	890
Gravelines 4	F	PWR	1981	910
Le Blayais 1	F	PWR	1981	910
St Laurent B 1	F	PWR	1981	880
St Laurent B 2	F	PWR	1981	880
KKG Grafenrheinfeld	D	PWR	1982	1 230
Doel 3	B	PWR	1982	900
Le Blayais 2	F	PWR	1982	910
Chinon B 1	F	PWR	1982	870
Tihange 2	B	PWR	1983	900
Chinon B 2	F	PWR	1983	870
Le Blayais 3	F	PWR	1983	910
Le Blayais 4	F	PWR	1983	910
Cruas 1	F	PWR	1983	880
KKK Krümmel	D	BWR	1983 +	1 260
Dungeness B 1	UK	AGR	1983 +	600
Hartlepool 1	UK	AGR	1983 +	625
Heysham I - 1	UK	AGR	1983 +	625
THTR - 300 Uentrop	D	HTR	1983 +	296
TOTAL				51 884

\+ Reactors connected to the grid and/or critical but not in commercial operation

(x) GGR = Gas Graphite Reactor — AGR = Advanced Gas Cooled reactor

BWR = Boiling Water Reactor — PWR = Pressurised Water Reactor

HTR = High Temperature Reactor — HWR = Heavy Water Reactor

FBR = Fast Breeder Reactor

(xx) Commercial operation except otherwise indicated and except for all French reactors (connection to the grid).

B. REACTORS UNDER CONSTRUCTION IN THE COMMUNITY END 1983

Reactor	Country	Net power MWe
ADVANCED GAS COOLED REACTORS (AGR)		
Dungeness B 2 (CEGB)	UK	600
Hartlepool 2 (CEGB)	UK	600
Heysham I - 2 (CEGB)	UK	625
Heysham II - 1,2 (CEGB)	UK	1 250
Torness 1, 2 (SSEB)	UK	1 250
TOTAL AGR		4 350
BOILING WATER REACTORS (BWR)		
KRB II B Gundremmingen (RWE/Bayernwerk)	D	1 244
KRB II C Gundremmingen (RWE/Bayernwerk)	D	1 244
Montalto di Castro (ENEL)	I	982
Montalto di Castro (ENEL)	I	982
TOTAL BWR		4 452
PRESSURISED WATER REACTORS (PWR)		
KWG Grohnde (PREAG / GKW Weser)	D	1 300
Cruas 2 (EdF)	F	880
Cruas 3 (Edf)	F	880
Cruas 4 (EdF)	F	880
Gravelines 5 (EdF)	F	910
Paluel 1 (EdF)	F	1 290
Paluel 2 (EdF)	F	1 290

Reactor	Country	Net power MWe
Doel 4 (EBES)	B	980
Tihange 3 (Intercom)	B	980
KKP - 2 Philippsburg (Badenwerk/EVS)	D	1 268
Flamanville 1 (EdF)	F	1 290
Gravelines 6 (EdF)	F	910
Paluel 3 (EdF)	F	1 290
Paluel 4 (EdF)	F	1 290
St Alban 1 (EdF)	F	1 300
Mülheim-Kärlich (RWE)	D	1 223
Cattenom 1 (EdF)	F	1 265
Chinon B 3 (EdF)	F	870
Flamanville 2 (EdF)	F	1 290
St Alban 2 (EdF)	F	1 300
KBR Brokdorf (NWK/HEW)	D	1 290
Belleville 1 (EdF)	F	1 275
Cattenom 2 (EdF)	F	1 265
Chinon B 4 (EdF)	F	870
Nogent 1 (EdF)	F	1 275
KKI-2 Ohu (Bayernwerk et al)	D	1 285
KKE Lingen (VEW/Elektromark)	D	1 242
Belleville 2 (EdF)	F	1 275
Cattenom 3 (EdF)	F	1 265
Nogent 2 (EdF)	F	1 275
GKN-2 Neckarwestheim (Neckarwerke et al)	D	1 225
Golfech 1 * (EdF)	F	1 290
Penly 1 * (EdF)	F	1 290
TOTAL PWR		38 808

* Construction started 1983.

Reactor	Country	Net power MWe
FAST BREEDER REACTORS (FBR)		
Superphenix Creys-Malville	F	1 200
SNR 300 Kalkar	D	311
TOTAL FBR		1 511
HEAVY WATER REACTOR (HWR)		
Cirene (CNEN), Latina	I	40
REACTORS UNDER CONSTRUCTION END 1983		
(Recapitulation)		
AGR		4 350
BWR		4 452
PWR		38 808
FBR		1 511
HWR		40
TOTAL		49 161

C. PROJECTS IN THE COMMUNITY END 1983

(Reactors not yet under construction)

Reactor	Country	Net power MWe
PRESSURISED WATER REACTORS (PWR)		
Biblis C (RWE) (+)	D	1 240
KWB Borken (PREAG) (+)	D	1 240
KKH Hamm (VEW)	D	1 232
Neupotz A (RWE/Pfalzwerke)	D	1 247
Pfaffenhofen A (RWE / LEW)	D	1 289
KWS-1 Wyhl (Badenwerk / EVS) (°)	D	1 250
Cattenom 4 (EdF) (*)	F	1 265
Chooz B 1 (EdF) (*)	F	1 390
Penly 2 (EdF) (◊)	F	1 300
Further French Unit	F	1 300 at least
Italian Programme of 10 units (ENEL)	I	10 000
Sizewell B (CEGB)	UK	1 110
TOTAL		23 866

(+) Advanced projects

(°) Reactor ordered before 1982 but not under construction.

(*) Investment programme 1984.

(◊) Investment programme 1985.

APPENDIX 2 COMPARATIVE INFORMATION RELATING TO NON COMMUNITY COUNTRIES

For information and comparison purposes a certain number of relevant data are presented below which concern non Community countries.

1. SITUATION OF NUCLEAR ENERGY

The following table gives an overall view of the development of nuclear energy in several countries : the installed nuclear capacity and the relative importance of nuclear electricity production.

This data can be compared with the corresponding Community data in Chapter II.

DATA ON NON COMMUNITY COUNTRIES (1983)

	INSTALLED NUCLEAR CAPACITY		NET ELECTRICITY PRODUCTION		
	Number of units	Net power in GWe	Total (TWh)	Nuclear (TWh)	Nuclear as % of total
CANADA	13	7.6	358.9	46.3	12.9
FINLAND	4	2.3	40.2	16.7	41.5
JAPAN	28	19.9	599.8	98.0	16.3
KOREA	3	1.9			18.4
SPAIN	6	3.9	111.4	10.2	9.2
SWEDEN	10	7.7	105.9	39.1	36.9
SWITZERLAND	4	2.0	51.8	14.8	28.6
TAIWAN	4	3.2			37.0
USA	80	68.5	2 308.7	292.0	12.65

Based on data obtained in March 1984.

2. OUTLINE OF THE US URANIUM MARKET

It appeared interesting, for reasons of both information and methodology, to present in this section a summary of the most recently available results (January - June 1983) of the semi-annual US uranium market survey carried out by the Energy Information Administration of the US Department of Energy.

a) Domestic uranium procurement commitments

The signature of new contracts (all spot purchases) during the first half of 1983, involving 450 tonnes U was more than offset by a decrease of 2 300 tonnes U in prior commitments, so that the total domestic commitments declined to the level of 96 500 tonnes U, so continuing a downward trend that began in 1979.

b) Import and export commitments

US import commitments to foreign natural uranium producers amounted to 34 300 tonnes U in July 1983, i.e. more than 35 % of the US domestic procurement commitments. They underwent a sharp rise in 1981 and 1982, having amounted only to 9 300 tonnes at the beginning of 1981. The main supplier countries are Canada and South Africa (respectively 61 % and 37 % of the current commitments).

On the other hand, US commitments to export natural uranium are relatively stable and remain low, namely 3 900 tonnes U.

c) Prices

The price bracket of domestic uranium delivered during the first six months of 1983 was very wide : the average price was $ 45.61 per lb U_3O_8 for the contracts of the "market price with floor" type, $ 44.90 per lb for those of the "contract price" (i.e. escalated base price) type, and $ 23.75 per lb for those of the "market price without floor" type. The average price for domestic uranium deliveries (calculated on the prices reported for 1 420 tonnes U of the estimated 3 900 tonnes U delivered during the six month period) amounted to $ 37.76 per lb, and was about 20 % higher than the average price of imported material ($ 29.95 per lb, calculated on the prices reported for 87 % of the imported 615 tonnes U delivered during the half year).

d) Inventories

At the end of 1982, the DOE and privately owned natural and enriched uranium totalled 130 000 tonnes U, i.e. 7 700 tonnes U more than in 1981 (about half of it owned by DOE), representing more than 9 years of forward coverage of the domestic requirements.

e) Unfilled requirements

At 1st July 1983, the unfilled requirements for the period 1983-1992 amounted to 38 400 tonnes U, i.e. 1 350 tonnes U less than at the beginning of 1982. Whilst the unfilled requirements are low for the period 1983-1986, they reach 46 % of estimated needs by 1990.

APPENDIX 3. WORLD PRODUCTION OF URANIUM

(in tonnes of uranium)

Country	1979	1980	1981	1982	1983
Australia	705	1 561	2 860	4 453	3 216
Canada	6 820	7 150	7 720	8 080	7 200
France	2 362	2 634	2 553	2 859	3 200 *
Gabon	1 100	1 033	1 022	970	1 042 *
Namibia	3 840	4 042	3 971	3 776	3 800 *
Niger	3 620	4 100	4 360	4 259	3 420
South Africa	4 797	6 146	6 131	5 816	7 128
USA	14 408	16 804	14 793	10 331	8 085
Other countries	438	459	407	708	750 *
TOTAL	38 090	43 929	43 817	41 252	37 841

* Estimate.

Source : OECD except last column.

Euratom Supply Agency — Annual report 1983

Luxembourg: Office for Official Publications of the European Communities

1984 — 49 p. — 21 × 29,7 cm

DE, EN, FR

ISBN 92-825-4837-6

Catalogue number: CB-40-84-755-EN-C

Price (excluding VAT) in Luxembourg

ECU 3,29 BFR 150 IRL 2.40 UKL 2 USD 3

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Price (excluding VAT) in Luxembourg:
ECU 3,29 BFR 150 IRL 2.40 UKL 2 USD 3

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OF THE EUROPEAN COMMUNITIES

L-2985 Luxembourg

ISBN 92-825-4837-6