

~~SECRET~~

SAC 200154800000

2808

5b

APPROVED FOR RELEASE
DATE: JUN 2002

13 May 1963

REPORT ON FRENCH GASEOUS DIFFUSION PROJECT

1. After the initial appropriation for the French gaseous diffusion plant was made in July 1957, plans for construction of the plant at Pierrelatte on the Rhone River were first announced formally at the Second Geneva conference in 1958. At that time, they proposed having this plant in operation, producing low enriched material by 1962 and fully enriched material in 1963. Estimates at that time, based on opinions of U. S. scientists who saw the pilot facilities at Saclay and upon information provided by the French were that production of low enriched material could begin in 1962 with a production of 4 Kg/day of fully enriched U-235 in 1963 and capacity production of 10 Kg/day in 1964. Technical difficulties in producing adequate compressor seals and unforeseen difficulties in barrier development and production have delayed this plant until it is now estimated that top-product will not become available until 1967. This date of availability has recently been confirmed by Pierre Messmer, the French Minister of Armed Forces.

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
1ST REVIEW DATE: 12/18/2000	DETERMINATION (ORLY/PA/MS/AN)
AUTHORITY: 105C (2) ED	1. CLASSIFICATION CHANGED
NAME: B. Harris	2. CLASSIFICATION CHANGED TO:
2ND REVIEW DATE: 12/25/00	3. CO-ORDINATE WITH:
AUTHORITY: 105C (2) ED	4. CLASSIFICATION CANCELED
NAME: H. Schmidt	5. CLASSIFIED BY: (ORLY/PA/MS/AN)
	6. CLASSIFIED BY: (ORLY/PA/MS/AN)
	7. OTHER (SPECIFY):

JFK LIBRARY
MANDATORY REVIEW
CASE # NLK- 00-44 F
DOCUMENT # 5b

~~SECRET~~

③

~~RESTRICTED DATA~~
THIS DOCUMENT CONTAINS RESTRICTED DATA AS DEFINED BY THE ATOMIC ENERGY ACT OF 1954

Copy 1

005A20C000227

~~SECRET~~

APPROVED FOR RELEASE
DATE: JUN 2002

2. In 1957-58, the French grossly underestimated the total cost of Pierrelatte. By March 1963, the estimated total cost had risen to \$1 billion, several times the original estimate, not including the cost of the high enrichment section of Pierrelatte, without which no weapon grade U-235 can be produced. If the cost of this portion of the plant bears the same relationship to the total as in previous estimates, the total cost of Pierrelatte would be approximately \$1.2 billion. During budget debates in the fall of 1962, the situation was officially summarized as follows: "Pierrelatte exists. It is a large undertaking, and it is necessary to seek a means of rendering the costs bearable." This sentiment undoubtedly is one of the causes of French exploration of possible German and/or Italian financial and technical assistance in completing Pierrelatte.

3. There have been numerous reports concerning possible Franco-German, and more recently Franco-Italian, technical and financial cooperation in areas associated with nuclear weapons. Although monetary contributions would certainly be helpful, technical assistance may be of more immediate benefit. The West Germans have considerable experience in industrial seal research and development which could be

~~SECRET~~

~~RESTRICTED DATA~~
THIS DOCUMENT CONTAINS RESTRICTED DATA AS
DEFINED BY THE ATOMIC ENERGY ACT OF 1954

~~SECRET~~

APPROVED FOR RELEASE
DATE: JUN 2002

used effectively to help solve the problem of adequate compressor seals for use in the Pierrelatte plant. German scientists have no major backlog of experience in gaseous diffusion separation of U-235. However, their general research capabilities and ample numbers of technical personnel could, if so applied, become a significant factor in the solution to other technical problems encountered at Pierrelatte, including development and fabrication of satisfactory barriers.

4. The French in 1960 were considering the use of ultracentrifuges as a supplement to gaseous diffusion for uranium enrichment. There is no evidence that this proposal was adopted, and the present status of development of this process in France and elsewhere does not make it attractive. Its use would involve developmental problems in addition to those they face in the gaseous diffusion process. Only a limited French effort in ultracentrifuge research has been reported. The Germans are in a good position to provide assistance in the ultracentrifuge field should the French seek it. However, German ultracentrifuge developments have lost impetus since their program was classified, and they would probably require two years or more of priority development effort to achieve an economically practical technology.

~~SECRET~~

~~RESTRICTED DATA~~
THIS DOCUMENT CONTAINS RESTRICTED DATA AS
DEFINED BY THE ATOMIC ENERGY ACT OF 1954

~~SECRET~~

APPROVED FOR RELEASE
DATE: JUN 2002

5. Protocol to the Brussels treaty imposes no prohibition on West Germany other than that no atomic weapons or associated weapons materials may be manufactured on German territory. This does not preclude the possibility of German assistance, financial or technical, to non-German nuclear weapons programs nor of their obtaining nuclear weapons from such sources.

6. In conclusion, from the reports available and for the reasons given above we believe that French officials have in fact broached the subject of aid for Pierrelatte with the West Germans and possibly the Italians. We do not know the precise terms of the French requests, the amounts of aid requested, or the quid pro quo being offered by France. Paris at present will probably not be disposed to offer Germany any meaningful degree of control or partnership in the French nuclear program. On the other hand, the Germans will probably not be disposed to provide aid unless they are given some control or partnership, and this German position would be strengthened by U. S. pressure. In the longer run, however, stronger pressures for French-West German cooperation on military applications of nuclear energy are likely to develop and, as the costs of the French program continue to mount, the French may become more willing to give up a modicum of control in order to get aid.

~~SECRET~~

~~RESTRICTED DATA~~
THIS DOCUMENT CONTAINS RESTRICTED DATA AS
DEFINED BY THE ATOMIC ENERGY ACT OF 1954

~~SECRET~~

APPROVED FOR RELEASE
DATE: JUN 2002

The Germans, for their part, may come increasingly to regard participation in the French program as a way to get around the treaty restrictions mentioned above, and as a way for German industry to improve its position in the nuclear technological race.

5

~~SECRET~~

~~RESTRICTED DATA~~
THIS DOCUMENT CONTAINS RESTRICTED DATA AS
DEFINED BY THE ATOMIC ENERGY ACT OF 1954