

Report by the United States Atomic Energy Commission on European integration (13 April 1956)

Caption: On 13 April 1956, the United States Atomic Energy Commission forwards to the US Secretary of State, John Foster Dulles, a report outlining the action that the United States might take in order to support the efforts of European countries at integration in the field of nuclear energy.

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Action in the Field of Atomic Energy to encourage Integration of the Community of Six

1. By memorandum of January 12, 1956 the President directed the Atomic Energy Commission and the Department of State to study on an urgent basis moves which the United States could make in the atomic energy field to encourage the integration of the Community of Six. The Community of Six, hereinafter referred to as the "Community", would include membership of Belgium, Netherlands, Luxembourg, Italy, France, and West Germany in an integrated European Atomic Energy organization, with supranational control over the development of atomic energy in the six countries.
2. The Secretary of State has asked the AEC to consider the maximum contribution which the U.S. could make to encourage the creation of an integrated atomic energy community. Mr. Dulles has also expressed the hope that the Commission consider *all* possibilities, leaving for subsequent AEC-State Department determination any decision as to which of the possibilities should be selected as safe, prudent and wise for the United States. In accordance with the terms of reference, the plan of assistance presented here was drawn up without regard to limits set by currently applicable laws or policies.
3. It is felt that the AEC has no method of determining what contribution may ultimately be required to effectuate creation of the Community, inasmuch as the exact details of the Community's atomic energy project have not yet been finalized. The AEC, therefore, can only provide the Department of State with a broad plan of assistance for the Community, which it believes would be an incentive in the creation of an integrated European atomic energy industry. Such a plan would then be used as background for consideration by the Department of State in any negotiations with the Community.
4. It is assumed that if it is to encourage integration, the United States must be prepared to show that no individual nation could obtain more assistance from the United States as an individual than as a member of the Community. The United States must be prepared to extend assistance and privileges to the Community equal to or greater than that now, or in the future, to be extended to any one member of the Community under a bilateral arrangement, with the possible exception of Belgium, which has a special relation to the U.S.
5. The possible assistance that the United States Government, through the AEC, can render to encourage European integration is considered primarily within the framework of materials, information, services, and special privileges. The conclusions reached as to assistance which might be provided are predicated on possibilities within the limitations of present plant capacity and the present projections as to quantities of U-235 (see Table I below ⁽¹⁾), which may be made available for power and research reactor programs.
6. In developing the possible methods of assistance the staff has assumed that this assistance will be tendered under an appropriate agreement whereby the United States would have access to all information and data developed by the Community, the consequence of U.S. assistance rendered. The appropriate standing provisions of existing bilateral arrangements, as well as the policy of the National Security Council, will be incorporated in the proposed agreement as will such other provisions deemed necessary to protect the interests of the United States with respect to patents, security inspections, etc.

Materials

7. Under the policy announced by the President on February 22, 1956, 20,000 kg. of U-235 were allocated for foreign power and research reactor programs. It was recognized that the initial allocation of material is insufficient to maintain a large-scale power production program for a long time, but is sufficient to permit the start of such a program. The Commission recognized that under optimistic conditions the total amount of allocated material would be in use by 1962 and additional amounts would have to be allocated periodically thereafter. The predicted range of yearly allocations or requirements for the free world, as estimated by the Commission, is listed in Table I, below. As the Community of Six has presently about half of the installed electrical capacity of the free world (outside the U.K., and the U.S.), it is the belief of the AEC staff that the member countries of the Community will construct well over half of the nuclear generating capacity installed (outside the U.K., and U.S.) during the next ten years. As a consequence, the U.S. could agree to

allocate to the Community an initial quantity of at least 5000 kg., but not more than half of the amount presently allocated for foreign distribution. (Of course, the amounts allocated to member countries under bilateral agreements must come from the initial allocation that might otherwise be made available for the Community.) Further, we can guarantee for an agreed period, after the initial allocation has been delivered, additional quantities for yearly delivery sufficient to sustain the installed capacity resulting from the initial allocation. (This goes one step beyond the Commission's action on the 20,000 kg. and would require a new Presidential allocation.) While we cannot now specify the exact amount we are confident that these yearly quantities will be substantial. (The staff estimates that a quantity on the order of 1000-2000 kg. per year would be sufficient to maintain the nuclear generating capacity installed as a consequence of the initial allocation, and may also permit the installation of a small additional capacity.)

8. Although U-235 is the material believed to be of greatest interest to the Community of Six, heavy water may also prove useful. The United States is in a position to meet any reasonable requirements the Community might have for heavy water and could offer to supply this material. The estimated requirements of the Community would have to be determined by subsequent U.S. discussions with the Community.

9. Depleted uranium would be useful to the Community as a shielding material or as fertile material for use in breeder reactors. The U.S. has available substantial quantities of such material. Reasonable quantities could therefore be made available to the Community. The only limitation to such action is the present classification problem. This matter is presently under study by the AEC staff and recommendation for action will be made to the Commission.

10. Quantities of highly enriched U-235, plutonium, and U-233 would be extremely useful to the Community in many research and development programs. Agreed quantities of such materials should be transferred to the Community under appropriate arrangements.

11. It is not expected that the Community will be short of natural uranium. Both Belgium and metropolitan France have a source of natural uranium. In view of these sources, and in view of the rather substantial quantities of U-235 which could be allocated to the Community, there would not appear to be any great need for an outside source of natural uranium. The Community could be informed that if such a need develops the U.S. would consider supplying the needs to the extent it can. It is, therefore, not believed desirable to make an offer of any specific quantity of natural uranium at this time, as such offer might prejudice our relationship with Belgium and France in the procurement of source materials.

12. It is not considered worthwhile to offer to the Community other reactor materials, since such materials for a nuclear industry can easily be produced in the cooperating countries in accordance with any goal established for nuclear power capacity. It might be worthwhile to indicate that, depending upon commercial availability, other materials can be procured in the U.S. as needed.

Information

13. The following discussion with respect to the information to be transmitted to the Community is without regard to security implications. It is doubtful if a satisfactory security system could be developed to provide assurance that classified information transmitted to the Community would not be compromised.

14. It is believed that with the guarantees proposed concerning the availability of enriched uranium, the technical need for early construction of a gaseous diffusion plant may be deferred. It is not proposed, therefore, to make any diffusion plant technology available, since existing legislation does not permit the release of classified gaseous diffusion technology and the extent of unclassified information in this field would be of inconsequential value to the EURATOM Group. Political considerations may outweigh technical considerations and the Community may still propose to construct a gaseous diffusion plant. It may be that the opportunity to be a part owner in a gaseous diffusion plant will be a greater incentive to the integration of the atomic energy effort than any other single factor. It is, therefore, proposed that the U.S. do nothing which will prevent the Community from constructing a gaseous diffusion plant if desired.

15. In a power reactor complex, feed materials production centers, fuel fabrication plants, and chemical recovery and separation plants would be necessary. The United States could agree to exchange all technology, presently classified "confidential", as well as unclassified information, covering the design, construction and operation of such plants except that no data revealing special nuclear material production rates in the United States would be exchanged. The U.S. could also permit the Community to reprocess fuel made available to the Community under a bilateral agreement. It is felt that the importance of providing chemical separation technology, as well as permitting the Community to reprocess fuel elements provided by the U.S. to it and to other European countries cannot be over-emphasized. This comprises a major part of any nuclear power complex and would be one of the most important contributions the U.S. could make to encourage integration of the Community.

16. The Community proposes the establishment of a common laboratory and center for basic research, and reactor development. As an incentive to the establishment of the Community, we could agree to permit cooperation and the exchange of all power reactor technology (classified "confidential" or less) on all power reactor concepts restricting however any exchange on military reactor systems.

17. The United States could propose to effectuate this exchange of information and give assistance in the following manner:

- a. Exchange of all reports (classified "confidential" and unclassified) falling within the area of cooperation.
- b. Permit scientists and technicians of the Community to visit or work at designated AEC or contractor operated facilities.
- c. Expand training programs in the U.S. for foreign nationals and make available to Community representatives a substantial portion of the accommodations. (Any significant expansion of the present program will require additional funds.)
- d. Supply an agreed limited number of technical and administrative people as consultants to the Community.
- e. Permit U.S. industry to assist in the program by performing such contractual services or supplying under suitable contractual arrangements, within appropriate security limitations, such scientific and technical equipment as may be requested by the Community.
- f. Undertake cooperative, joint development programs as mutually agreed.

Financial Assistance

18. With regard to financial assistance, it is understood that the member countries of the Community of Six have a sufficient amount of funds available to initiate the Community program. Further, the Export-Import Bank, the International Bank for Reconstruction and Development and private lending institutions would be in a position to provide financial assistance to the Community. It is felt that an offer of financial assistance is outside the purview of the AEC but should be taken into consideration by the State Department. If the proposed Community development program is of a quality of sufficient interest to the United States, this country could agree to contract for the performance of specific sub-programs or services on our behalf by the Community.

Special Concessions

19. The policy approved in connection with the allocation of 20,000 kg. of U-235 for foreign distribution makes the following reservations with respect to the material allocated:

- a. Enriched material will not be made available over 20% U-235 enrichment unless specifically authorized by AEC.
- b. No transfers of allocated material will be made to any country other than recipient.
- c. U.S. access to the country is granted for the purpose of observing compliance with the assurances of no diversion for military purposes.
- d. Irradiated fuel from material furnished by AEC will be reprocessed in AEC facilities or facilities designated by AEC.

20. For the purpose of promoting the establishment of the community, some of the basic conditions indicated above could perhaps be modified, including making available uranium of a greater enrichment in the isotope U-235, in accordance with established NSC policy, and perhaps designating the reprocessing facility to be constructed by the Community as an approved facility for reprocessing materials supplied by the United States.

Services

21. A number of services can be offered by the U.S. to the Community. Among them the following would be perhaps of greatest interest to the Community:

- a. Agree to enrich uranium supplied by the Community. The amount of ore supply and the amount of product and tails delivered could be in accordance with an appropriate formula.
- b. Agree to performing for the Community such research and development work in AEC facilities as can be mutually agreed.

(1) Not printed.