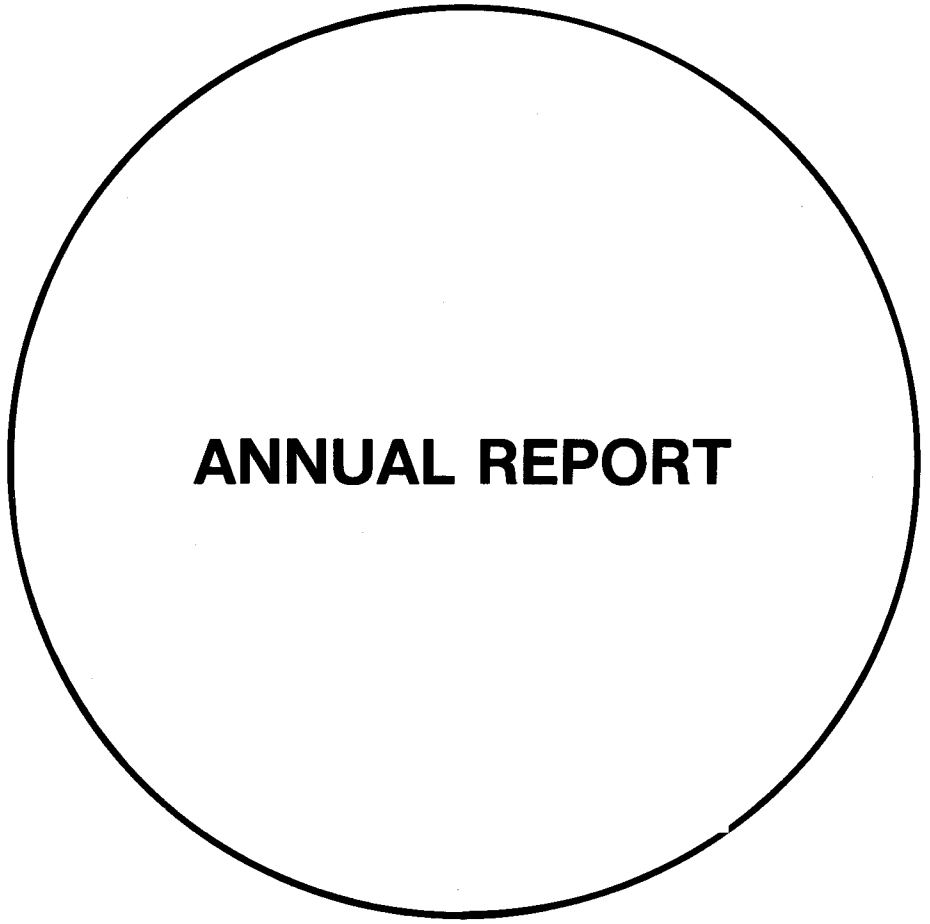
EURATOM
SUPPLY AGENCY



1982

TABLE OF CONTENTS

A P P E N D I C E S

I.

ACTIVITIES OF THE AGENCY

The Agency's activities, in particular relating to its participation in the conclusion of contracts for the supply of nuclear fuels, continued to be influenced by the present trend in the construction of nuclear power stations and the supply situation in general.

In 1982 only one long-term contract was concluded for the supply of natural uranium and a high number, comparable to that of 1981, of spot transactions and other arrangements (exchanges and loans) was again recorded. The considerations expressed in 1981 regarding the substitutions effected by these arrangements still apply. They made it possible to ease the constraints imposed by provisions governing nuclear fuel obtained from certain countries in order to meet the imperatives of economic management without affecting the objectives of those provisions.

For the same reasons no new long-term enrichment contracts were concluded, but some contracts were adapted to bring them more into line with requirements. The Agency has also participated in some transactions on the secondary enrichment market.

The conclusion of contracts for the supply of special fissile material and NBS standards proceeded at the normal pace.

Altogether, the Agency was involved in 1982 in the conclusion of 140 contracts for the supply of natural (51) and depleted (5) uranium, on the one hand, and enriching services (6) and special fissile materials (78, exclusive of blendings), on the other.

II.

THE DEVELOPMENT OF NUCLEAR ENERGY IN THE COMMUNITY

1. General considerations

Although less pressure seemed to come from public opinion in 1982 against the expansion of nuclear power, nuclear investment programmes were nevertheless in effect reduced following the trend of electricity demand in many countries of the world.

1982 saw the total of projected new power units fall from 24 to 16 with a resultant decrease in projected new capacity from 27.6 GWe to 18.6 GWe.

During the year 7 new units came on stream, whilst work commenced on 6 new power stations.

The growing importance of nuclear power for Member States can be seen from the last table in this section where the trend of nuclear electricity production as a percentage of the total is upward in all countries using nuclear power. In two cases, Belgium and France, this percentage exceeds 30%.

2. Developments in the Member States

BELGIUM

In 1982 the load factor of Belgian nuclear power plants was satisfactory if compared with the average load factor of 62% for the 101 existing PWRs of the Western World.

The unit Doel 1 produced in 1982 3185 GWh and recorded an exceptional load factor of 92.7%. Beyond the annual shut-down for revision and reload, nothing interrupted the regular operation of the unit.

The unit Doel 2 was shut down on 21 November 1982 for an examination of the fuel elements. It produced 2582 GWh with a load factor of 75.2%.

The unit Doel 3, connected to the grid on 23 June, reached full power (900 MWe) on 11 August and began commercial operation on 1 October. Doel 3 produced 2632 GWe from 23 June and had a load factor of 89% from 1 October.

In addition to the annual shut-down, Tihange 1 was stopped for around 10 days in September due to problems with a steam-exchanger. Tihange 1 produced 6171 GWh in 1982 with a load factor of 81%.

Tihange 2 was connected to the grid on 13 October. Full power (900 MWe) has been reached.

Tihange 3 (1000 MWe) and Doel 4 (1000 MWe) are likely to begin commercial operation in 1985.

Belgian nuclear electricity production in 1982 was 14.788 GWh, which amounts to 30.9% of the total.

In addition the parliamentary debate on energy, announced several years ago, came to an end in July 1982 in the Chamber of Representatives and in March 1983 in the Senate.

The Parliament has recommended the reprocessing plant of Eurochemic be brought into service again subject to a study being made (study commenced in 1983). The Parliament has also authorised studies on two new production units (one nuclear unit, the other coal) to be built according to the development of demand for electricity.

DENMARK

The Danish Government maintains its view that it is essential for Denmark to utilize every energy source - including nuclear power - that can contribute significantly to its energy supply, provided this can be done in a manner that takes proper account of the safety of the population and the protection of the environment. The necessary investigations into the questions of nuclear safety and the disposal of radioactive waste are expected to be ready before the end of 1983.

When the necessary basis for a decision has been established, the Danish Government will decide whether to advocate the use of nuclear power as an energy source in Denmark. If the Government decides in favour of the use of nuclear power, the question of principle regarding the use of nuclear power will be submitted to the Parliament by tabling a bill on the Entry into Effect of the Act of Safety and Environmental Factors in Connection with Nuclear Installations. If the bill is passed by the Parliament, the matter will be subject to a referendum.

3)

GERMANY

During 1982 the first part construction permit (erste Teilerrichtungsgenehmigung) was given for three units of the 1300 MWe class:

- on 12 July for unit nº 2 of the Isar Nuclear Power Station KKI-2 (for 1242 MWe net power)

- on 10 August for the Emsland Nuclear Power Station KKE (1242 MWe net power)

- on 11 November for unit nº 2 of the Neckar Joint Enterprise Power Station GKN-2 (1225 MWe net power).

The licensing of these units was assisted by the so-called "convoy concept", i.e. on the basis of an identical plant design, a streamlining of the licensing procedure was possible.

These three units are currently under construction. Construction was started immediately after the grant of permit by the state authorities of Bavaria, Lower Saxony and Baden-Württemberg respectively.

Commercial operation was achieved on 16 June 1982 by the Grafenrheinfeld Nuclear Power Station KKG (1225 MWe net power).

At the end of 1982 15 nuclear units were in operation (9850 MWe net power, including 4 experimental plants), 12 units were under construction (13.150 MWe net power), 3 units of 1300 MWe class were ordered but not yet under construction (Wyhl, Hamm, Biblic-C) and 7 reactors (1300 MWe class) were in the planning stage.

In 1982 the gross total electricity production of public utilities was 303.6 TWh, an increase of 0.6% compared with 1981. The gross nuclear electricity production for public utilities grid was 62.5 TWh resulting in a 19.0% increase over 1981. The share of nuclear electricity for public utilities use was 20.6%.

The German electrical utilities have decided to launch a mixed oxide programme with the objective of making available, at the end of the eighties, a fuel fabrication capacity for the plutonium being reprocessed under current contracts. This plutonium is intended for thermal recycling in light water reactors in sofar as it is not required for fast breeders.

GREECE

After last year's revision of the 10-year Development Programme issued by the Public Power Corporation (PPC) of Greece, where a drastically reduced annual growth rate for electricity demand was adopted, the requirements for a nuclear station appear to go beyond the 10-year horizon of that programme. The 1982 revision of PPC's programme is not yet available, but the situation concerning the company's nuclear programme seems to remain unchanged, since there is no indication of an accelerated rate of growth in electricity demand and also due to the fact that a new assessment of the country's lignite reserves indicates an increase over the previously estimated exploitable amount of indigenous energy resources. Thus the political decision for the Greek Nuclear Programme appears now to be less urgent. The electricity produced in 1982 is estimated to amount to 21.6 TWh, of which 16% was from hydro, 56% from lignite and 28% from oil.

FRANCE

During the year 1982 the unit Blayais 2 began commercial operation. As a consequence, at the end of the year, there were 29 nuclear units in commercial operation with a total net power of 20.648 MWe. A second unit, Chinon B 1, was connected to the grid at the end of the year. Commercial operation is due to start in 1983.

Commitments were entered into in 1982 for 1 unit of the 900 MWe class (Chinon B 4) and for two units of the 1300 MWe class (Nogent 2 and Cattenom 3), due to begin commercial operation between 1987 and 1988. Work has already started on these three units. Further commitments are planned for 1983 relating to 2 units of the 1300 MWe class (to be confirmed by public authorities in the near future), due to begin commercial operation in 1990.

At the end of the year, the nuclear units being constructed under the pre-1982 programme numbered 24 (including Chinon B 1) with a combined capacity of 26.465 MWe. To these must be added the 3 units under the 1982 programme with a combined capacity of 3410 MWe. All this does not include the Creys-Malville Superphénix 1200 MWe fast reactor.

During 1982, the nuclear energy production amounted to 103.1 TWh out of a total energy production of 266.3 TWh. The share of nuclear energy therefore represents 38.7% of the total electricity production in France, as against 37.7% in 1981; the increase of nuclear electricity production amounted to 3.5 % .

ITALY

During the year 1982 the power station of Garigliano was closed down permanently. Latina was operated at 52.3% load factor. Caorso had a high load factor of 78.1%. Trino operations - presently suspended - are likely to be resumed around the end of 1983. There are presently three power stations under construction for a total power of 2 GWe. For Cirene (a 40 MWe heavy water boiling reactor) the beginning of operations is expected in 1986 and for Montalto di Castro in 1987 (both units).

The Italian nuclear programme of June 1981 calls for the construction of 6 power plants for a total of 6 GWe. For three regions - Piedmont, Lombardy and Apulia - areas were specified at the beginning of 1983. Two units will be located in each of these regions.

The national board ENEL has 18 months to define sites, so that construction will begin in 1985 for three units.

The national energy plan provides for further units to be constructed in other regions.

The construction of nuclear plants is now largely licensed to national firms.

Italy is still confronted with the costly problem of stockpiling considerable amounts of enriched uranium out of its Eurodif share, which would be enough to feed all the planned and existing nuclear capacity up to 1990.

The Italian production of electricity in 1982 was 176.2 TWh (+ 1.46% with respect to 1981). The contribution of nuclear energy was 2.7 %, i.e. 6.6 TWh.

4)

NETHERLANDS

The general situation on nuclear energy in the Netherlands could best be described as an acceptance of the present status quo. The "public debate" on nuclear energy concluded its first phase, the information phase, in December with the publication of the intermediate report by the Steering Committee.

This report will be the basis of the discussion-phase of the public debate.

The two existing nuclear power stations have operated very satisfactorily.

Shipments of spent fuel from both stations have been resumed since Parliament approved in 1981 the exchange of Governmental letters concerning the return of the waste from the reprocessing plants.

The condensor of the N.P.S. Borssele has been replaced by one of a better design, which increased the electrical output of the station by 8 MWe.

UNITED KINGDOM

The output from the UK's power stations in 1982 was approximately 17% up on 1981, due largely to the return to service of Magnox reactors shut down for inspection and assessment related to bellows units. Detailed examination of the units and pressure tests carried out confirmed that the units had sufficient strength for the remaining life of the stations concerned.

Reactor 2 at Trawsfynydd was taken off load on 30.09.82 for routine overhaul after a period of continuous operation of 640 days. A total of 3 TWh output was generated in this period. Work completed at Hinkley Point "B" (AGR) will enable on load refuelling (initially at 30% of full load) to proceed routinely. Other improvements in AGR performance are expected from new calculational methods being applied for channel gas outlet temperature and from a modified fuel brace design produced by the CEGB's Berkeley nuclear laboratories.

As required by the Secretary of State for Energy, a public inquiry is being held into the CEGB's application for consent to build Sizewell "B" PWR power station in Suffolk. In May 1982, the CEGB published extensive information about the design, safety features, and economic and strategic advantages of the proposed station, which will have a single pressurized water reactor (PWR) with an electrical output of 1110 MW. The CEGB case rests upon the establishment of the PWR option in the UK for future ordering, the superior economic return expected from a PWR, and the need for the CEGB to increase its fuel diversity. The inquiry is likely to continue throughout 1983.

3. Community

The situation of the Community as a whole is synthesized in the following tables.

NUCLEAR INSTALLED POWER IN THE COMMUNITY - END 1982

NET POWER IN GWe

	Commercial operation		Connected to the grid, but not in commercial operation	Under construction		To be built		TOTAL
	End 1981	Added in 1982		Prior to 1982	As from 1982	Advanced Projects	Planned	
Belgium	1.7	0.9	0.9	2.0	-	-	-	5.5
Germany	8.6	1.2	-	9.4	3.7	3.7	5.2	31.8
France	19.8	0.9	2.7	26.7	3.4	2.5	-	56.0
Italy	1.3	-	-	2.0	-	-	6.0	9.3
Netherlands	0.5	-	-	-	-	-	-	0.5
United Kingdom	6.5	-	-	6.2	-	-	1.2	13.9
	38.4	3.0	3.6	46.3	7.1	6.2	12.4	117.0
Community	45.0			53.4		18.6		117.0

NUCLEAR INSTALLED POWER IN THE COMMUNITY - END 1982

NUMBER IN UNITS

	Commercial operation		Connected to the grid, but not in commercial operation	Under construction		To be built		TOTAL
	End 1981	Added in 1982		Prior to 1982	As from 1982	Advanced Projects	Planned	
Belgium	3 °	1	1	2	-	-	-	7
Germany	14	1	-	9	3	3 +	4	34
France	28	1	3	24	3	2 *	-	61
Italy	3	-	-	3	-	-	6	12
Netherlands	2	-	-	-	-	-	-	2
United Kingdom	32	-	-	10	-	-	1	43
	82	3	4	48	6	5	11	159
Community	89			54		16		159

° BR 3 not included

\+ Ordered but not under construction

* Likely to be ordered in 1983

TOTAL NET ELECTRICITY PRODUCTION AND NUCLEAR NET PRODUCTION IN THE COMMUNITY IN 1982

(TWh = 10^9 KWh)

	B	DK	D	F	IRL	I	LUX	NL	UK	GR	COMMUNITY
TOTAL NET ELECTRICITY PRODUCTION 1982	47.9	22.4	345.1	266.3	10.5	176.2	0.9	57.6	254.5	21.8	1202.95
1982/1981 in %	- 0.5	+ 21.1	- 0.6	+ 0.8	+ 1.1	+ 1.6	- 22.4	- 6.0	- 2.0	- 0.5	- 0.3%
NUCLEAR NET ELECTRICITY PRODUCTION 1982	14.8	-	60.1	103.1	-	6.6	-	3.7	38.7	-	226.9
1982/1981 in %	+21.1	-	+18.2	+3.5	-	+158.1	-	+7.0	+16.7	-	+ 12.5%
NUCLEAR ELECTRICITY AS PERCENT OF THE TOTAL IN 1982	30.9	-	17.4	38.7	-	3.7	-	6.4	15.2	-	18.9 %

Source: EUROSTAT, ELECTRICAL ENERGY, 6 - 1983.

Contribution in the text might differ as given with different criteria or at different times.

4. Nuclear fuel requirements

Nuclear fuel requirements calculated on the basis of the present and likely installed nuclear power capacities are as follows.

In the European Community the current requirements for reloads plus those for first cores of nearly completed reactors amounted in 1982 to 5,400,000 separative work units and to 10,400 metric tons of natural uranium. These figures assume a 0.25% tails assay.

Estimated requirements for 1985 amount approximately to 7,300,000 separative work units and to 13,100 metric tons of natural uranium for an installed power of the order of 75 GWe.

On the assumption that in 1990 the installed power will be 110 GWe and not taking into account the requirements for first cores of reactors not yet planned, the annual requirements will amount to 11,200,000 separative work units and 19,400 metric tons of natural uranium.

III.

SUPPLY OF NUCLEAR FUEL IN THE COMMUNITY

1. Natural Uranium Sector

Conclusion of contracts

The number of natural (and depleted) uranium supply contracts concluded in accordance with the procedures of the Agency between 01.01.1982 and 31.12.1982 amounted to 56, signed by 28 companies (mining companies,electric utilities, middlemen, fuel cycle companies) in the Community with suppliers from 10 different countries. Of the 56 contracts for the supply of uranium 33 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 other transactions related to one long term contract, 2 medium term contracts, as well as 7 swap contracts, 8 leasing contracts and 5 contracts for the purchase of depleted uranium.

Concerning the volume of trade there were 44 purchase and lease contracts whose quantities exceeded 10 tons of uranium. Uranium purchase contracts concluded in 1982, as known to the Agency, covered approximately 8.000 tons to be delivered between 1982 and 2000.

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

Volume, price and origin of the deliveries to the electrical utilities

According to information known to the Agency, natural uranium deliveries made during 1982 to the electrical utilities of the Community amounted to approximately 12.500 tons, the deliveries made under spot contracts representing less than 10% of the total.

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 average price (weighted by quantity) was, on the basis of the rates of exchange applied by users, US$ 32/lb U_3O_8, i.e. $ 1.25 less than in 1981. Of these transactions, 90% were in the price range US$ 26 - 40/lb U_3O_8 and 80% in the price range US$ 28 - 38/lb U_3O_8.

As to the average price (weighted by quantity) of material supplied under spot contracts, it amounts to some US$ 24/lb U_3O_8 (against US$ 28/lb in 1981), although the average price according to the NUEXCO "transaction value" indicator was only US$ 20.7/lb U_3O_8 (US$ 25.2 in 1981), and according to the NUKEM "price range" only US$ 20.45/lb U_3O_8 (US$ 25.1 in 1981).

As in 1981 the Community continued to be dependent on supply from outside sources for about 80 % of its needs. However, the diversification of the supply sources improved in 1982 : the main supplier countries were six in number, and no one country represented more than 25 % of the total supplies.

2. Special Fissile Materials Sector

General Survey

Circumstances and structure of the market for special fissile material did not change significantly in 1982 as compared with the conditions governing transactions in the recent past and described in the last (1981) and earlier annual reports of the Supply Agency.

Decreased demand for electrical power, high cost of capital, and regulatory uncertainties resulted in fewer orders for nuclear reactors (and supporting facilities) and in construction delays, both worldwide and in the Community again in the past year. These developments are reflected in the existence of stocks of special fissile material and in transactions in the secondary market for separative work (contained in enriched uranium) becoming more numerous during the reporting period.

Community customers' requirements in enriching services were again increasingly covered from internal sources (about 25% came from outside the Community in 1982).

Eurodif

For Eurodif 1982 marked the completion of the construction of the plant. During the middle of the year its capacity reached 10.8 m. SWU in accordance with the original planning and estimates.

The rate of availability of the groups was very satisfactory, which confirmed the technical success of the installations.

But 1982 was also the year in which the development of electricity demand and requirements for enriched uranium was profoundly influenced by the persisting worldwide economic crisis.

This depressed economic situation coupled with the lack of any offtake of SWU for delivery to Iran lead to the reduction in the rate of production in the plant so as not to prejudice the future position by the creation of excess stocks.

The reduction in operation at the end of the year was achieved without insurmountable technical problems. The plant remains capable of coping with an upturn in the economy.

The financial outturn of the year showed a slight profit.

Urenco

The total enrichment capacity in operation at Urenco's plants at Almelo in the Netherlands and Capenhurst in the UK at the end of the year was in excess of 850 t. SW/year. The installation of new capacity in the first 420 t. tranche of a 1000 t. yearly capacity plant at Almelo, and in the first half of a 480 t. plant at Capenhurst is well advanced. Civil engineering and construction work on subsequent extensions to these new plants is proceeding on schedule. Construction work at Urenco's third enrichment site at Gronau in the Federal Republic of Germany was started during the year. The site licensing procedure at Gronau is progressing satisfactorily, and first production capacity is expected to be brought on line in 1985/86 as planned.

Total deliveries during 1982 exceeded 900 t. of contained separative work, of which approximately 670 t. came from production during the year and the remainder from stock produced in earlier years.

This reflects Urenco's decision to maintain a smooth rate of capacity expansion whilst meeting step-wise increases in delivery commitments under major contracts. The rate of installation of new capacity is determined solely by obligations under signed contracts, and Urenco's policy of utilising the flexibility of centrifuge technology to match overall capacity and delivery commitments remain unchanged. Deliveries are now expected to reach a level of approximately 2.000 t. of contained SW per year in 1987.

Non-Community suppliers of enriching services

Techsnabexport

The long term contracts concluded as of 1973 and shortly thereafter were correctly implemented and were subject only to minor adjustments. Prices remained aligned to the published USDOE prices.

U.S. Department of Energy (DOE)

No new long term contract was concluded in 1982, but some amendments to existing contracts were made, in particular partial terminations of requirements contracts in order to substitute supplies from the secondary separative work market.

The absence of new contracts was not only due to decreased demand: in August 1982 US DOE offered for comments a new type of contract, the "facility requirements" contract, designed to improve its competitive position. The Supply Agency organized a meeting with DOE officials for its customers to discuss the salient features of this proposed contract and the possibilities of converting existing contracts into the new type.

No final decisions were taken by DOE in 1982 (nor up to mid-1983) concerning this new contract and conversion conditions.

In 1982 460 t of low enriched uranium were imported into the Community from the USA, 45% of which was destined for use in the Community, the remainder to be used in third countries after processing (e.g. fuel fabrication).

Prices for enriching services

As in the past only US DOE prices were published. In August 1982 they were raised by about 6% to US$ 149.85/SWU for requirements contracts and to US$ 138.65/SWU for fixed commitments contracts.

These moderate increases and also the recent DOE announcement to maintain these prices until August 1984 are due to lower inflation rates in the USA and cost-effective production, but these decisions were certainly also influenced by the competitive position among producers and by the situation on the secondary market. Due to the US Dollar exchange rate, the SWU price difference between DOE and European enrichers became smaller. In some cases European prices were lower than US prices. (On the secondary market, however, discounts between 2 and 10% were available and, towards the end of the reporting period in some special cases, discounts of up to 23% were noted).

Supply of highly enriched uranium (HEU)

As in the past the US monopoly for HEU supplies for research and material testing and for high temperature gas-cooled reactors and other special purposes continued to exist, since, mostly for practical and economic reasons, no such material is produced within the Community for peaceful applications.

The quantities received in 1982 were somewhat lower than in earlier years: about 240 kgs in total, more than 40% of which were destined for end use outside the Community. At present most customers have material to cover their requirements until 1985.

There was no interruption in supplies, although the discussion of the technical and economic justification with US agencies, required for this type of supply, sometimes took longer than anticipated.

The international efforts to develop and qualify high density fuel at lower assays were continued. The Community customers for HEU maintained their collaboration with the US authorities on the programme, introduced following INFCE, to operate reactors at a reduced enrichment (i.e. 20% or 45% U-235 instead of 90% or 93%), as did several customers in third countries for whom fuel is fabricated in the Community.

An important step was achieved when US DOE announced in November the continuation of its policy to reprocess research reactor fuel. This may alleviate doubt of HEU users as to the reliability of US supplies. Some problems, however, remain to be solved before final progress could be expected for reactor core conversions to lower assay fuel.

Plutonium

In 1982 the Agency's activity in this sector was less than in the foregoing year: 8 contracts were concluded for a total quantity of nearly 650 kgs of fissile plutonium, almost exclusively intended for mixed oxide fuel fabrication for use in European fast breeder reactors.

The tendency of decreasing prices continued during the reporting period and appeared to level off at 5 to 4 US$/G fissile.

Discussions started in France on the possible interest in recycling plutonium in light water reactors. As a result, a decision may follow soon to construct a plant in France which would set aside part of its production for foreign electricity companies.

A mixed oxide fuel programme was decided by German utilities with a view to having available a fabrication capacity by the end of the eighties for plutonium recovered from reprocessing of power reactor fuel to be used for thermal recycling.

Various

The Agency concluded 78 contracts for sale or loan of enriched uranium or plutonium.

More than 40 prior authorisation procedures concerning transfers to or from the Community subject to a cooperation agreement were initiated.

Several substitutions were authorised in collaboration with the safeguards directorate of the Community.

The Agency received and registered nearly 80 notifications under article 75 of the Euratom Treaty, mostly for conversion, fuel fabrication and reprocessing contracts.

3. Supply of nuclear fuel and non-proliferation

During the year under review no significant new developments occured in the field of non-proliferation and assurance of supply concerning the Community.

Two activities taking place under the aegis of the IAEA are of potential interest as regards the supply of nuclear material: International Plutonium Storage (IPS) and the work of the Committee on Assurances of Supply (CAS).

Towards the end of the year the IPS Expert Group concluded its report to the Board of Governors of the IAEA. Its main conclusions were that any IPS scheme to be set up should be an extension of the IAEA safeguards system but that further work was needed to agree upon certain conceptual aspects and subsequently to draw up details for a scheme.

CAS has continued its work throughout the year but it seems likely that some time will be needed before firm conclusions on the Committee's mandate are reached.

Supplies of nuclear material under agreements with supplier countries continued normally. The agreement with Australia entered in effect on 15 January 1982 and supplies under recently concluded contracts commenced to flow. There were no special developments relating to the agreement with Canada, and the US presidential waiver as required under the US Nuclear Non-Proliferation Act was again granted, thus allowing continuity of supplies from the USA to be maintained.

IV.

ADVISORY COMMITTEE OF THE SUPPLY AGENCY

Following the announcement by the Commission early in 1982 of its intention to propose a revision of Chapter VI of the Euratom Treaty, the Committee offered to submit its views on the problems encountered with the existing Chapter VI and the improvements which could be desirable, particularly from the industrial point of view. This suggestion was accepted, and in consequence the greater part of the Committee's work during the year was devoted to this task.

A comprehensive review of the impact of Chapter VI on all aspects of the supply of nuclear fuels was undertaken. Legal and political problems were examined and consideration was given to the role of the Supply Agency. The views, ideas and conclusions of members were discussed and put forward at a meeting on June 9, 1982, at which Vice-President Davignon attended.

The principal observations arising from the discussions within the Committee can be found in Appendix 2.

In December 1982, the Commission presented to the Council a proposal for a decision inviting it to adopt new provisions relating to Chapter VI of the Euratom Treaty (see O.J. C 330, page 4, of 16 December 1982). At the request of Vice-President Davignon the Committee will make its expertise available in the further work to be undertaken by the Community authorities on this question.

ORGANISATIONAL CHART OF THE EURATOM SUPPLY AGENCY

(AS AT 31 DECEMBER 1982)

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APPENDIX 1

A. NUCLEAR REACTORS IN SERVICE IN THE COMMUNITY END 1982

Reactor +	Country	Type (x)	Commencement of operation	Net installed power MWe	
				Projected	Effective
Calder Hall (BNFL)	UK	GG	1956 - 59	200	200
Chapelcross (BNFL)	UK	GG	1959 - 60	200	192
G3 Marcoule (CEA)	F	GG	1960	40	40
VAK (Kahl)	D	BWR	1961	15	15
Berkeley (CEGB)	UK	GG	1962	275	276
Bradwell (CEGB)	UK	GG	1962	300	245
Latina (ENEL)	I	GG	1963	200	152
Windscale (UKAEA) ++	UK	AGR	1963	0	0
Hunterston A (SSEB)	UK	GG	1964	320	300
Garigliano (ENEL) ++	I	BWR	1964	150	154
Trino Vercel (ENEL)	I	PWR	1964	0	0
Chinon 2 (EDF)	F	GG	1965	200	180
Chinon 3 (EDF)	F	GG	1967*	480	360
Hinkley Point A (CEGB)	UK	GG	1965	500	430
Trawsfyndd (CEGB)	UK	GG	1965	500	390
Dungeness A (CEGB)	UK	GG	1965	550	410
Sizewell A (CEGB)	UK	GG	1966	580	420
MZFR (Karlsruhe)	D	HWR	1966	51	51
BR 3 (Mol)	B	PWR	1966	10	10
SENA (Chooz)	F	PWR	1967	305	305
Winfrith (UKAEA)	UK	HWR	1967	92	100
EL 4 (Monts d'Arrée)	F	HWR	1967	70	70
Oldbury-on-Servern A (CEGB)	UK	GG	1967	600	416
AVR (Jülich)	D	HTR	1967	13	13
KWO (Obrigheim)	D	PWR	1968	328	328
GKN (Dodewaard)	NL	BWR	1968	52	52
St. Laurent A 1 (EDF)	F	GG	1969	480	390
St. Laurent A 2 (EDF)	F	GG	1971	515	450
Wylfa (CEGB)	UK	GG	1971	1 180	840
KWW (Würgassen)	D	BWR	1972	640	640
KKS (Stade)	D	PWR	1972	630	630

\+ Some reactors consist of more than one unit.

* Date of commercial operation.

++ Reactor shut down.

Reactor	Country	Type (x)	Commencement of operation	net installed power MWe	
				Projected	Effective
KNK II (Karlsruhe) **	D	FBR	1977	19	19
Bugey (EDF) Rhône	F	GG	1972	540	540
KEC (Borssele)	NL	PWR	1973	450	447
Phénix (Marcoule)	F	FBR	1973	233	233
PFR Dounraey (UKAEA)	UK	FBR	1974	250	200
Biblis A - RWE (Rhein)	D	PWR	1974	1 146	1 146
Doel 1 (Schelde)	B	PWR	1974	390	395
Tihange (Meuse)	B	PWR	1975	870	870
Doel 2 (Schelde)	B	PWR	1975	390	395
Hinkley Point B 1	UK	AGR	1976	625	500
Hunterston B 1	UK	AGR	1976	625	550
Biblis B - RWE (Rhein)	D	PWR	1976	1 178	1 240
GKN 1 Neckarwestheim	D	PWR	1976	810	785
KKB Brunsbüttel	D	BWR	1976	770	744
Hinkley Point B2	UK	AGR	1976	625	540
Fessenheim 1	F	PWR	1977	890	890
Hunterston B 2	UK	AGR	1977	625	550
Fessenheim 2	F	PWR	1978 *	890	890
KKI Ohu (Isar)	D	BWR	1977	870	870
Enel 4 (Caorso) (Po)	I	BWR	1977	840	840
Bugey 2	F	PWR	1978	925	920
KWU Unterweser	D	PWR	1978	1 230	1 230
Bugey 3	F	PWR	1979 *	925	920
Bubey 4	F	PWR	1979	905	900
Philippsburg 1	D	BWR	1979	864	864
Bugey 5	F	PWR	1980 *	905	900
Gravelines 1	F	PWR	1980	925	920
Tricastin 1	F	PWR	1980	925	920
Dampierre 1	F	PWR	1980	905	900
Tricastin 2	F	PWR	1980	925	920
Gravelines 2	F	PWR	1980	925	920
Tricastin 3	F	PWR	1981	920*	920
Tricastin 4	F	PWR	1981	920	920

** Since 1977 equipped with a fast core

* Date of commercial operation.

Reactor	Country	Type (x)	Commencement of operation	net installed power MWe	
				Projected	Effective
Dampierre 2	F	PWR	1981 *	900	900
" 3	"	"	1981	900	900
" 4	"	"	1981	900	900
Gravelines 3	"	"	1981 *	920	920
" 4	"	"	1981	920	920
Le Blayais 1	"	"	1981	920	920
KKG (Grafenrheinfeld	D	"	1982	1230	1230
Doel 3	B		1982	900	900
Le Bayais 2	F	"	1982	925	925
				43 226	41 372

(x) GG = Gas Graphite
BWR = Boiling water reactor
HTR = High temperature reactor
FBR = Fast breeder
AGR = Advanced gas cooled reactor
PWR = Pressurised water reactor
HWR = Heavy water reactor

* Date of commercial operation

B. REACTORS CONNECTED TO THE GRID, BUT NOT IN COMMERCIAL OPERATION, END 1982

Reactor	Country	Net Power (MWe)
St. Laurent B 1/Loire	F	880
St. Laurent B 2/Loire	F	880
Chinon B 1/Loire	F	900
Tihange 2/Meuse	B	900
		3 560

C. REACTORS UNDER CONSTRUCTION IN THE COMMUNITY END 1982

Reactor	Country	Net Power MWe
ADVANCED GAS REACTORS (AGR)		
Dungeness B (CEGB)	UK	1 200
Hartlepool (CEGB)	UK	1 250
Heysham (CEGB A + B + C + D	UK	2 500
Torness (SSEB) A + B	UK	1 250
TOTAL AGR	UK	6 200
BOILING WATER REACTORS (BWR)		
KKK (HEW/NWK Krümmel/Elbe)	D	1 260
KRB II B (RWE/Bayern W) Gundremmingen/Donau	D	1 249
KRB II C (RWE/Bayern W) Gundremmingen/Donau	D	1 249
ENEL 6 (Montalto di Castro)	I	982
ENEL 8 (Montalto di Castro)	I	982
TOTAL BWR		5 722
PRESSURISED WATER REACTORS (PWR)		
Doel 4/Schelde	B	980
Mulheim/Kärlich (RWE)Rhein	D	1 154
KBR (NWK/HEW) Brokdorf	D	1 294
KWG (Preag/GWK Weser) Grohnde/Weser	D	1 294
KKP 2 (Baden W/EVS) Rhein Philippsburg	D	1 281
Gravelines 5 (EDF) Nord	F	920
Gravelines 6 (EDF) Nord	F	920
GKN (Neckarwestheim) 2 *	D	1 230
Emsland (VEW-Elektromark)*	D	1 230
Isar 2 (Bag-Isaramp)*	D	1 230
Chinon B 4 (EDF)*	F	875
Nogent 2 (EDF)*	F	1 270
Cattenom 3 (EDF) *	F	1 270

* Construction started 1982

Reactor	Country	Net Power MWe
Chinon B3 (EDF)	F	875
Le Blayais 3 (EDF) Gironde	F	920
Le Blayais 4 (EDF) Gironde	F	920
Belville 1 (EDF)	F	1 270
Belville 2 (EDF)	F	1 270
Paluel I (EDF) Seine-Maritime	F	1 285
Paluel II (EDF) Seine-Maritime	F	1 285
Paluel III (EDF) Seine-Maritime	F	1 285
" IV " " "	F	1 285
St. Alban I " "	F	1 285
" " II " "	F	1 285
Flamanville I (EDF) Manche	F	1 285
" II " "	F	1 285
Nogent 1 (EDF) Seine	F	1 270
Chinon B 2 (EDF) Loire	F	875
Cruas I (EDF) Ardèche	F	880
Cruas II (EDF) Ardèche	F	880
Cruas III (EDF) Ardèche	F	880
Cruas IV (EDF) Ardèche	F	880
Cattenom I (EDF) Moselle	F	1 270
" II " "	F	1 270
TOTAL PWR		39 668
HIGH TEMPERATURE REACTOR (HTR)		
THTR 300 (HKG Uentrop/Schmehausen)	D	300
FAST BREEDER REACTORS (FBR)		
SNR 300, Kalkar, Niederrhein	D	282
Superphenix (Creys-Malville Rhône)	F	1 200
TOTAL FBR		1 482

Reactor	Country	Net Power MWe
HEAVY WATER REACTOR (HWR)		
Cirene (CNEN), Latina	I	40
REACTORS UNDER CONSTRUCTION END 1982		
(recapitulation)		
AGR		6 200
BWR		5 722
PWR		39 668
HTR		300
FBR		1 482
HWR		40
T O T A L		53 412

D. ADVANCED PROJECTS IN THE COMMUNITY END 1982

(REACTORS NOT UNDER CONSTRUCTION)

Reactor	Country	Net Power MWe	
PRESSURISED WATER REACTORS (PWR)		Individual	By Group
Biblis - C (RWE) Rhein	D	1 240	
KKH Hamm (VEW/Elektromark)	D	1 232	
KWS-1, Wyhl (BAG/EVS) (°)	D	1 250	3 722
Golfech 1 (*)	F	1 270	
Chooz B 1 (*)	F	1 270	
Penly 1 (*)	F	1 270	3 810
T O T A L			7 532

(°) Reactor ordered before 1982 but not under construction

(*) Probably investment programme 1983

EURATOM TREATY: REVISION OF CHAPTER VI - SUMMARY OF REMARKS BY THE ADVISORY COMMITTEE OF THE SUPPLY AGENCY (7 October 1982)

General Framework

The industry - in the nuclear field as in other sectors - is deeply attached to the essential principles of the market economy. The production of and the trade in nuclear fuel as well as the procurement policy of users is essentially the responsibility of the industry. Intervention of the Community in this field should only take place if it is required to ensure a regular and non-discriminatory supply of nuclear material or to guarantee the functioning of the common market or to coordinate, where appropriate, national policies. In addition, if it is to develop harmoniously, the nuclear industry in general and the nuclear fuel cycle industry in particular must be able to work within a stable and well-defined legal framework.

Against this background the following remarks concerning Chapter VI are made by the Advisory Committee:

1. There is no justification for maintaining the Agency's monopoly, designed to meet the situation prevailing 25 years ago; contracts on nuclear fuel should be freely negotiated and concluded between industrial partners; producers should be free in the selection of their customers and vice versa.

2. In the Committee's view there is no reason to maintain the principle of "equal access" - at least in so far as this principle would mean that users would have a right to obtain a proportion of the output of production facilities, in which they have not invested or with which they have not concluded supply arrangements.

3. Production of and trade in nuclear fuels should in principle be covered by the same rules of the EEC Treaty as other areas of industrial activities, including the rules on competition and protection against discrimination. For the usual commercial aspects of nuclear trade no additional rules are desirable.

4. It is noted, however, that trade in nuclear materials is subject to specific restrictions arising from the non-proliferation policies of countries. It is the unanimous wish that action is taken within the Community so as to avoid that the application of these measures by Member States or non-Member States hinders or disturbs the optimal development of nuclear energy in the Community and that, to the maximum extent possible, the principles of free movement and free transferability of nuclear fuel are implemented. Administrative procedures in this field should be harmonised and should plane as little burden as possible on the industry. In addition, harmonisation of the conditions for import and export licences and other regulations for the transfer and transport within the Community of special fissile material would be highly desirable.

5. In the view of the Advisory Committee there is room for a Community supply policy consistant with the Euratom Treaty. Such policy could imply:

   (1) A responsibility of the Community in external relations, in particular with a view to providing for framework conditions for nuclear supplies from third countries;

   (2) A means for the Community to decide on measures intended to promote assurance of supply and to set up if need be, a system of Community solidarity in situations of substantial imbalance of the market;

(3) A co-ordination of relevant national regulations or other appropriate measures in order to ensure the greatest possible fluidity in the circulation of nuclear material in the Community;

(4) An active role of the Supply Agency (see paragraph 7).

6. The starting point for the designing of a common supply policy must be both the industry's existing responsibilities in this field and the existing national supply policies in most Member States. Decisions at Community level on concrete measures for the promotion of assurance of supply and Community solidarity should be therefore only complementary. Binding regulations should be the exception. Recommendations for example with regard to specific aspects of procurement and stock policies, are preferable and they are considered helpful under certain circumstances.

- In this light, a mandatory type of Community preference for the supply or procurement of nuclear material is not desirable. Concern for their security of supplies or outlets should be sufficient to convince Community industry to grant preference within the Community.

- The majority of the Members of the Advisory Committee is of the opinion that no specific Community action to promote exploration appears to be necessary at this time with a minority of members dissenting this view.

- It is noted as a reality that the supply policy of a Member State may provide that access to sources of supply in that country is reserved preferentially to its national users.

- It has been suggested by a few, for example, that the moment is ripe for the constitution of Community security stocks (or stocks with Community participation) of natural and enriched uranium.

7. In the view of the Advisory Committee the Agency has a useful role to play in many fields:

- It must first of all serve the Community as a valuable instrument for market observation and analysis, and must contribute to market transparency; to that end communication of relevant information on contracts is desirable;

- It should provide a framework for the nuclear industry to exchange views and, if so appropriate, to adopt common attitudes and to recommend common policies;

- It should assist users and producers, if so requested, in providing non-commercial information and appropriate help, in particular with regard to supplies from third countries which are subject to specific approval procedures and licences;

- It could be the instrument for the implementation of any Community supply policy matter that may be decided on.

In order to be able to do its job succesfully, the Agency needs in the Advisory Committee's view a certain autonomy and authority and should receive as much information on the market as possible.

8. The Advisory Committee has no common view on the following two major points:

- whether the freedom to negotiate and conclude contracts, accepted as a general rule, should be restricted, so as to prohibit parties to a contract from agreeing on restrictions of use and/or retransfer of the material or services in question, and

- whether the contracts concluded by the industry should be communicated to the Agency.

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