

research and technologybulletin published by the press and information services
of the commission of the european communities**REPRODUCTION AUTHORIZED**

Brussels, 3 February 1970

No. 41

** A comparison by types of the rating of NUCLEAR REACTORS
IN THE COMMUNITY shows that pressurized light water
reactors forged ahead at the expense of the gas-graphite
type between January 1969 and January 1970. The break-
down by power of the reactors now in operation or under
construction is as follows:

	January 1970		January 1969	
	MWe	%	MWe	%
Gas-graphite	2,565	26	2,565	46
Boiling light water	2,019	21	1,249	23
Pressurized light water	4,696	48	1,446	26
Heavy water	220	2	220	4
Other advanced converters	76	1	79	1
Fast breeders	233	2	-	-
Total	9,809	100	5,559	100

A list of the power plants now in operation, under con-
struction or planned within the Community as at 12 January
1970 is given as an ANNEX.

2069/x/70 e

For further information please apply to the

Commission of the European Communities
Directorate-General for Press and Information
Scientific and Technological Information Service
200, avenue de la Loi
Brussels 4 - Tel. 35 00 40

or any of the Information Offices of the European Communities (list inside cover)

** Having been consulted by the German and Dutch Governments under Article 103 of the Euratom Treaty (which obliges the Member States of the Community to "communicate to the Commission any draft agreement or convention with a non-member country"), the Commission of the European Communities recently gave these two governments its OPINION ON THE AGREEMENT which they have concluded with Britain covering the ENRICHMENT OF URANIUM BY ULTRACENTRIFUGATION. This is a preliminary opinion which has, in fact, provided the opening to a dialogue between the Commission on the one hand and these two Member States on the other.

** The consumption of ELECTRICAL ENERGY within the European Community rose in 1969 by 9% compared with 1968; this is the greatest increase to be recorded since 1960. Net consumption (including losses) in 1969 amounted to 517,000 million kWh. As regards output, there was a slight fall in the production of hydroelectric energy; the production of nuclear energy ran to 11,000 million kWh, amounting to an increase of almost 50%, thanks to the regular use of large units, particularly in Germany (where output tripled in 1969), and despite the prolonged shut-down of some power plants. Nuclear energy now accounts for 2.1% of the total electrical energy produced in the Community.

** On 29 and 30 January the joint working group on Scientific and Technical Research Policy (Aigrain Group) conducted an initial general examination of the broad outlines of the PLANS AND PROGRAMMES IN THE FIELD OF SCIENTIFIC RESEARCH drawn up by the countries of the European Community. This examination will be intensified during the next meetings of the group, scheduled for 19 February and 3 March, when an attempt will be made to clarify the points of convergence and divergence of the national programmes, so as to define new sectors of cooperation alongside the sectors already agreed upon (data processing, telecommunications, nuisances, meteorology, oceanography, means of transport and metallurgy).

** A meeting of PRODUCERS OF ELECTRICITY IN THE COMMUNITY was held by the Commission of the European Communities in Brussels on 26 January following the resolution adopted by the Council of Ministers (see "Research and Technology" No. 21), which emphasized the advisability of periodic comparisons of the views and intentions of electricity producers, as recommended by the Commission.

In an extensive exchange of views the participants examined the following points among others: means of improving middle and long term forecasts of power plant construction plans; the problems raised by the rationalization of power plant types and standards; the prospects of opening up the market for major electrical equipment and the Commission's proposals concerning the possibility of providing partial guarantees in the event of prolonged outages.

A working meeting will be held during the second half of 1970, in which the electricity producers will inform the Commission of the results of their deliberations and studies on these points.

** On 27 January 1970 the Euratom Scientific and Technical Committee made up of experts from the Member States of the Community, each appointed personally, held a wide-ranging exchange of views at the Commission's request on the situation and the general trend with regard to NUCLEAR RESEARCH IN THE COMMUNITY. The Committee concerned itself mainly with LIGHT WATER REACTORS (a sector in which a joint research project might be drawn up with the aim of solving the numerous technical problems still to be solved in the field of, for instance, plant safety), together with FAST REACTORS and the construction of European URANIUM ENRICHMENT facilities (selected areas for more intensive Community cooperation). The Community also touched on the problems raised by the decision to reorganize the Joint Research Centre.

** Representatives of the NUCLEAR INDUSTRIES OF THE EUROPEAN COMMUNITY (UNICE) will hold a working meeting with the Commission of the European Communities in Brussels on 4 February in order to discuss the problems raised by the Commission's proposal to grant electricity

producers PARTIAL GUARANTEES against prolonged outages of nuclear power plants. The points studied will include the following: the conditions for granting the guarantee; the beneficiaries (electricity producers and/or constructors); the equipment to which the guarantee will apply; the methods and procedures for granting the guarantee; the particular problems relating to exports and the legal questions involved.

- ** The next meeting of the Consultative Committee of the European Coal and Steel Community (ECSC) will take place in Luxembourg on 13 February 1970, when the Commission of the European Communities will present a communication on its RESEARCH policy in the COAL and STEEL sectors.

- ** OPERATION OF THE NUCLEAR SHIP "OTTO HAHN", even within the territorial waters of a Member State, should not entail any serious risk of exposing the population to radiation or of contaminating the water, soil or air space. This is the essence of the opinion which the Commission of the European Communities has communicated to the German government after having examined the general data relating to the discharge of radioactive effluents from the experimental nuclear ship.

- ** A course of interdisciplinary training in MOLECULAR BIOLOGY AND RADIOBIOLOGY will be organized at Orleans, France, from 14 September to 6 October by the Molecular Biophysics Centre of the National Scientific Research Centre, under the auspices of the European Communities. This course is intended especially for physicists and chemists who are interested in biophysics. Grants may be awarded to a certain number of candidates in order to enable them to work in a laboratory for a year or two. Particulars can be obtained from the Commission of the European Communities, 200, rue de la Loi, 1040 Brussels, Belgium.

- ** Commission of the European Communities is endeavouring to give a new impulse to the DISSEMINATION OF SCIENTIFIC INFORMATION within the Community. The Directorate-General for the Dissemination of

Information recently gave one of its departments the special task of organizing colloquia and symposia on the initiative of the other departments of the Commission, with accelerated publication and selective dissemination of the proceedings containing verbatim reports of the communications and discussions.

** THE 10,000TH SCIENTIFIC AND TECHNICAL DOCUMENT published by the Commission of the European Communities has just left the press. It is a report entitled "Analyse quantitative des roches par la méthode de fluorescence X" (Part I, 41 pages, 60 BF, No. EUR 4387, available in French).

This report can be obtained from the Office for the Sale of Official Documents of the European Communities, 37, rue Glesener, Luxembourg.

Net electrical capacity of nuclear power stations in service,
under construction or planned in the Community
as at 12 January 1970

	country	in service MWe	under const. MWe	planned MWe
1. <u>PROVEN-TYPE REACTORS</u>				
<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	480	-	-
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	-	-
CKN (Dodewaard)	N	52	-	-
KWW (Würgassen, Weser)	G	-	640	-
Kernkr. Elbe (Brunsbüttel koog)	D	-	770	-
ENEL 4 (Piacenza/Po)	I	-	-	750
<u>Pressurized water</u>				
KWO (Obrigheim)	G	283	-	-
SENA (Chooz) (2)	F	266	-	-
ENEL (Trino Vercellese)	I	257	-	-
BR 3 (Mol)	B	10	-	-
KKS (Stadersand, Elbe)	G	-	630	-
SEM0 (Tihange s/Meuse) (3)	B	-	870	-
Centre Nucl. de Doel (Doel/Scheldt)	B	-	780	-
PZEM (Flushing)	N	-	450	-
RWE (Biblis)	G	-	1150	-

(1) not including fuel-oil superheating

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

(3) with 50% French (EDF) participation

	country	in service MWe	under const. MWe	planned MWe
2. <u>ADVANCED CONVERTERS</u>				
<u>Heavy water</u>				
MFZR (Karlsruhe)	G	50	-	-
KKN (Niederaichback)	G	-	100	-
EL 4 (Monts d'Arrée)	F	70	-	-
CIRENE (Latina)	I	-	-	32
<u>High temperature</u>				
HKG (Schmehausen)	G	-	-	300
AVR (Jülich)	G	13	-	-
KSH Coesthacht 2	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	-	233	-
SNR (Weisweiler) (4)	G	-	-	300
4. <u>TYPE NOT YET DETERMINED</u>				
Kernkraftwerk Neckar (Lauffen)	D	-	-	750
BASF (Ludwigshafen) (5)	D	-	-	1,200
ENEL 5 (...)	I	-	-	650
KBE-EVS+Badenwerk (Oberhausen)	D	-	-	800
Chem.Werke HULS + VEW (Marl)	D	-	-	600
Fessenheim 1	F	-	-	-
Fessenheim 2	F	-	-	-
KKW Schmehausen (VEW) (Westfalen)	D	-	-	600
GKM + Badenwerk (Kirschgarthausen)	D	-	-	700
Bayernwerke + Isarmerwerke	D	-	-	600
Grosskraftwerk Mannheim	D	-	-	700
TOTAL		3,090	6,719	7,982
Total January 1969		3,068	2,491	7,585
GRAND TOTAL			17,791	
Grand total January 1969			13,144	

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

(5) including 400 MWe for steam supply