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BERLIN
Kurfürstendamm
886 40 28

BONN
Zittelmannstraße
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LUXEMBOURG
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35 00 40

NEUCHÂTEL
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Cheshamstreet (S.W. 1)
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296-5131

** The Commission of the European Communities has just sent certain industrial groups files containing various documents relating to the POTENTIAL OF THE JOINT RESEARCH CENTRE and the R & D work which could be carried out there ON BEHALF OF INDUSTRIAL COMPANIES (see "Research and Technology" No. 16).

** On 24 June Euratom's Scientific and Technical Committee, composed of experts from the Member States appointed in a personal capacity, examined the proposals submitted by the Commission to the Council of Ministers concerning the arrangements for long-term supplies of enriched uranium to the Community and deliberated at length on the question of setting up EUROPEAN URANIUM ENRICHMENT FACILITIES.

There are three possible processes:

- gaseous diffusion, which is used on an industrial scale in some other countries (notably in the United States) and in which one of the member countries, France, has some experience; because of the large installations needed, only one single plant could be built in the Community if this technique were employed;
- ultracentrifugation, which is the subject of a cooperative profit shared by two member countries, Germany and the Netherlands, with Great Britain, and in which the minimum size of installations need not be so large, so that it

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might be possible to build several plants in the Community;
- the nozzle technique, which has reached the stage of
laboratory studies in a member country, Germany;

According to the experts, it is possible to combine two
different techniques in one plant, the basic work being
performed by gaseous diffusion and the higher enrichments
by ultracentrifugation.

In any case, it is difficult at the present stage of knowledge,
and particularly from the amount of information divulged, to
choose between the processes until the results of the technical
and economic studies proposed by the Commission are known
(see "Research and Technology" No. 18).

The Euratom Scientific and Technical Committee agreed to
pursue its exchanges of views on this question on 11 September
next.

** The ESSOR reactor operated at FULL POWER for the first time
when it was used to irradiate an experimental loop at the
Ispra Joint Research Centre Establishment on 19 June 1969.
ESSOR is a scientific and technical complex designed for
the study in depth of heavy water pressure tube nuclear
power plants. The Euratom-designed reactor, on either side
of which is a hot laboratory for observing irradiated and
tested components, is a typical Community project, since
more than 50 companies in the six Community countries
participated in its construction, the companies of GAAA
(France), INTERATOM (Germany) and MONTEDISON (Italy) being
responsible for the architectural engineering.

** As at 15 June 1969, the latest BREAKDOWN of the REACTORS
in operation or under construction in the Community, according
to type and capacity, was as follows (see "Research and
Technology" No. 6):

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Gas-graphite	44%
Boiling light water	21%
Pressurized light water	25%
Heavy water	4%
Other advanced converters	6%

An ANNEX to the present "Newsletter" contains a list, dated 15 June 1969, of the power plants in operation, under construction or planned in the Community.

** These were the words spoken by Mr. Colonna di Paliano, Member of the Commission of the European Communities with special responsibility for industrial affairs, on 19 June 1969 when dealing with the problem of the leading industries in the report which he presented at the study meeting organized by the Milan Chamber of Commerce on the Community's industrial policy (see "Research and Technology" No. 19):

"THE ADVANCED TECHNOLOGY SECTORS need a particularly substantial volume of demand in order to produce on a profitable basis. It is therefore precisely these sectors which should - in theory - have derived the greatest benefit from the establishment of the Common Market. Experience shows that this has not been the case, and that the customs union has had only limited stimulatory effects; the fact is that in this field THE ACTUAL MARKET IS OF SECONDARY IMPORTANCE, demand for such products originating largely from public or semi-public bodies, i.e., from a market generally termed artificial or guaranteed. However, the public authorities have hitherto reserved their orders almost entirely for the industries of their own countries, with the result that the market for these products has to a large extent remained compartmentalized. OPENING UP THE MARKET WOULD IN THIS CASE MEAN LIBERALIZING THE PUBLIC SECTOR MARKETS. But it is obvious that, were the public authorities to allow all producers in the Community to seek their orders, it would be the industry of the most competitive country in a given sector which would

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derive the most advantages, in some cases at the expense of the industry of the country from which the order originated. In the extreme case, it might result in the disappearance of certain sectors in some Member States. This, while a perfectly logical consequence in itself, does not appear to be acceptable to our Community countries, at all events not at the present stage of the integration process. To overcome these difficulties, there seems to be no other possible solution than to promote the creation of MULTINATIONAL GROUPS in which the enterprises of the various countries would be represented."

** The Commission of the European Communities has requested the Council of Ministers to give it the necessary directives for negotiating, together with the other signatories, an extension of the DRAGON AGREEMENT, which is due to expire on 31 March 1970, until 31 March 1973, with the possibility of further extension. The technical programme to be carried out during the three years following the extension would include the following aims in particular:

- operation of the reactor, if possible at a power of 25 MWth, from mid-1970;
- fabrication of the driver zone for the reactor's own requirements and production of experimental fuels;
- evaluation studies, in close cooperation with industry, on the problems inherent in the design and safety of large direct-cycle power plants.

** The Commission of the European Communities has submitted a request to the Council for AN AMENDMENT TO BE MADE TO THE 1969 RESEARCH PROGRAMME (without any effect on the financing) in order that preparations can be made for taking into service the MK-5 multi-channel loop in the ESSOR reactor at the Joint Research Centre's Ispra Establishment. The purpose of this is to enable more

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rational use to be made of the reactor pending the insertion of new circuits suited to the specific requirements of other variants for which appropriations have been made in the proposed future programme for Euratom.

The MK-5 circuit components (channels, fuel to be irradiated, pumps, exchangers, etc.) have already been constructed and assembled.

Net electrical capacity of nuclear power stations in service,
under construction or planned in the Community

as at 1 February 1969

1. PROVEN-TYPE REACTORS

	country	in service MWe	under construction MWe	planned MWe
<u>Gas/graphite</u>				
Chinon 1 (EDF 1)	F	70	-	-
Chinon 2 (EDF 2)	F	200	-	-
Chinon 3 (EDF 3)	F	480	-	-
St. Laurent 1 (EDF 4)	F	380	-	-
St. Laurent 2	F	-	515	-
Bugey 1 (St. Vulbas)	F	-	540	-
G 2 Marcoule	F	40	-	-
G 3 Marcoule	F	40	-	-
ENEL (Latina)	I	200	-	-
<u>Boiling water</u>				
KRB (Gundremmingen)	G	237	-	-
KWL (Lingen) (1)	G	155	-	-
VAK (Kahl)	G	15	-	-
ENEL (Garigliano)	I	150	-	-
GKN (Dodewaard)	N	52	-	-
KWW (Wurgassen, Weser)	G	-	640	-
<u>Pressurized water</u>				
KWO (Obrigheim)	G	283	-	-
SENA (Chooz) (2)	F/B	266	-	-
ENEL (Trino Vercellese)	I	257	-	-
BR 3 (Mol)	B	10	-	-
KKS (Stadersand, Elbe)	G	-	630	-
SEMO (Tihange s/Meuse) (3)	B/F	-	-	750
Centre Nucl. de Doel (Doel/Scheldt)	B	-	-	750
PZEM (Flushing)	N	-	-	400
RWE (Biblis)	G	-	-	1,100

(1) not including fuel-oil superheating

(2) Franco-Belgian (50/50) plant

(3) with French (EDF) participation as to 50%

	country	in service MWe	under construction MWe	planned MWe
2. <u>ADVANCED CONVERTERS</u>				
<u>Heavy water</u>				
MFZR (Karlsruhe)	G	50	-	-
KKN (Niederaichach)	G	-	100	-
EL 4 (Monts d'Arrée)	F	70	-	-
CIRENE (Latina)	I	-	-	32
<u>High temperature</u>				
HKG (Hagen/Dortmund)	G	-	-	300
AVR (Jülich)	G	13	-	-
KSH Geesthacht 2 (Schl. Holstein)	G	-	22	-
<u>Sodium/zirconium hydroxide</u>				
KNK (Karlsruhe)	G	-	19	-
<u>Nuclear superheat</u>				
HDR (Grosswelzheim)	G	-	22	-
3. <u>FAST BREEDERS</u>				
Phénix (Marcoule)	F	-	250	-
SNR (Weisweiler) (4)	G	-	-	-
4. <u>TYPE NOT YET DETERMINED</u>				
Schwaben, Neckar W, Stuttgart (Laufen)	G	-	-	700
BASF (Friesenheimer Insel)(5)	G	-	-	1.200
ENEL 4 (Lombardy)	I	-	-	650
ENEL 5 (...)	-	-	-	650
E.V. SCHWABEN-BADENWERK (Oberh./Rhein)	G	-	-	600
H.E.W. + N.W.K. (Hamburg Reg.)	G	-	-	600
Chem Werke HULS + VEW (Marl.)	G	-	-	600
Fessenheim 1	F	-	-	record
Fessenheim 2	F	-	-	only
Total		3,068	2,738	8,632
Grand total		14,438		

(4) participation: Germany 70%, Netherlands 15%, Belgium 15%

(5) including 400 MWe for steam supply