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**** THE FIRST ORDER PLACED IN THE COMMUNITY FOR THE SUPPLY OF PLUTONIUM-CONTAINING FUEL TO A BIG NUCLEAR POWER PLANT has been placed by ENEL, the Italian electricity production company, with three Community firms - Alkem (Germany) and Belgonucléaire (Belgium), who will together manufacture the rods needed for the assembly of four elements for the Garigliano power plant near Naples, and Fabricazioni Nucleari (Italy), who will assemble these elements.**

ENEL's technical departments carried out the detailed design studies on this fuel under a Euratom research contract. The contract covered four years' work, the object being a cost evaluation and close study of the technical problems involved in the industrial use of plutonium in nuclear power plants equipped with light water reactors.

The four fuel elements which are the subject of the recent order contain, in addition to natural uranium, about 20 kg of plutonium, produced in the Latina nuclear power plant, situated about 100 km north of the Garigliano power plant. The fuel is scheduled to be loaded in the spring of 1970 and will complement the previous load of plutonium fuel, which came from outside the Community. Nearly 10% of the reactor/..

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2

power will then be generated by plutonium fuel elements and the GARIGLIANO POWER PLANT WILL BE THE FIRST INDUSTRIAL POWER PLANT IN THE WORLD WHERE A PLUTONIUM RECYCLING EXPERIMENT HAS BEEN CARRIED OUT ON SUCH A LARGE SCALE.

** At the moment when the Community's Council of Ministers is due, at the end of this month, to decide upon Euratom's multiannual research programme and budget, it is perhaps worth calling to mind the magnitude of the EXPENDITURE DEVOTED BY THE COMMUNITY TO CIVIL NUCLEAR RESEARCH and the PROPORTION OF THIS EXPENDITURE that goes to Euratom. Two tables to this effect, drawn up from the documents available, will be found IN ANNEX:

** FOR THE FIRST TIME IN EUROPE, scientists at the Joint Research Centre's Ispra establishment a few days ago successfully operated a direct energy CONVERTER, BASED ON THULIUM-170, giving a thermal power of 92.2 watts and an electric power of 4.14 watts. The fourteen thulium-filled tubes, which form the instrument's heat source, had been irradiated in the BR-2 reactor at Mol, Belgium. The success of this experiment provides further proof of the knowhow accumulated by European scientists in the field of isotope generators, which have a wide range of applications in space vehicles.

** THE SITUATION OF THE AERONAUTICAL AND SPACE INDUSTRIES IN EUROPE is the subject of a survey which the Commission of the European Communities has asked the Italian firm SORIS (Studi Economici Ricerche di Mercato) to carry out. In respect of each of the Community countries and of the United Kingdom,/..

3

SORIS has examined research and development activity in aeronautics and space (structures, financing, etc.), industrial activity (structures, degree of concentration, location, capital investment, output, etc.), the market (civil, military and export) and the coordinating bodies. The survey will conclude with a review of the problems governing the future of Europe's aeronautics and space industries - market prospects, adaptation required in order to meet them, and so forth.

** 312 HEADS OF INDUSTRIAL FIRMS in Community countries have received important DOCUMENTARY INFORMATION ON ON THE OPPORTUNITIES OFFERED by the Joint Research Centre's establishments in the way of contract work.

This was stated by the Commission of the European Communities in reply to a question by Mr. Oele, Dutch Member of the European Parliament.

This approach by the Commission led to an exchange of views with the firms interested, and discussions are still in progress, particularly as regards price rates for the work the Joint Research Centre might be asked to undertake.

The Ispra establishment is attracting most of the interest, because of its size and its multipurpose nature. Nonetheless, the Karlsruhe establishment finds that the contacts it established recently with various research bodies and industries are being confirmed, whilst the Geel establishment (Central Bureau for Nuclear Measurements) has been asked by a National Research Centre to conduct an important experiment and the Petten establishment has found customers who want it to carry out irradiations for the purpose of manufacturing radioelements.

** Five new TECHNICAL NOTES, each summarizing a result obtained under Euratom research programmes, have been issued by the Commission of the European Communities. The purpose of these texts is to enable industrial firms to assess the prospects for industrial exploitation of the results described. The subjects of these new technical notes are as follows:

1. Programmer for automation of chemical and radiochemical separations (N 41/C)
2. Smoke detector (N 42/C)
3. Reactivity computer (N 43/C)
4. Pneumatic exchanger for gamma spectrometry (N 45/C)
5. A simplified method of determining the BET surface (N 46/C)

** The proposals of the Commission of the European Communities on the EURATOM RESEARCH PROGRAMME (see "Research and Technology" No. 15), particularly as regards the DEVELOPMENT OF ADVANCED REACTORS, are being discussed with the various industrial milieux concerned - utilities (the European Community Committee of the International Union of Electricity Producers and Distributors (UNIPED) met in Brussels on 22 September), power plant and component constructors (the Special Committee for Nuclear Problems of the Union of Industries of the European Community (UNICE) will meet on 2-3 October), and so forth.

Furthermore, following on the deliberations of the Community's Council of Ministers held on 30 June 1969 (see "Research and Technology" No. 21), the Commission proposes to arrange before the end of the year the first of the projected ELECTRICITY PRODUCERS' meetings, at/..

5

which viewpoints, intentions and technical experiences will be periodically compared with a view to the implementing of a Community INDUSTRIAL POLICY in the nuclear sector.

- ** The Consultative Committee of the High Authority for Coal and Steel (ECSC) has approved the proposals of the Commission of the European Communities regarding the FINANCING OF A RESEARCH PROGRAMME IN THE SECTORS OF COAL (4.8 million dollars), STEEL (3.07 million dollars) and INDUSTRIAL SAFETY (317,000 dollars).

- ** Physicists of the Community countries will meet on 3 October 1969 at the Joint Research Centre's Ispra establishment for technical discussions on the SORA PULSE REACTOR (SORgente RAPida = fast source) which the Commission of the European Communities proposes to build to facilitate research in Europe on condensed state physics. The meeting will provide an opportunity to examine the practical procedures for collaboration, which the Commission hopes will be as broad as possible, in defining and carrying out the research programme that will probably develop around the reactor.

- ** A round-table meeting on PYROLYSIS AND THE THERMAL IMPROVEMENT OF COAL, organized by the Commission of the European Communities, will be held in Paris on 21 November 1969 and is to be attended by experts, chemists and physicists from member countries of the Community.

6

** The SCIENTIFIC REPORTS recently published by the Commission of the European Communities include the following titles:

- EUR 4246 d/f/i/n - Résultats des mesures de la radioactivité ambiante dans les pays de la Communauté en 1967 - Air - retombées - eaux
- EUR 4272 f - Niveaux de contamination radioactive du milieu ambiant et de la chaîne alimentaire - Rapport annuel 1967
- EUR 4386 e - Progress Report of the Euratom Working Group on Reactor Dosimetry for the period July 1965 - June 1968

7

Public expenditure
by Member States of the Community on nuclear research
(in millions of dollars)

	<u>1967</u>	<u>1968</u>	<u>1969</u>
GERMANY			
National expenditure	138.2	156.2	158.5
International expenditure			
Euratom	34.0	22.5	18.0
Other	16.5	19.2	25.8
Total	188.7	197.9	202.3
BELGIUM			
National expenditure	7.8	8.2	12.6
International expenditure			
Euratom	11.2	7.4	5.2
Other	2.2	2.5	2.8
Total	21.2	18.1	20.6
FRANCE			
National expenditure (civil)	395.0	416.8	416.8
International expenditure			
Euratom	34.0	22.5	11.1
Other	11.7	13.8	16.6
Total	440.7	453.1	444.5
ITALY			
National expenditure	49.6	52.0	52.0
International expenditure			
Euratom	26.1	17.2	13.6
Other	6.8	7.4	9.4
Total	82.5	76.6	75.0
LUXEMBOURG			
National expenditure	?	0.4	?
International expenditure			
Euratom	0.2	0.1	0.1
Other	?	0.005	?
Total	?	0.5	?
NETHERLANDS (not including fundamental physics)			
National expenditure	20.2	24.6	29.3
International expenditure			
Euratom	7.8	5.2	4.8
Other	0.3	0.6	0.6
Total	28.3	30.4	34.7

Member States' contributions to Euratom
expressed as a percentage of their total public expenditure
on civil nuclear research

	<u>1967</u>	<u>1968</u>	<u>1969</u>
Germany (Bund)	18.0	11.4	8.9
Belgium	52.8	40.9	25.2
France (civil budget)	7.7	5.0	2.5
Italy	31.6	22.5	18.1
Luxembourg	100.0	20.0	100.0
Netherlands	27.6	17.1	13.8
Total	14.9	9.6	6.8
