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** Hans von der Groeben, a Member of the Commission of the European Communities, commented on 16 May at the German Constructors' Conference in Cologne on the Commission's proposal to REMOVE DISCRIMINATION AND PROFESSIONAL IMPEDIMENTS IN THE COMMUNITY AGAINST ENGINEERS AND TECHNICIANS WHO RECEIVED THEIR TRAINING in another Community country.

The Commission's proposals, which were forwarded to the Council of Ministers at the beginning of the month, comprise the following six points:

1. Abolition of all regulations in Member States which discriminate against engineers and technicians who have qualified in other Community countries.
2. Adjustment of the minimum requirements as regards nature and duration of training.
3. Uniform introduction of a "graduate engineer" course in the Member States.
4. Revision of the regulations reserving certain technical activities for specially trained engineers, in order to put national and foreign engineers on an equal footing.
5. Recognition of degrees and qualifications acquired in the home country outside that country's territory, with the authority to use the corresponding professional and academic titles in the host country also.
6. Possibility of ready transfer from one type of engineering training to another throughout the Community, the completed training being credited in full. With these proposals the Commission intends to extend freedom of employment to the independent technical professions,

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and to assure engineers, technicians and graduates of technical institutions in all Community countries equal chances in their professions.

** At the government conference on the INTRODUCTION OF A EUROPEAN PATENT SYSTEM on 21 May 1969 (see "Research and Technology" No. 16) an atmosphere of willing cooperation reigned among the delegations of the participating states. Dr. Härtel, the President of the German Patent Office, under whose chairmanship a Working Group of the Community countries produced the "Brussels Draft" and thereby carried out the groundwork for this conference, was also elected chairman of the conference. Subject to a few reservations on technical points of procedure, the Basic Memorandum, which is to serve as a guideline for future discussions, was approved by the delegations present. The conference will be followed by working sessions in Luxembourg devoted to detailed consultations aimed at defining the implementing decree for the agreement. The offer by the Council of Ministers of the European Communities to provide the Conference Secretariat from its organization was gratefully accepted by all delegations.

** A Committee of Permanent Representatives of the six Member-States met at the headquarters of the Commission of the European Communities on 14 May to conduct an initial examination of the PROPOSALS FOR EUROPEAN TECHNOLOGICAL COOPERATION submitted to the Council of Ministers by the Working Party on Scientific and Technical Research Policy (Aigrain Group). This committee is to continue its discussions so as to be able to make any useful recommendations to the Council when necessary.

The Aigrain Group met again on 13 May in order to draw up for the Council a document intended to complement the report submitted at the beginning of April 1969.

** During the period 18-20 November 1969 the Commission of the European Communities held its SECOND INFORMATION CONFERENCE IN THE FIELD OF PRESTRESSED CONCRETE REACTOR VESSELS AND THEIR THERMAL INSULATION.

The conference is a sequel to that held in November 1967, at which about 250 specialists from Community countries discussed the latest developments in the field. At this year's conference delegates from non-Member States will also report on present developments in their own countries, so that a still greater number of participants is expected. In addition, it is intended to discuss the latest results of the Euratom research programme concerning prestressed concrete vessels, thermal insulation problems, the development work carried out and also the practical experience acquired by the main firms and organizations which are active in this field.

** In accordance with Article 37 of the Euratom Treaty, the responsible Italian authorities have requested the Commission to appoint a group of experts to examine the safety precautions for the elimination of radioactive waste in the EUREX FUEL PROCESSING PLANT AT SALUGGIA, ITALY, and to grant the necessary licences. At a recent meeting of the group of experts, all the Eurex safety measures were examined and found to be adequate. In the Annex to today's "Research and Technology" a short survey is given of the Euratom-backed Eurex project.

** Ten new TECHNICAL NOTES containing a short description of the patents granted in the course of the Euratom research programmes have recently been published by the Commission. These Notes are intended to enable industrial concerns to assess the benefit of industrial exploitation of the patents described. A list of the subjects covered by these Technical Notes is given below:

1. Electrolytic deposition of metals
2. Structural materials for nuclear reactors
3. Equipment for producing single crystals from high-melting sublimating materials

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4. Burn-out detector
5. Electromechanical generator for producing frequency-modulated pulse trains
6. Method of smelting uranium carbide
7. Rheoelectrical transducer
8. A device for detecting the position of the contact surface between fuel pellets piles in a can
9. Pneumatically driven precision oscillator for the periodic displacement of absorbent elements inside a reactor core
10. High-precision transfer function analyzer

ANNEX

THE EUREX PROGRAMME

The Eurex project carried out by CNEN, the Italian nuclear energy authority, was originally conceived as a commercial plant for the aqueous reprocessing of high-enriched uranium-aluminium fuel elements (MTR elements). As an alternative to proven processes it entailed the use of long-chain tertiary amines as extractants in all stages. Its lesser affinity for uranium as compared with tributyl phosphate (TBP) was offset by the high aluminium nitrate content in the feed solutions of the MTR elements, which because of the salting-out effect greatly increases the solubility of the uranium in the organic phase.

The advantage of the amines as compared with TBP was expected to lie in higher separation factors for uranium and the fission products, since the most important decay products inevitably formed as a result of the radiolysis of the extractant are either structurally similar to the starting product (secondary and primary amines) or else are preferentially absorbed by the aqueous phase (carboxylic acids). In comparison with TBP, this self-purification effect of the amines leads to a slower accumulation of decomposition products, which have a specific extraction capacity for the undesired fission products. The Eurex plant was therefore designed from the outset for only two extraction cycles for uranium purification. The national reprocessing requirements arising from the foreseeable increase in energy production from nuclear power plants in Italy made it necessary to have a flexible and sufficiently large test installation for study purposes. This resulted in a revision of the design of the Eurex plant, which seemes suitable for such tasks without major modifications. The new programme is made up of the following four main sections:

1) Processing of MTR elements with amines in order to test their technical applicability.

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2) Processing of fuel elements from the existing Italian nuclear power plants with TBP, firstly to test the installation and secondly to test a flowsheet which will work with degrees of saturation of the organic phase of uranium not yet technically achieved. Only in this way is it possible to reach the requisite decontamination factors in a commercially viable number of operations with high burn-up elements. The associated danger of high plutonium losses, this element being vigorously expelled from the organic phase at high uranium saturation values, will be dealt with in the third stage.

3) Testing of mixed extractants, primarily mixtures of amines and TBP, which are to complement one another in their properties, i.e., the high affinity of the former for plutonium and of the latter for uranium, so as to guarantee an adequate plutonium extraction despite high solvent saturation.

4) Gaining of experience in the operation of a headend cutting machine for fuel elements. In addition to the study of new techniques the Eurex plant inevitably yields a large amount of useful spin-off. For example, it has given Italian industry the opportunity to gain experience for the construction of such plants and to demonstrate their efficiency. In as much as matters lay in its hands, industry managed to adhere to the timescale for the completion of the plant. Commissioning is scheduled for September of this year. The operation of the plant will lead to the formation of a highly specialized working team, which should later be in a position to run larger plants. A problem inextricably connected with reprocessing is the elimination of the radioactive waste, which at first is generally stored in liquid form in large tanks.

Under the Eurex programme the CNEN now plans to build a test plant for the solidification of highly active wastes in addition to the Eurex plant in Saluggia. Like the Eurex plant it will serve to provide experience in the treatment of genuine irradiated material which will help with large

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technical projects planned for a later date.

The Euratom's link with the Eurex project dates from the end of 1964, when an agreement was concluded with the CNEN under which the Commission undertook to provide financial backing, in return for which it was granted the right to use the experience and results on the Community's behalf and to post interested persons from the Community to the plant on a temporary basis. It is to be hoped that this opportunity will not be ignored in circles interested in reprocessing.