JPRS L/9259

19 August 1980

Worldwide Report

NUCLEAR DEVELOPMENT AND PROLIFERATION

(FOUO 9/80)

FBIS FOREIGN BROADCAST INFORMATION SERVICE

APPROVED FOR RELEASE: 2007/02/08: CIA-RDP82-00850R000300020031-2

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

For further information on report content call (703) 351-2811.

APPROVED FOR RELEASE: 2007/02/08: CIA-RDP82-00850R000300020031-2

JPRS L/9259

19 August 1980

WORLDWIDE REPORT

NUCLEAR DEVELOPMENT AND PROLIFERATION

(FOUO 9/80)

CONTENTS

WORLDWIDE AFFAIRS

NONALIGNED COUNTRIES MEET ON NUCLEAR ENERGY USE

PA070453 Havana PRELA in Spanish 1615 GMT 6 Jul 80

[Article by Aram Ruben Aharonian]

[Text] The first meeting of the nonaligned country coordinators for the peaceful use of nuclear energy proposed the demanding of strict compliance with the clauses of the nuclear energy for peaceful purposes treaty and the end of the nuclear weapons race.

The meeting was held in Buenos Aires from 30 June to 4 July with the participation of coordinating countries Algeria, Argentina, Cuba, Egypt, Gabon, Indonesia, Iraq, Nigeria, Pakistan, Libya and Yugoslavia. India, Peru and the DPRK, which are movement members also participated, as did Brazil, the Philippines and Uruguay as observers and Romania as a guest.

The meeting was inaugurated by Cuban representative Miguel Alfonsin, president of the coordinating bureau of the nonaligned countries, and the president of the Argentine Atomic Organization, Vice-Admiral Carlos Castro Madero, who was elected to preside over the meeting.

The final document of the meeting adopted a policy line in the nuclear field. This document deals with problems emerging from bilateral relations and the detrimental effects of the conditions imposed by the "London Club," which includes the countries with highly developed nuclear technology.

It adds that they discussed cooperation and international exchange in the fields of the peaceful uses of nuclear energy, especially those derived from unilateral decisions as well as retroactive ones, the imposition of the right of "previous consent" or undue restrictions on technological transfer.

In considering various matters related to the activities of the UN International Energy Organization [EIO], the nonaligned countries concluded that an adequate balance must be attained between promotional activities and the regulation and control of the organizations. They also said that the election of the EIO directive board must not be limited to a few countries, but that it should be as democratic as possible, and proposed a regional distribution of the directive posts and secretariats.

They said that the organization's programs must keep in mind the needs of developing countries in the field of generation of nuclear energy, the development of the uranium cycle and other states of the fuel cycle. They added that distortions in the interpretation of the statutes are unacceptable, especially regarding the application of control requirements.

Regarding the basic goal of the meeting, after having heard and analyzed the various proposals of the delegations, several specific areas for cooperation were defined in the nuclear field between nonaligned countries and members of the developing group of 77 countries. According to the approved resolutions, cooperation can be ascertained by investigation, development, mining exploration and exploitation of radioisotopes and sources of radiation, radiological protection and nuclear security, nuclear-electric generation and activities in the fuel cycle.

The possible mechanisms used to attain this cooperation between nonaligned countries will be explored. The study and cooperation between nonaligned countries was analyzed from bilateral or multilateral cooperation to support projects, including the possible organization of centers with multilateral sponsorship for the development of technology and other fields.

The meeting also studied various matters relating to the attitude of nonaligned countries at international organizations and congresses. It then expressed severe criticism of the restrictions established by the great countries supplying equipment and technology. Specifically, it dealt with problems related to the second conference for the Revision of the Nonproliferation of Nuclear Weapons Treaty and proposed the demanding of the strict compliance with the clauses of the treaty guaranteeing the development of nuclear energy for peaceful purposes.

It also demanded the immediate halt of the nuclear arms race and noted that the technological assistance and promotion included in its text has not been, and is not being, implemented. It said that the treaty is used to hamper the transfer of nuclear materials, equipment and technology, and not for the promotion of the peaceful uses of nuclear energy. It also noted that the nonaligned countries must insist on the understanding that the excess of plutonion deposited at the EIO should be returned, as soon as the owner country so demands it, with requirements that will not go beyond establishing safeguards. This observation was included in the notes of the conference but did not appear in the final draft.

The study by this first nonaligned countries coordinators in the peaceful use of nuclear energy also included proposals to be made by the movement regarding the dates and proposals of the International Conference for the Promotion of International Cooperation in the Peaceful Uses of Nuclear Energy scheduled for 1983.

The conclusions will be presented to the nonaligned country bureau in Havana and should be considered during the next meeting of the movement's foreign ministers, scheduled for January in New Delhi, India.

CSO: 5100

ARGENTINA

LATIN AMERICAN NUCLEAR POLICY HARDENS

Buenos Aires LA OPINION in Spanish 5 Jul 80 p 13

[Article by Estela Araujo: "An Atomic Policy for Latin America"]

[Text] The recent statements by National Atomic Energy Commission Chairman VAdm Carlos Castro Madero reveal him in his capacity as negotiator. Castro Madero, an expert in nuclear physics and one of the most skilfull officials in the service of Argentina, throughout his successful term of office in charge of this agency proved that it is not only necessary to have technical knowledge but that one must also have a political and geopolitical vision which is something that sometimes escapes observers.

In his opening address to the Congress of Specialists of Nonalined Nations --meeting during the first week in July, prior to the next Conference on the Development of International Cooperation in the Specific Uses of Nuclear Energy of the United Nations--Castro Madero said:

(a) "The IAEA has been used as a restrictive agency to benefit certain political and economic interests."

(b) "The intentions of the Club of London to protect the economic interests of the suppliers in the nuclear field--arguing that they want to prevent proliferation--almost completely paralyzed international trade in this field."

(c) "The Nuclear Nonproliferation Law proved to be an obstacle in the way of harmony and understanding in the international nuclear field."

(d) "We must act in a coordinated manner in all international forums in which we can make our voice heard."

The policy of the National Atomic Energy Commission has been one of the few coherent and long-range national government policies which remained beyond discussion. Perhaps, its real fruits cannot yet be seen or perhaps an indirect strategy, such as the one developed by Castro Madero, may not reach the desired objective, but one cannot doubt that, without saying anything new, without modifying prior positions, without cementing

them, relations with the nonalined countries indicate the possibilities of leadership which Argentina has in this field.

The Argentine position in atomic matters has not been easy since it had to cope with the obstacles imposed by the Nuclear NPT which granted privileges to countries that already had atomic explosives when that treaty was signed (1967). Initially, the treaty was signed by the United States, the USSR, and Great Britain and China and France did not wish to sign even though they were able to do so.

From this point of departure, the developing countries were left outside the field of nuclear technology. Argentina nevertheless managed to build its Atucha I power plant, to have the Embalse Power Plant under construction, to achieve the signing of the Atucha II Accords, which it is hoped will be operational by 1987, as well as the heavy water plant which is the next to the last step in nuclear autonomy.

The final step perhaps was the agreement signed with Brazil in May. Brazil has the possibility of completing the fuel cycle through the treaty with Germany.

The holding of the Congress of Nonalined Countries in Buenos Aires will enable Argentina to continue to create contacts and connections in the nuclear field. The Tlatelolco Nuclear Nonproliferation Treaty, on which Argentina started conversations regarding ratification, does not have the discriminatory character of the NPT since it establishes "the unavoidable necessity for the Latin American countries to avail themselves of their right to the maximum extent and to have more equitable access to this source of energy in order to speed up the economic and social development of their peoples."

The agreements with Brazil eliminate the argument to the effect that nuclear energy could be used for purposes other than peaceful ones due to rivalries among those two peoples.

The area cooperation and assistance treaties within Latin America with Bolivia, Peru, Venezuela, and Uruguay outline the broad range of Argentina's efforts in collaborating in this field in the development of Latin America as well as its advanced situation in the nuclear field.

The homogeneous proposal being introduced in the United Nations will demonstrate the independent character with which nuclear policy has been gradually forged and will perhaps help in underscoring the need for a more flexible approach to Carter's policy in atomic matters.

What is not wasted on hydroelectric energy or atomic energy will be wasted on petroleum. Thus, in belonging to the same group of countries, if Argentina were to concentrate its development on petroleum, the overall availability of the latter declines. Atomic energy is the nearest

substitute for petroleum in terms of time not only for the United States but for all countries within its sphere influence, be they Canada, Germany, or Argentina.

5058
CSO:5100

NIGER

URANIUM INCOME CONSTITUTES ONE THIRD OF NATIONAL BUDGET

Paris JEUNE AFRIQUE in French 18 Jun 80 p 26

[Article by S.K.: "Manna"]

[Text] Uranium, which was discovered by the French Atomic Energy Commission [AEC] in 1966, has been exploited since 1971, both for 75 years [as published] by the Air Mining Company (SOMAIR) and since 1978 by the Akouta Mining Company (COMINAK).

The Nigerian government, through the Nigerian National Office of Mineral Resources (ONAREM), holds 33 percent of the shares of SOMAIR and 31 percent of the shares of COMINAK. The remainder are held chiefly by COGEMA [General Nuclear Materials Company] (a branch of the AEC) and German, Italian, Spanish and Japanese companies. A third company, the Tassa N'taghalgue Mining Company (SMTT), founded in 1979 (50 percent ONAREM, 50 percent COGEMA), in 1983 is to begin open-cast exploitation of a mine whose reserves are assessed at 30,000 tons. But the most important deposit was discovered south of Arlit in Imouraren: 70,000 tons. Exploitation should begin there in 1985. Other studies are in progress in the region and investments committed since 1960 to mining company exploration has already been estimated at 18,000,000,000 CFA francs.

In 1979 Niger (the sixth largest producer in the world) extracted from its subsoil 3,590 tons of uranium and exported 3,500 tons that were sold by the exploiting companies to the shareholding countries: France, Japan, Italy, Spain and the Federal Republic of Germany. At the same time ONAREM was selling its share of the production in Great Britain, Pakistan, the Netherlands and Libya.

In 1990 Niger should produce 10,000 tons, which would assure it first place in Africa and fourth place in the world. Since 1977 uranium revenues--sales, taxes on profits, customs duty, license fees--have nearly tripled. In 1979 they increased from 8,000,000,000 to 21,000,000,000 CFA francs, which today represents a third of the national budget.

8946
CSO: 5100

NIGER

BRIEFS

SOMAIR'S 1979 URANIUM PRODUCTION--The 1979 report of the Mokta Company indicates that its Nigerian subsidiary (7.6 percent), Air Mining Company (SOMAIR), produced 1,775 tons of uranium in 1979, as against 1,710 tons in 1978. Sales amounted to 1,640 tons, as against 1,850 tons the year before, because of a slowdown in removal. This delay, combined with an increase in various kinds of expenses, caused the company's results to be lower than in 1978. However, SOMAIR's funds in 1979 enabled it to distribute a dividend of 7,300,000,000 CFA francs, as against 6,523,000,000 the year before. [Text] [Paris MARCHES TROPICAUX ET MEDITERRANEENS in French 13 Jun 80 p 1505] 8946

CSO: 5100

INTERNATIONAL AFFAIRS

PROCEEDINGS OF 19TH FORATOM GENERAL ASSEMBLY IN HELSINKI

Rome ATOMO E INDUSTRIA in English 15 Jun 80 p 12

[Text]

On 16 May the 19th General Assembly of the European Atomic Forum (Foratom) was held at Helsinki, under the presidency of the outgoing President Uolevi A. Luoto, Delegate of ETY, the Finnish Association for Energy Economy which represents Finland within Foratom. The Assembly proceeded to renew the office bearers for 1980-1981, electing as the new President Don Alfonso Alvarez Miranda, President of the Forum Atomico Español, as First Vice President Prof. Piero Caldirola, President of the Forum Italiano dell'Energia Nucleare, and as Second Vice President Dr. Willy Urech, President of the Association Suisse pour l'Energie Atomique (ASPEA).

Born in Cuba in 1915, the President Alvarez Miranda graduated in mining engineering at Madrid University in 1943 and occupied various positions in the mining and metallurgical industry, until in 1970 he was entrusted with overall responsibility for the Spanish industry in the sector, directing the merger of Spain's two major steel companies and becoming President of the resulting national company Ensidesa. In 1975 he was appointed Minister for Industry and in 1976 President of the Consultative Council to the Ministry of Industry and Energy. Since 1977 he has been President of the Spanish Forum.

Following upon the decisions of the Assembly, the office-bearers of the European Forum are as shown in the table we publish at page 3. The financial accounts of 1979 and the 1980 budget were also approved.

The Assembly listened to the activities report for 1979, which dwelled mainly on the VII Foratom Congress at Hamburg, opened by the Chancellor of Federal Germany Helmut Schmidt, on various publications edited by the European Forum and on other events, such as the press conference held in the month of September on the occasion of a meeting in Vienna. The report recalled the work of the two Working Groups, the one on Public Acceptance and the one on Quality Assurance, the Foratom Award given in Hamburg to Sir John Hill, Chairman of UKAEA and of BNFL, and the success obtained with the conference that took place at Zurich in October 1979, organized by the Swiss Association and sponsored by Foratom on the subject of fast reactors.

There took part in the meeting of the Assembly and in those of the Steering Committee and the Executive Committee which preceded and followed it, the representatives of the 14 Forums gathered in Foratom and, for FIEN, Prof. Caldirola himself, with the member of the Board of Directors and Secretary General, Avv. Pietro Bullo.

The Steering Committee had on the agenda examination of a report on the steps undertaken in the individual countries to improve further the safety aspects of plants, as a result of the TMI accident. The report pointed out, among other things, how the structure of the European electric industry is considerably different from the American one owing to the presence of national agencies

In countries such as France, the United Kingdom and Italy, while there are differences also in safety procedures. Furthermore, in Europe there is generally a higher degree of duplication of the safety systems in reactor designing. Thus on the German side, for example, a complete separation between operation and safety systems, a higher degree of automation and a different geometric array of NSSS, were pointed out. An important lesson that came from TMI regards the qualification of operators of nuclear power stations, even if European electric concerns have always required from their own operators a higher level of training. Thus, for example, in Italy Enel, though considering the level of qualification of its operators adequate, has taken steps to intensify updating periods with particular regard to training on a simulator for emergency situations. Finally, there is in progress in all the countries a revision of emergency measures and the preparation of better procedures to supply rapidly the mass media and local authorities with the necessary information.

The Steering Committee then dealt with the next NUCLEX exhibition, which will be held in Basel from 6 to 9 October 1981 and examined the program of the meeting with the Energy and Research Committee of the European Parliament, fixed in Brussels on 2 June.

Dr. Peter Feuz then illustrated some aspects of the VIII Foratom Congress which will be held, organized by the Swiss Association, from 20 to 24 June 1982 at Lausanne, in the Palais de Beaulieu. The European Forum will soon begin preparation of this event.

The Secretary General of Foratom, Mr. James T. Corner, then presented a new 48-page publication entitled: « *Nuclear Power in Western Europe: A Directory of Press Contacts* », which is a guide for the press on the nuclear activities of the various countries represented in Foratom. For every country, it gives, together with the site of plants, a description of the national program and a list of the main organizations engaged in these programs, with a mention of the sphere of activity and the names of persons to whom journalists can apply to obtain information.

Finally, the Secretary General of the Swedish Forum, Mr. Sten Sandström, presented a report on the results of the recent nuclear referendum, in which the program of 12 reactors was approved by three electors out of five.

Th Foratom meetings ended with a vote of thanks to the outgoing President Luoto, who then presided over a press conference in the course of which representatives of the European Forum replied to the questions of Finnish journalists.

On 17 May an interesting visit was carried out to the two 440 MWe units, of the Novo-Voronezh type, of the Lovilsa power station, some hundred kilometres from Helsinki. The Foratom delegates were received by executives of the State electricity company Imatram Voima Oy (IVO), who also referred to the recent decision to build on the same site a third 1,000 MWe unit, from 1983.

CSO: 5100

INTERNATIONAL AFFAIRS

LIST OF FORATOM GOVERNING BODIES, OFFICIALS FOR 1980

Rome ATOMO E INDUSTRIA in English 15 Jun 80 p 3

[Text]

FORUM ATOMIQUE EUROPEEN (Foratom)
Cariche sociali per il 1980 - Governing Bodies 1980

PRESIDENTE - PRESIDENT

— D. Alfonso ALVAREZ MIRANDA - Presidente, Forum Atómico Español

VICE PRESIDENTI - VICE-PRESIDENTS

— Prof. Piero CALDIROLA - Presidente, Forum Italiano dell'Energia Nucleare (FIEN)

— Dr. Willy URECH - Presidente, Association Suisse pour l'Energie Atomique (ASPEA)

COMITATO DI DIREZIONE - STEERING COMMITTEE

— D. Alfonso ALVAREZ MIRANDA - Presidente, Forum Atómico Español (FAE)
— Lord William BENTINCK - Presidente, British Nuclear Forum (BNF)
— Prof. Piero CALDIROLA - Presidente, Forum Italiano dell'Energia Nucleare (FIEN)
— Dr. Olle GIMSTEDT - Presidente, Swedish Atomic Forum (SAFO)
— Dipl. Ing. Peter JELINEK-FINK - Consigliere, Deutsches Atomforum (DAtF)
— M. Jean-Paul HOFFMANN - Presidente, Association Luxembourgeoise pour l'Utilisation Pacifique de l'Energie Atomique (ALUPA)
— Ing. Kurt KIRCHNER - Presidente, Oesterreichisches Atomforum
— M. Walter LORIDAN - Presidente, Forum Nucléaire Belge (FNB)
— Mr. Uolevi A. LUOTO - Delegato, ETY (Filandia)
— Mr. W. W. NIJS - Presidente, Nederlands Atoomforum
— Dr. Gunnar RANDERS - Presidente, Norsk Atomforum
— Mr. Jean Marie RENOU - Presidente, Forum Atomique Français (FAE)
— Dr. Willy URECH - Presidente, Association Suisse pour l'Energie Atomique (ASPEA)
— Ing. G. WAAGEPETERSEN - Direttore, DANATOM

CSO: 5100

INTERNATIONAL AFFAIRS

FORATOM-EUROPEAN PARLIAMENT ENERGY, RESEARCH COMMITTEE MEETING

Rome ATOMO E INDUSTRIA in English 15 Jun 80 pp 11, 12

[Text]

The European Atomic Forum (Foratom) invited on 2 June, as announced (Ael, 1 May 1980) the Committee on Energy and Research of the European Parliament to a meeting based on some informative presentations on subjects of topical interest in the nuclear field. The event, which met with considerable success also as regards participants, took place in the Westminster Suite of the Royal Windsor Hotel, equipped for simultaneous translation.

Twenty-five European Members of Parliament attended the meeting, with the President of the Committee, Hon. Hanna Walz, and the three Vice Presidents, Hon. Felice Ippolito, Hon. Michael Gallagher and Hon. Tom Normanton. On the Italian side the Member of the Commission, Hon. Protogene Veronesi, was also present. The Secretary of the Committee, Dr. Giorgio Ferrara, participated too. Among the high officials of the Commission of European Communities, there were the Director General for Energy, Mr. Leonard Williams, with the Director of the Nuclear Energy Directorate, Dr. Michael Davis, the Chef de Cabinet of the Commissioner for Energy and Research Guido Brunner, Jürgen Kühn, and the Head of the Appropriations Division for Research and Industrial, technological and energy Development at the General Budgets Directorate, Ernst Wolfgang Schaefer.

The meeting was presided over by Don Alfonso Alvarez Miranda, President of the European Forum and of the Forum Atomico Español, accompanied by the First Vice President, Prof. Piero Caldirola, President of the Italian Nuclear Energy Forum. FIEN was also represented by the member of the Board of Directors and Secretary General, Avv. Pietro Bullio. There were numerous representatives of the various national Forums, including: Lord William Bentinck, President of the British Nuclear Forum, with the Director Mr. James T. Corner, Secretary General of Foratom; M. Jean Marie Renou, President of the Forum Atomique Français, with the Secretary General, M. Jacques Geussens; the Ambassador Walter Loridan, President of the Forum Nucléaire Belge; Mr. G. Waagepetersen, Director of Danatom; Dr. Robert W.R. Dee, Secretary General of the Nederlands Atoomforum; Dr. Thomas Roser, Director of the Deutsches Atomforum; Don Pablo Sela Hoffmann, Director of the Spanish Forum; and Mrs. Claire Mascall, Assistant at the Secretariat of the British Nuclear Forum.

The meeting opened with a short address of greeting by the Chairman Miranda. The first of the speakers designated by Foratom then took the floor, Dr. Hermann Krämer, Member of the Board of Directors of Nordwestdeutsche Kraftwerke AG of Hamburg, who spoke on the subject: « *Operating Experience on Nuclear Plants with special reference to Safety Aspects* ». The presentation highlighted the contribution made to the production of electricity in the European Community by the nuclear reactors of the three types adopted in the various countries (Graphite-gas, PWR and BWR), dwelling upon their

reliability and on the characteristics of their operation. Finally, it illustrated the multiple safety systems which guarantee the regular functioning of the power stations and the measures that are taken to control the plants in the case of a break-down.

The second report was presented by the Deputy Managing Director of British Nuclear Fuels Limited, Dr. Donald Avery, who dealt with the subject: « *The Reprocessing of Nuclear Fuel* ». The speaker explained how reprocessing is an essential step for the completion of the nuclear fuel cycle, the technology of which is proven and which permits re-use of a precious energy source. It also permits the separation of highly radioactive wastes, of limited quantity, from the great bulk of relatively innocuous material. The speaker noted that the wastes are not the product of reprocessing, he spoke of solidification and vitrification and then illustrated the various options being studied for the ultimate disposal of these wastes. He mentioned the importance of using plutonium in fast reactors and concluded with a reminder how the INFCE study showed that the risks of proliferation of nuclear weapons can be avoided by an adequate system of international controls. If, on the contrary, plutonium is renounced, in the present situation of energy shortage, all that is done is to aggravate the situation, creating new and more potential for conflict.

The third speaker was M. Jean F. Petit, Coordinator of Fast Reactors at the Commissaria tà l'Energie Atomique, who dealt with the subject: « *A Fast Reactor Strategy for Europe based on the French Experience* ». After mentioning the reasons that make it necessary to use nuclear reactors to meet energy requirements, he listed the economic justifications leading to the adoption of fast reactors in nuclear power programs, described the technical characteristics and the safety aspects of these reactors and concluded by recalling the stages of fast reactor development in France and in other countries. Among other things, the paper gave the latest data on comparative kWh costs in France: in cents of French Francs, the kWh from fuel oil has gone up from 13.3 in 1977 to 22.5 in 1980 while a cost of 33-36 cents is foreseen for 1985; for coal, the cost goes up from 11.6 in 1977 to 19.5 in 1980, arriving at 29 in 1985; for the thermal nuclear kWh the cost is 9.7 for 1977, 13.3 for 1980 and a reduction of 12 is foreseen for 1985. From 1984 the cost of production of Super-Phénix-1 is foreseen as 23 cents/kWh, with a reduction from 1990 to 17 for Super-Phénix-2, of 1500 MWe.

The three papers were followed by numerous questions from the Members of Parliament, who asked for clarifications on what had been set forth and introduced new subjects, such as that of the acceptance of the power stations by the public in the various countries. At te end of an ample and useful discussion, Hon. Hanna Walz thanked the speakers and exponents of the European Forum for giving the Energy and Reserach Committee of the European Parliament a technical and documented account of the points of view of those engaged in the sector on various aspects that are unquestionably important for the development of nuclear energy in Europe.

CSO: 5100

FRANCE

CONTROLS ON THERMONUCLEAR FUSION RESEARCH DISCUSSED

Paris LA RECHERCHE in French Jun 80 p 6

[Text] The JOURNAL OFFICIEL of 6 April 1980 published a decree (No 80-247) instituting control over research in the area of thermonuclear fusion by inertial confinement. The military fallout of work on this fusion process is evident. No one disputes the need for state control over the use which can be made of the devices developed in laboratories which can go into the manufacture of nuclear arms. The need for governments to take necessary measures to assure protection of the secrecy of work which they undertake toward national defense ends may also be admitted. But the decree of 3 April 1980 goes much farther. It says (Article 2) "Any natural or legal person preparing to undertake or to have undertaken studies and research in the area of thermonuclear fusion by inertial confinement must so state to the General Secretariat of National Defense." The penal code on which the decree is based prohibits citizens from making injurious use of information at their disposal, and thus of the results [in italics] of their research (injurious use can mean publication here). Article 74, in particular, considers it a crime to collect documents and processes which can hurt the national defense, but only if the intent to harm is evident. The law does not forbid citizens to undertake entrepreneurial activities. This is thus clearly an attack on freedom of research. It is also the first time that control has been instituted at the individual level.

The prime minister's decree could be considered as an abuse of power. It seems, however, that it may be a case of clumsy wording rather than of a will to extend the practices of control without ... control of the citizens [as printed]. The decree, countersigned by the minister of defense, the minister of industry and the minister for universities, acts as a command to the services and laboratories under the direct supervision of these ministers (and most of the laboratories which are interested in fusion are covered). It applies as well to private organizations which work under contract for these ministerial departments; the latter have the obligation of putting the necessary protective clauses into contracts. The decree specifies moreover: "Studies and research benefiting in a direct or indirect way from public assistance or financing cannot be undertaken except after receipt of an authorization by the prime minister." But one thing leads to another ...

5586
CSO: 5100

FRANCE

SUPER-SARA PROJECT TO BE FINANCED BY EEC

Paris LA RECHERCHE in French Jun 80 pp 649-650

[Text] One could say, Better late than never. While several 900-megawatt PWR [pressurized-water reactor] power plants are already operating in Europe, the EEC finally decided at the end of March to finance the Super-Sara project. Some 20 experiments will thus be carried out on the ESSOR [expansion not known] reactor at Ispra in Italy, to test the behavior of the fuel in a light-water power plant of PWR type with various scenarios for loss of cooling liquid. It was only after much negotiation that this project was adopted by the various members of the community. A principal opponent: France, which has planned on similar experiments at Cadarache. But "on a scale half that of Ispra," as T. Doyle, responsible official for the ESSOR reactor, likes to stress; for him the effect of size is a determining factor for core fusion accidents. Finally, there was bargaining between the two chief adversaries: France accepted the safety project and, for its part, Italy accepted the European fusion project which it had refused up to then. The tests will take place between 1983 and 1986; at that time, if the French energy program is actually carried out, there will be no less than 15 power plants of this type operating in France.

5586
CSO: 5100

ITALY

SUPER-PHENIX SODIUM-COOLED FAST BREEDER REACTOR PROGRAM

Rome ATOMO E INDUSTRIA in English 15 Jun 80 p 11

[Text]

The fourth issue of the review « *Super-Phénix News* », which has recently been published, is entirely dedicated to the Italian contribution to the construction of the Creys-Malville 1.200 MWe breeder. We are reporting here the most significant passages of the the publication, which make it possible to have a complete picture of the participation of Italian industry in the project.

The review published by Novatome stresses in the first place the fact that Italian interest in nuclear energy is dictated by necessity, considering the energy situation of this country and the national production of fossil fuels. It is easy to understand, therefore, also the interes in breeder reactors which, in connection with the Super-Phenix project, has three main purposes: the production of electricity, acquisition of basic know-how and the transfer of technological knowledge to the national industry.

As is known, although the design of the reactor and of its main components of the Creys-Malville plant is almost entirely French, the enterprise is directed by a mixed company of European utilities grouped in NERSA (EDF 51%, Enel 33% and SBK 16%; SBK is composed of the German RWE, the Belgian SYNATOM, the Dutch SEP and the CEGB of Great Britain) and is carried out by the French Novatome and NIRA (Finmeccanica 57.5%, AGIP Nucleare 17.5%, Franco Tosi 10%, Fiat TTG 10%, Belleli 5%).

Enel's decision to take part in the industrial construction of sodium cooled fast breeder reactors goes back to 1970, when the Super-Phenix project and SNR-2, the power station to be constructed in Federal Germany immediately after the Creys-Malville one, were planned with Electricité de France (EDF) and the German RWE.

In both cases Enel takes a direct part in alla the phases of the projects, and has a 33% shareholding.

As regards, on the other hand, Franco-Italian collaboration in the field of fast reactors, it begins with the PEC (Fuel Elements Testing) reactor, which CNEN is constructiong (by means of NIRA) with the collaboration of CEA and of Novatome itself. Two important agreements permit the complete exchange of basic system know-how, the first one between CNEN and CEA, and the second one, which concerns the transfer of French expertise to Italian constructors of NSSS for fast breeders. These agreements have found a vast field of application with the Super-Phénix project. At the Casaccia Centre and at CNEN's Brasimone one, for exmple, the first Italian test rigs have been set up. In many ways they complete the French experimental installations set up by CEA and EDF.

These forms of collaboration extend, of course, beyond the specific Super-Phénix project, with the transfer of Italian know-how, particularly as regards fuel and steam generators, to French industry. A

50 MWth straight tube steam generator, designed bq NIRA on behalf of CNEN, is to be tested at the EDF test centre at Les Renardières.

Finally, there are numerous agreements between the various Italian industries and the main French ones for direct exchange of technological know-how.

As we mentioned, the construction of Super-Phénix is entrusted pointly to NIRA and Novatome, to which NERSA has awarded the contract for turn-key supply of the reactor of the plant. From a strictly technical point of view, an integrated structure has been set up, with some thirty engineers of NIRA working, at alla levels of responsibility, with the Novatome team. The decisions are taken by a Management Committee composed of representatives of the two Companies and placed under Novatome chairmanship.

Equipment and services supplied by Italian companies for the construstion of the reactor of the Super-Phénix power station represent about one third of the total supplies. NIRA is the leader and holder of the contracts granted by Novatome-NIRA, and carries out the projects directly on the basis of studies made in France by the integrated Novatome-NIRA team. Actual fabrication is subcontracted to other Italian companies, which work from specifications drawn up by NIRA. Furthermore for the supply of material that is the obpect of an agreement with a French manufacturer, the project and studies are carried out by joint teams or teams in which representatives of both countries take part, in order to integrate their respective experience as well as possible.

For the reactor block the italian Company involved is Breda. Fiat works for the control rod mechanisms, CMI for fuel manitenance, Breda and Franco Tosi for the heat transfer systems and Fiat, ogain, for sodium pumps.

Italian participation in the Super-Phénix project is not limited to the reactor alone, but concerns also the fuel. AGIP Nucleare is now charged with the fabrication of one third of the fertile subassemblies.

The civil works are entrusted to the Fougerolle-Fred Holzmann - Condotte d'Acqua Group.

The publication of Novatome concludes with words of praise for the highly specialized manufacturing competence acquired by Italian industry and its competitiveness.

CSO: 5100

ITALY

NUCLEAR RESEARCH AGREEMENT SIGNED WITH PRC

Rome ATOMO E INDUSTRIYA in English 15 Jun 80 p 12

[Text]

A bilateral collaboration agreement in the peaceful uses of nuclear energy between the Comitato Nazionale per l'Energia Nucleare (CNEN) and the Ministry of Mechanical Industry No. 2 of the People's Republic of China, was concluded in Rome on 19 May.

It was signed by the Minister of Mechanical Industry Liu Wei, the head of the Chinese delegation on a visit to Italy, and the President of CNEN, Professor Umberto Colombo.

At the same time the first Program of application of the agreement for the years 1980 and 1981 was signed. It makes provision for exchanges of researchers and experts in the fields of research and nuclear applications.

In the course of its visit, which started on 7 May, the Delegation of the People's Republic of China visited some research centres of CNEN in Italy and plants of the main Italian nuclear industries.

CSO: 5100

ITALY

CAORSO NUCLEAR POWERPLANT GUARANTEE TESTS COMPLETED

Rome ATOMO E INDUSTRIA in English 15 Jun 80 p 12

[Text]

The guarantee test and the operation test at the highest capacity authorized were completed at the nuclear power station at Caorso on 5 May (for these tests, see Aei, May 1, 1980).

These tests complete the cycle started with the pre-operational tests, which, simulating operation conditions, were aimed at checking the correspondence of the components and individual systems with the project requisites, and taing the correct operation of in- the combined tests aimed at ascerterdependent systems and, in a word, the fitness of the plant for fuel loading.

The fuel loading, at the end of 1977, started the nuclear tests, that is, the real and proper start-up tests aimed at controlling the operation of the plant at gradually increasing capacity levels.

At ther conclusion the guarantee test was carried out. It had the purpose of proving that the power station and its elements are able to supply the net continuous electric capacity of 840 MWe with an efficiency equal to 0.3243.

This test was completed on 29 April and lasted for 100 hours; during this period forty characteristic functional parameters were noted with great care, and in 3 successive phases. Opportunely combined, they made it possible to calculate the efficiency, which turned out to be 0.3282 at the average continuous capacity of 848.86 MWe, and so 1.2% higher than the one guaranteed.

Immediately afterwards a further test of continuous operation was carried out for 100 hours, at the maximum thermal capacity for which the plant was licensed. This was the test completed on 5 May.

The net capacity reached was 875 MWe in the grid, thus 35 MWe higher than the contractual nominal value, while the gross capacity was over 890 MWe.

CSO: 5100

END