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** As a result of the decision taken by the Council of Ministers of the Community on 6 December 1969 to continue into 1970 the Euratom nuclear research programme which had been scheduled for 1969 (see "Research and Technology" No. 36), the Commission of the European Communities recently forwarded to the Council a PROPOSED RESEARCH PROGRAMME and a preliminary draft RESEARCH AND INVESTMENT BUDGET FOR THE YEAR 1970.

These proposals involve a personnel of 2515 (which, having regard to the transfer of a number of employees to the Communities' general operating budget, is equivalent to maintaining the existing personnel) and a budget of 57,613,400 u.a., of which 48,830,000 u.a. would be used for the implementation of the various aims of the programme in accordance with a breakdown which is found in an ANNEX to the present document.

** The problems affecting the ORGANIZATION OF RESEARCH AND DEVELOPMENT in the European Community are at present among the major preoccupations of the Commission of the European Communities. The decision to launch a series of studies on subcontracting (see "Research and Technology" No. 37) has therefore recently been followed by the initiation

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of a study on research organization and planning in a number of Benelux enterprises. These studies relate to the anticipated trend on the domestic markets of the various Community countries. Anxious, however, to progress further, the Commission has also undertaken two studies on RELATIONS BETWEEN THE R & D EFFORT AND THE PATTERN OF EXTERNAL TRADE, the first stage being devoted to the situation in Germany and France.

** Since IMPORTS OF HYDROCARBONS into the Community, and also investment projects relating to the production, transport, storage and distribution of hydrocarbons or electrical energy, are of Community-wide concern, they should henceforth BE NOTIFIED TO THE COMMISSION OF THE EUROPEAN COMMUNITIES in accordance with the provision of the two proposed regulations which the Commission has recently forwarded to the Council of Ministers. This is in compliance with the first guidelines for a Community energy policy, which were recently approved by the Council at the Commission's request.

** Four 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. Temperature measurement in a high temperature reactor (N. 66)
2. Electro-mechanical instrument for measuring the liquid level in containers (N. 280/315)
3. Method for making deep grooves on thin metallic or non-metallic parts (N. 335)

4. Instrument for measuring the angular coefficient of any point of a curve (N. 360/635)

** A meeting of the Euratom Scientific and Technical Committee (STC), which consists of experts, appointed in a personal capacity, from the Community member countries, has been called by the Commission of the European Communities for 27 January 1970 in order to discuss the orientation of nuclear research in the Community and the restructuring of the Joint Research Centre.

** In an effort to increase the knowledge required for compiling estimates to be used in drawing up target nuclear programmes, the Commission of the European Communities has asked the Italian company of Montecatini Edison to carry out an investigation into the OPERATING CONDITIONS IN MULTIPURPOSE NUCLEAR PLANTS. The applications of nuclear energy must extend beyond electricity production if it is to be fully integrated into the Community industrial context, and more especially into the chemical and steel sectors, which can derive the maximum benefit from the steam generated, as this can also be used for the desalination of sea water. The first phase of the study will comprise the examination of some typical zones, and in particular their steam or water requirements for the near future. A subsequent phase could be devoted to determining the optimum operating conditions for multipurpose plants in the various cases, in the light of fluctuating demand and due account being taken of water storage facilities.

** The Commission of the European Communities has made the following arrangements for experts from the Community member countries to meet as consultative

committees on nuclear programme management:

- 30 January - plutonium and transplutonium elements;
- 4 February - heavy-water reactors;
- 5 February - condensed state physics;
- 10 February - fast reactors;
- 11 February - high-temperature reactors;
- 13 February - high-flux reactors.

** The most accurate knowledge possible of the present situation as regards the European Community's ENERGY SUPPLY, and of any risks of its being interrupted, is one of the basic data for ensuring its dependability. In order to be in a better position to keep these matters constantly under review in collaboration with experts from the Member States, the Commission of the European Communities has asked the Battelle Institute, Milan, to develop a model incorporating the principal relevant data which will make it possible, after computer programming, to study the effects of the various hypotheses regarding disruption of supplies.

** In order to satisfy its electricity requirements in 1985, the European Community should by that date have an installed power of 320-350 GWe (thousands of millions of watts). This assessment emerged from work conducted when the second target programme was drawn up. Of this total, nuclear power plants should, through the development of nuclear techniques, account for approximately 100 GWe. Needless to say, the achievement of such a level raises problems as regards siting, cooling and energy distribution. With this in mind, the Commission of the European Communities has asked the Technische Hochschule, Aachen, to investigate whether the creation of GROUPS OF NUCLEAR POWER PLANTS would enable energy

costs to be reduced through the concentration of such plants on a few sites. The study is also intended to bring out the various strategies to be applied in the lay-out of a network of nuclear power plants, with due regard to the cost of transporting energy to the various consumption zones and the problems inherent in cooling.

** Along what lines will the GAS INDUSTRY DEVELOP in the European Community, now that substantial quantities of natural gas have been discovered? The Commission of the European Communities has instructed the German company Friedrich Ebert Stiftung to carry out a pilot study on the EXPANSION OF NATURAL GAS in Germany and its repercussions. Germany affords an outstanding example of the structural changes taking place; whereas the coal-gas sector is no longer expanding, the rate of increase in natural gas is higher than the average for all other sources of energy. This trend has had several consequences, which will have to be dealt with in the study: Germany's transition from the role of independent producer to that of importer; modification of gas companies' structures; position of natural gas in relation to other energy sources, bearing in mind particularly the fact that it complies more closely than other energy sources with the regulations concerning air and water pollution, etc.

** In order to throw more light on the development potential of the USE OF RADIATIONS AND ISOTOPES IN INDUSTRY, the Commission of the European Communities has recently requested specialist bodies to conduct a number of studies. Three of these will be aimed at improving knowledge in sectors already familiar with the use of radioisotopes. The first will involve

an investigation of the influence of the content of oxygen traces on the technological characteristics of the various non-ferrous metals and the relevant economic implications; in the second, a catalogue of standardized blocks resulting from gammagraphic inspections of standard reinforced and prestressed concrete samples; the third will set out to clarify the present economic conditions and legal position as regards radiation sterilization of surgical equipment in the Community and in the major non-member countries. By contrast, the aim of the fourth study will be to assess the possibilities for the application of radiation and isotope techniques in a new sector, namely, CERAMICS. The results of this study, which is being carried out in response to an explicit request from the manufacturers concerned, should make it possible to pinpoint the most worth-while cases in which such techniques could be used, as well as the economic aspects inherent in their introduction.

** In reply to a written question from Mr Vredeling, a Dutch member of the European Parliament, concerning the order placed by the Dutch company Provinciale Zeeuwse Electriciteits Maatschappij (PZEM) with the GERMAN COMPANY Siemens for a nuclear power plant to be set up at Borssele, near Flushing, in the Netherlands, the Commission of the European Communities has stated that it is now conducting "a searching investigation into the compatibility of the subcontracting clause in the contract in question with the obligations arising out of the European Treaties". According to the date in the Commission's possession, this clause, which refers only to measures taken or prescribed by the public authorities, would not appear to be applicable in the case at issue.

Appropriations made by the Commission for the implementation
of the research and investment programme aims in 1970

	(millions of u.s.)
1. FAST REACTORS	1.56
2. HEAVY-WATER REACTORS	10.35
3. HIGH-TEMPERATURE GAS REACTORS	1.08
4. TECHNOLOGICAL PROBLEMS INHERENT IN REACTOR DEVELOPMENT	1.80
5. PLUTONIUM AND TRANSPLUTONIUM ELEMENTS	4.85
6. REACTOR PHYSICS	0.65
7. CONDENSED-STATE PHYSICS	2.30
8. RESEARCH ON NUCLEAR MATERIALS	2.65
9. DIRECT CONVERSION OF ENERGY	0.67
10. FUSION AND PLASMA PHYSICS	6.70
11. BIOLOGY AND HEALTH PHYSICS	3.94
12. CETIS-- INFORMATION SCIENCE	3.90
13. NUCLEAR MEASUREMENTS AND STANDARDS	3.45
14. OPERATION OF BR-2 REACTOR	0.57
15. OPERATION OF HFR REACTOR	3.80
16. TRAINING AND INSTRUCTION	0.56
TOTAL	<u>48.83</u>