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- ** ROAD SAFETY AND THE REDUCTION OF POLLUTANTS FROM ROAD VEHICLES have already formed the object of several directives adopted by the Council of Ministers on a proposal by the Commission of the European Communities and they continue to engage the Commission's attention (see "Industry, Research and Technology" Nos. 106, 109 and 110). This was recalled by the Commission in its reply to a written question from Mr Schwörer, a member of the European Parliament, concerning European legislation dealing with road safety and protection of the environment. Extensive extracts from the Commission's reply can be found in Annex 1.
- ** THE COMMISSION'S NUCLEAR INDUSTRY has steadily expanded in recent years. It is now independent of the nuclear industries of non-member countries in the fields of fuel preparation, fuel element fabrication and the reprocessing of depleted fuel. For the moment, however, it is dependent on non-member countries for the procurement of natural uranium and for uranium enrichment. The structural details of the Community's nuclear industry were recently featured in a note summarized in Annex 2, from the European Communities' Statistics Office.

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The information and articles published in this Bulletin concern European scientific cooperation and industrial development in Europe. Hence they are not simply confined to reports on the decisions or views of the Commission of the European Communities, but cover the whole field of questions discussed in the different circles concerned.

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** COMMUNITY IMPORTS FROM THE UNITED STATES rose from \$6,300 million in 1968 to \$7,300 million in 1969 and \$9,038 million in 1970. The growth of 21% in American exports to the Community in 1970 was distinctly higher than that of exports to the European Free Trade Area (EFTA) (11%) and the rest of the world (12%).

COMMUNITY EXPORTS TO THE UNITED STATES have likewise increased, rising from \$5,700 million in 1968 to \$5,900 million in 1969, reaching \$6,570 million in 1970.

Direct American investment in the Community moved from \$1,900 million in 1968 to \$10,200 million in 1969 and is estimated at \$13,000 million for 1970. It follows that numerous American products formerly exported from the United States are now being manufactured in Europe. In 1968 sales by American companies based within the Community amounted to \$14,000 million, i.e., 2.5 times the total value of American exports to the Community. In 1970 American firms transferred to the United States almost \$1,000 million in profits on their direct investments in the Community.

On the other hand, direct investment in the US by Community companies has always been relatively low-pitched, running at only one-third of US investment in the Common Market. The level reached in 1960 was \$1,500 million and in 1969 \$3,300 million.

In view of the structure of Community exports to the US 80% of EEC exports will be affected by the 10% surcharge on imports imposed by the United States. The sectors especially hit include the automobile, chemical, textile, machine-tool, steel, footwear and food industries.

Exports to the United States from certain important
sectors within the Community (millions of dollars)

Glass	100
Beverages	170
Footwear	300
Chemicals	380
Textiles	400
Steel	620
Machine-tools	1200
Motor vehicles	1200

** The current difficulties affecting the PAPER INDUSTRY are affecting both the various EEC countries and non-member states. They are due to the combined effects of a fall in demand and the current restructuring of the industry, stemming above all from technological progress and the growing intensity of competition on the world market. This is the main substance of a reply by the Commission of the European Communities to a written question from Mr Vredeling, a Dutch member of the European Parliament. In this connection the Commission drew attention to the possibility of dealing with all of the problems relating to the paper industry within the scope of the Industrial Policy Committee, the creation of which it has just proposed to the Community's Council of Ministers.

** In reply to a written question from Mr Cousté, a French member of the European Parliament, on the subject of the surveys carried out by the Commission of the European Communities on COLLECTIVE BARGAINING AGREEMENTS ON AN INDUSTRY-TO-INDUSTRY BASIS AT A EUROPEAN LEVEL, the Commission stated that it has asked a professor specializing in this subject to conduct a survey of the

possibilities of concluding collective bargaining agreements at a European level. Completion of the survey - compiled in collaboration with experts from the Member States - is envisaged for the end of this year and the Commission will then take a decision on the use to which it will be put. The Commission also pointed out that it has recently submitted proposals to the Council of Ministers with a view to creating a file of European collective bargaining agreements.

** 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 the industrial exploitation of the results described. The subjects of these new technical notes are as follows:

No. 23/c Single-channel discriminator
No. 24/c Scaler unit
No. 25/c Scaler
No. 26/c Printer drive unit
No. 1105 Device for taking alpha or beta and
 gamma autoradiographs

** The Commission of the European Communities plans to conduct an inquiry into the structure and breakdown of WAGES AND SALARIES IN INDUSTRY. This will cover every industrial activity including power, water, building and civil engineering and will enable statistical relationships to be plotted between a given wage and the individual characteristics of the employee concerned (sex, professional qualifications, age, seniority within the company, etc.)

The Commission of the European Communities is also to sponsor a survey of EMPLOYERS' OUTLAY ON WAGES AND EXTRA BENEFITS in industry in 1972.

- ** Various improvements have been made at the Joint Research Centre's Petten establishment to the 16mm industrial camera with a view to its use in various fields of SCIENTIFIC CINEMATOGRAPHY. A demonstration, including the projection of scientific films made with the aid of this new system, has been organized by the Commission of the European Communities and will take place in Luxembourg on 28 September 1971.

- ** The Euratom Supply Agency recently signed three TOLL ENRICHMENT contracts with the US Atomic Energy Commission on behalf of the Société belgo-française d'énergie nucléaire mosane (SEMO) (15,800 kg of U²³⁵ to be delivered between 1973 and 1995), the Kernkraftwerk Philippsburg GmbH (KKP) (17,500 kg of U²³⁵ to be delivered between 1972 and 1970) and the Vereinigte Elektrizitätswerke Westfalen AG (VEW) (1100 kg of U²³⁵ for delivery between 1971 and 1979).

- ** Two volumes dealing with the work of the intergovernmental conference on the creation of a EUROPEAN PATENTS OFFICE have recently been published in English, French and German by the Publications Office of the European Communities. Volume 1 consists of the second draft of an agreement for the setting-up of a European system for granting patents (amending and supplementing the first draft, published in 1970), the first draft agreement governing the implementation and the initial draft agreement on taxes. Volume 2 contains reports setting out the outcome of the conference's work and commenting on the basic elements discussed in Volume 1. (It will be recalled that a rundown of the work of the intergovernmental conference on European patents was given in "Industry, Research and Technology" No. 105.)

ANNEX 1 p.1Moves Towards European Legislation on Road Safety and
the Protection of the Environment

(extracts from a reply by the Commission of the European Communities to a written question from Mr Schwörer, Member of the European Parliament)

The Commission of the European Communities is following with attention all of the studies and research concerning the raising of motor vehicle safety levels, particularly the "safety car", and will not fail to put the results to good use. In addition, some of the nine directives in the motor-vehicle field which have already been adopted by the Council of Ministers under the general programme for the elimination of technical barriers to trade deal particularly with safety, a fundamental issue which will continually be borne in mind during the preparation of the other draft directives on motor vehicle construction.

The emission of noise pollution forms the subject of the Council directive dated 6 February 1970. This will come into force within the Member States by October 1971 at the latest. Measures to counteract pollution of the air by the exhaust gases from spark ignition engines formed the object of the Council directive dated 20 March 1970, one part of which came into force on 1 October 1970, while the other will do so on 1 October 1971.

While proposing concrete measures aimed at reducing the levels of noise pollution and the harmful effects of motor vehicle emissions, the Commission considers that these measures only constitute one aspect among many in the battle against air pollution and that these problems must

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must inevitably be examined in their entirety. This is why it recently decided to prepare a programme of studies dealing with the environment.

As regards research into road accidents, the Commission has taken the first steps with a view to forming a new working party within the Transport Statistics Coordinating Committee, to be responsible for compiling detailed statistical tables based on road accident figures published by the various countries.

Additionally, in response to a request for the European Parliaments' Transport Committee, a note containing guidelines covering a Community project aimed at raising road safety standards has been drawn up. This note draws upon current experience with regard to the causes and circumstances relating to accidents and demonstrates the necessity, irrespective of the implementation of the initial phases of a certain number of top-priority projects, for pooling the experience acquired by Member States under a joint programme of scientific research into the causes of accidents. The successful completion of a programme of this type will permit the planning and execution of other projects dealing with road safety regulations at a Community level.

ANNEX 2 p.1The Community's Nuclear Industry

structural features

(based on a note from the European Communities'
Statistics Office)

Since 1961, the date on which the first enriched uranium reactor in the Community produced electrical power, the nuclear industry of the Six has continued to expand. It is now independent of the non-member states' nuclear industries as regards fuel preparation, fuel element fabrication and the reprocessing of depleted fuel. For the moment production capacity would even appear to exceed demand. However, the Community is still dependent for the time being, on non-member states for the supply of natural and enriched uranium.

1. Community production of uranium ores is concentrated in France. Large deposits of about 35,000 tons, providing reasonably dependable reserves at a cost of less than \$10/16 U_3O_8 , are worked mainly in three mining centres under the aegis of the CEA. France also operates and is still prospecting in non-member states. The activity in the other Community countries - chiefly Germany and Italy - is currently directed towards surveys of national territory and, above all, participation in non-member states.

2. Five concentration plants are currently operating in the Community - four in France and one in Germany. The annual production capacity of the Community in uranium concentrates is about 2,200 tons.

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3. The refining plants and uranium hexafluoride production facilities are concentrated in France, where, since 1970, the activities in this sector have been handled by COMURHEX (a company for the conversion of uranium into metal and hexafluoride). Mention should also be made of the Olen refinery in Belgium, which is inoperative for the moment, the pilot plant run by the Société de fluoration de l'uranium (SFU) and the Italian project for the construction of a pilot plant (AGIP Nucleare and Montecatini Edison).

4. Fuel preparation and fabrication of fuel elements

(a) Natural uranium fuel elements

Eight power plants fuelled on natural uranium are currently in service in the Community, six in France, one in Italy and one in Germany. A further two French plants using natural uranium will shortly be connected to the grid.

The fuel elements for French consumption are made by CERCA at Romans sur Isère and by SICN at Annecy and Veurey. The capacity of these three plants totals 21000 tons of uranium a year.

The Italian reactor at Latina is supplied with fuel elements by the UKAEA and partly by the Combustibili Nucleare SpA fabrication facility at Policoro, Matera, while the fuel elements for the German reactor are made by Nukem or imported from Sweden.

ANNEX 2 p.3(b) Enriched-uranium fuel elements

Community capacity for the conversion of low-enriched hexafluoride into the dioxide is of the order of 540 tons of UO_2 a year, being made up of Reaktorbrennelemente GmbH (RGB) in Germany, Usines Chimiques de Pierrelatte (UCP) in France and Metallurgie et Mécanique Nucléaire SA (MMN) in Belgium.

The fabrication of enriched-uranium fuel elements for light water reactors is carried out by Reaktorbrennelemente GmbH (RGB), consisting of Siemens and Nuken, at Wolfgant/Hanan and by Kernreaktorteile GmbH (KRT), comprising AEG and GE, at Grosswelzheim.

In France, the Compagnie Industrielle des Combustibles Atomiques Frittés (CICAF) at Bollène produces sintered pellets and sends them to the Compagnie pour l'Etude et la Réalisation des Combustibles Atomiques (CERCA) at Romans sur Isère who, after cladding the fissile material, also assemble the fuel elements.

Activity in this sector in Italy has been fairly modest to date, being limited to the two plants at Saluggia (COREN and LFCEC). At the end of April 1971, however, a new plant - Fabbricazioni Nucleari SpA - began to take shape at Busalla, near Genoa. This factory will supply the first core for the fourth ENEL power plant under construction at Caorso.

The Métallurgie et Mécanique Nucléaire SA (MMN) plant at Dessel, in Belgium, which has a current capacity of 80 tons of uranium a year, plans to increase output to 200 tons in order to supply the fuel elements for the reactors now being built at Doel and Tihange and also to provide the replacement charges for the Chooz power plant.

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As regards the fabrication of the high-enriched uranium fuel elements intended for the high-temperature reactors, Nukem is currently equipped to produce 30,000 spherical elements a year. By the end of 1972 this figure must be increased to 1,000 elements a day, i.e., 250,000 a year.

The fabrication of the laminated plates for fuel elements for research and experimental reactors is carried out by Nuken in Germany, Cerca in France, LFCEC in Italy and AMN in Belgium. The Community's annual production capacity is 80,000 plates.

(c) Plutonium fuel elements

The plutonium fuel element manufacturers are setting great store by the development of plutonium recycling in light water reactors (BWR and PWR), in the near future.

In Germany, for instance, Alkem have installed two production lines in their new plant under construction at Wolfgang/Hanan: one completely automated, with a capacity of 40 tons of mixed oxides a year for the fabrication of fuel elements for recycling, and the other non-automated, with an annual capacity of 10 tons, for the fabrication of breeder fuel elements. Commissioning is planned for the end of 1972. The Alkem pilot station, currently situated at Leopoldshafen, will cease its activities in mid-1972, when the work will be transferred to Wolfgang/hanan.

In France the fuel elements for the Phénix reactor, the critical mass for which will be 735 kg of Pu²³⁹ equivalent, are being made at Cadarache.

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Construction of the "Plutonium Workshop" at Bessel and its planned entry into service by the end of 1972 will provide Belgium with considerable capacity in the field of plutonium - containing fuel element production (30 tons of mixed oxides a year as regards the elements to be recycled and 3.5 tons of mixed oxides a year for fast reactor elements). Belgo-Nucléaire are now engaged on the semi-industrial fabrication of plutonium fuel elements. The capacity of the pilot production line is 100 kg of plutonium a year, corresponding to an average of 30,000 pins.