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"THE CHALLENGE OF NUCLEAR POWER IN EUROPE"

*By Mr. Hellwig -
read by Mr. Michaelis*

FINAL
VERSION

Mr. Chairman, Ladies and Gentlemen:

It is a great honor and pleasure for me to address you, on this closing day of your impressive Conference, on behalf of the Commission of the European Communities and to convey to you their best greetings. The Vice-President of the Commission, Dr. Hellwig, delivered a few words of salutation to you on Sunday, expressing his regrets that he was unable to speak today as originally intended. He, therefore, asked me to present to you the following address in his name.

I

The achievements of the United States' nuclear industry as reported here have left, I am sure, a lasting impression on all non-American participants. The results obtained stem from a happy combination of research ingenuity, dynamic industrial management and a far-sighted commercial set-up. While for the U.S. this situation may be the occasion to look back with satisfaction on what has been accomplished and to advance further along the same road, for us in Europe these achievements prompt a critical analysis of our position. Your success is a challenge to Europe, and Europe accepts this challenge.

In my address, I shall outline the causes of the leeway which marks the development of nuclear energy in Europe and describe the new lines of action for the realization of the main objectives of the Euratom Treaty, i.e., to develop a powerful nuclear industry and at the same time to establish fruitful cooperative arrangements with other countries.

II

(1) The European Community is dependent at present on imports for 56% of their fuel supplies. This figure represents a doubling of imports over the past ten years and is still on the upgrade. This is where our position differs from that of the United States; you are to a large extent self-sufficient as regards energy supplies. Furthermore, our electricity producers have more economic incentive to switch to nuclear power as the conventional energy costs are relatively higher in Europe.

Our concern to assure our energy supplies is therefore well justified. During the first 10 years of the Community the development of nuclear energy can be regarded as satisfactory. The Community had a good start and the Euratom-U.S. Joint Reactor Program launched in 1958 contributed considerably to this first rush of nuclear orders. The trend now reflects a certain slow-down and we may ask why the electricity producers are holding off like this. The causes are many and varied:

(a) Community energy policy has been confronted with the handicap of a high-cost coal mining industry. The cutting-back of coal production raises problems of economic, social and regional policy. Governmental action aimed at solving these problems has not exactly increased electricity producers' interest in nuclear power plants.

(b) In the field of electricity supply, we still have a long way to go to create a real common market. The size of nuclear power stations is often limited for various reasons; and so far, not a single nuclear power plant has been sold by one Community Member State to another.

(c) The very structure of the electricity production industry differs from country to country in the Community. In two Member States (France and Italy) the means of production are nationalized, while in other Member States they are in the hands of private, public or mixed type enterprises.

(d) Another factor hampering development consists in the operational risks involved in any new technology, which in the present case are to a certain extent inhibiting the electricity producers from venturing into the nuclear field at this stage.

(e) Thus the actual plans for the construction of nuclear power plants are limited. By 1980 about 40 - 60 000 MWe will be installed in the Community, as compared with the impressive figure of 120 - 170 000 MWe in this country. Whether this gap will narrow in the future is difficult to predict but I would not rule out such a development.

(2) The problem of fuel supply is of particular importance for the nuclear development in the Community.

(a) Our limited reserves of natural uranium representing only about 7.5% of the free world's reserves explain the persistent support given by public authorities to the efforts of our industry to prospect in non-member countries and to participate in the exploitation of their resources. This is also done in order to obtain a diversification of external supply resources.

(b) The need to ensure adequate supplies of enriched uranium poses political as well as economic problems. The Community users would like to improve the supply conditions required by the U.S. Atomic Energy Commission which is actually the only supplier of enriched uranium for power reactors. They,

therefore, favor, for example, the dropping of regulations making exports dependent upon special licences, as well as placing on a status of complete equality price and supply conditions with consumers in the U.S.A. and the possibility to stockpile and re-export. The Commission of the European Communities appreciates that the Government of the United States is re-examining the existing regulations to this effect. On the other hand, as at least part of the enrichment capacity of this country might be taken over by private industry, the Community on behalf of its consumers is led to request that the U.S. Atomic Energy Commission guarantee the fulfilment of commitments already undertaken and ensure a non-discriminatory supply also in the future.

(c) In the light of all these considerations a significant achievement would be the setting up of a plant in Europe for the production of enriched uranium. The preliminary work for a decision to build such a plant is now in progress. However, all the technical and economic options are at present still open. The only thing that is certain is that the Member States and the Commission want to arrive at a decision in the foreseeable future.

At this juncture I should like to make two remarks concerning the NPT which has been mentioned so often during these days and of which we all welcome the objectives to prevent nuclear wars and to ensure the peace of the world.

(1) Concerning the peaceful uses of nuclear energy, the final text of the NPT incorporates a number of improvements especially with regard to the supply of fissionable materials, the exchange of know-how and the possible use of nuclear explosives for peaceful purposes.

(2) My second observation is to the effect that the Commission responsible for the application of the Euratom Treaty has to care for the compatibility

of the NPT with the terms of the Euratom Treaty. This mainly applies to the uncertainty which still persists concerning the procedures by which guarantees laid down in Article III of the NPT shall be implemented. As regards the final determination of these procedures, the NPT limits itself to referring to agreements which have yet to be concluded with the Vienna agency.

In the case of Euratom it is obvious that in these procedures due account will be taken of the rights and obligations established by the Treaties of Rome. As there seems to be no incompatibility between the aims of the NPT and those of Euratom, the Commission had no objection for the Member States to sign the Treaty but had to insist that a satisfactory safeguards agreement in application of the NPT be concluded with the I.A.E.A. before its ratification. So far three of the Member States (the Benelux countries) have signed the Treaty, and at the same time stated that they do not intend to ratify it until conclusion of a safeguards agreement between the Commission and the Vienna agency which takes due account of the provisions of the Euratom Treaty.

III

Returning to the situation of nuclear energy in the European countries, I would like to stress that the present installed nuclear capacity of the Community corresponds fairly closely to that of the United States: about 2 300 MWe in each instance. But, as I have said, the nuclear future of this country is brighter than it is in Europe: the total capacity of the nuclear plants under construction, on order or definitively planned in the U.S. is estimated at about 70 000 MWe. In the Community, on the other hand, the comparable total is only 6 500 MWe --less than 10% of your impressive volume of contracts.

(1) One factor contributing to this lag is the structure of the reactor manufacturing and supply industry. In the Community at present more than ten enterprises or groups of enterprises compete for nuclear power plant contracts whereas here are only four or five. Our concern is now to restructure the nuclear industry within the Community in order to become competitive with the industry in other countries.

(2) Our persistent efforts to achieve greater concentration in the reactor construction industry are hampered by the difficulties in the way of industrial cooperation across frontiers. Here the medium-term economic policy of the European Communities is to provide assistance : the setting up of a system of European company law, Community legislation on patents and licences, fiscal harmonization, an easing of the policies concerning mergers, the setting up of a European capital market and improved dissemination of information through documentation and information centers. Altogether a comprehensive program which has to be implemented. The American industry has up to now understood better than the others the benefits which can be drawn from the existence of a common market. An incentive to European management, but a headache for European politicians !

(3) A third reason why Europe lags behind is the fragmentation of technological development. At the present time there are still more than ten reactor systems being developed in our countries, including four heavy-water-moderated reactors, two high-temperature systems and two breeders.

Drastic pruning is needed here but it meets with opposition, because there are too many authorities with powers of decision. Furthermore, cooperation among three partners called upon to work together -- government, industry and utilities -- is organized differently from one country to another. In selecting reactor systems the last word lies in one big country with the government, in another with the industry, and in a third with the utilities. Further, political aspects can influence the choice of reactor types. For all these reasons the fact is gaining slow but irrevocable recognition, that the national context is too narrow for such decisions and that reactor strategies need to be drawn up in a Community-wide context.

IV

The new pluriannual research program proposed by the Commission is intended above all to lead to this process of concentration. To that extent it differs from the U.S. nuclear energy demonstration program of the early sixties, but otherwise has much in common with it.

The Commission of the European Communities proposes, as before, to develop step by step three generations of reactors, each designed to complete each other. The three are : firstly, proven-type reactors; secondly, advanced converters, i.e., heavy-water-moderated reactors and high-temperature gas-cooled reactors, and, as the last generation, fast breeders. In contrast to the Atomic Energy Commission we are interested in heavy-water-moderated reactors. They can operate with natural uranium and offer adequate development and marketing prospects. Considerable research and industrial efforts have been put into their development in the Community.

We wish our Ispra research center with its ESSOR test reactor to become a forum for the coordination of research and development in this field. Concerning the high-temperature gas-cooled reactors in the Community, the Commission proposes to carry out as quickly as possible all the activities still needed to bring this technique to a complete maturity and stimulate the development of the direct cycle system with gas turbines.

In the next five years over a thousand million dollars are to be spent on breeder development in our six countries. Under its new draft program the Commission proposes to group together basic research and component development work using the existing and planned test reactors, to coordinate the two or three groups developing prototype projects for 250 MWe sodium breeders or other major equipment, and to ensure that a second-generation sodium-cooled breeder prototype of 600 - 1 000 MWe is built as a joint undertaking by the Community industries.

Thus an important task for the European Atomic Energy Community consists in rationally combining and organizing the available technological and industrial resources to develop these three reactor generations. Admittedly, this is a hard task in view of the present fragmentation and the powers of decision hitherto reserved by the different State authorities.

Now let me say some words in conclusion.

The endeavors of the European Communities to achieve intensified technological cooperation inside their frontiers and beyond them are aimed at the setting-up of a powerful and less fragmented industry. The nuclear industry has been mentioned here as an example. This development should also be welcomed by the U.S. industries. Insufficiently productive industries demand protection, and what is more, they regularly get it. Increased production capacity in the European nuclear industry should therefore be of interest to the American nuclear industry, even if as a result an initial dependence on licensing agreements of European firms gradually develops into a partnership on equal terms. These reflections are borne out by hard commercial facts. The external trade volume of the European Communities is twice that of the United States. The Community, more than almost any other trading partner of the United States, has good reason to foster its foreign trade relations. After Canada, moreover, the Community is the United States' most important foreign trade partner. If it is an accepted fact that the main bulk of world trade is limited to the highly industrialized areas, this implies that cooperation in technologically advanced fields is a pace-making factor governing the world trade of tomorrow.

* Not in
general sense:

We must mean nuclear prod.

Is that possible?