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16. Sep, 1977

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762.1(13) - CF/pr Washington, September 16, 1977

Dear Ambassador Smith:

Having just returned this week from Switzerland, I have been informed by Minister Hohl and my Scientific Counselor, Dr. Favre, of discussions which took place at your Office on September 13, 1977. I would like to thank you for the valuable time you devoted to them and the interest you showed in the particular problems of Switzerland concerning the management of nuclear fuel of U.S. origin for its nuclear power plants and research laboratories, and your readiness to accept a statement of our pending problems. Your comments on nuclear non-proliferation policy were also greatly appreciated.

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The Honorable
Gerald C. Smith
U.S. Special Representative
for Non-Proliferation Matters
U.S. Department of State
Washington, D.C. 20520

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As your time is very limited for dealing with a multiplicity of issues, I have directed Dr. Favre to prepare only a short note explaining our main concerns, which you will find attached. I myself, Minister Hohl and Dr. Favre are, of course, at your disposal should you or your services require any further information.

Sincerely yours,

(R. Probst)

Enclosure

As stated

bcc:-Monsieur l'Ambassadeur Bindschedler, Jurisconsulte DPF
- Direction politique DPF
- Secrétaire du Chef du DPF
- Service économique et financier, DPF
- Direction des organisations intern. DPF
- Office de l'économie énergétique
- Office de la science et de la recherche
- Division du Commerce
(comme annoncé dans notre 706)

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AIDE MEMOIRE FOR AMBASSADOR GERALD C. SMITH

Pending Swiss Problems Concerning Management of Nuclear Fuel of U.S. Origin

Reference is made to a conversation on September 13, 1977 at the Department of State among Ambassador Gerald C. Smith, Minister Hohl, Chargé d'affaires a.i. of Switzerland, and Dr. C. Favre, Swiss Scientific Counselor.

1. Research & Development on Advanced Nuclear Fuel and Availability of Special Nuclear Material

To insure a substantial and effective contribution of Switzerland to the INFCE evaluation, it is essential that its research teams, working on advanced nuclear projects, be able to continue their work. It is ultimately these groups that will be responsible for the Swiss technical contributions. Research teams of high scientific caliber can only be kept together if the prospect of an interesting and challenging program can be sustained. In the field of advanced nuclear fuel this means availability of highly enriched uranium and plutonium in research quantities (around ten kilograms). Uncertainties in this respect may lead to disbanding of research teams that will jeopardize the prospects of a Swiss contribution to INFCE. A U.S. assurance of

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availability of the necessary special nuclear material for R & D purposes would encourage the scientists to stay with the projects and contribute to INFCE studies. It will also enable our R & D laboratories to once again effectively plan future research.

2. Spent Fuel

Management of nuclear waste and disposal of spent fuel is the number one issue on the Swiss nuclear energy policy scene. The change in U.S. policies prevents our utilities from making decisions on the backend of the nuclear fuel cycle. This weakens considerably their position and the position of the Swiss government relative to the opponents. The PWR and BWR reactors of U.S. origin currently in Switzerland have been in operation for six to nine years. They were designed for a nuclear fuel management plan requiring frequent transfers of the spent fuel from the small storage pools at the nuclear power plants to a reprocessing plant. At the moment, the utilities are unable to adjust to the new situation, as the policy is still in the process of formulation. They can only undertake a limited expansion of on-site storage pools and thus accumulate only small quantities of spent fuel. The specific problems are:

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- Approval for the retransfer of 27 irradiated fuel assemblies for the Beznau I reactor from Switzerland to Windscale, U.K., for eventual reprocessing has been withheld since January 17, 1977. At this time, the requirement of the Swiss regulatory authority for sufficient space in the pond to allow discharge of the whole core is not met. Expansion of the pool would be easier and safer if it contained only a minimum number of irradiated fuel assemblies.

- In December 1976, ERDA issued an authorization for the transfer of 123 irradiated fuel elements from Mühleberg to Cap-la-Hague, France, for reprocessing, provided certain conditions are fulfilled. Interpretation of these conditions is still under debate between Euratom and ERDA. This case will probably be settled with ERDA very soon. It is of great concern to us as part of the recovered plutonium is necessary for our HTGR research program (the remainder is to be used in Euratom facilities).

3. Mixed Oxides

Another problem that, if not solved, may affect directly a possible contribution of Switzerland to INFCE, according to §§ 4a, 4c, of the terms of reference, is a delay in the issuance of a reexport license for mixed oxides of plutonium and uranium. This fuel is intended for use in a test of this type of fuel in the Beznau nuclear power plant (4 assemblies in a core of 121 assemblies of low enriched uranium). A formal request for an export license was made by Westinghouse in June 1976. The beginning of the test of this six-year research program is still scheduled for next year, provided the license is granted by the U.S. authorities. The plutonium was recovered at the Eurochemic facility (Mol, Belgium) and imported into the U.S. in 1976 for preparation of the fuel for the Beznau experiment.

Washington, D.C.
The Scientific Counselor,
Dr. C. Favre
September 16, 1977

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