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ATOMIC ENERGY COMMISSION

MEETING NO. 546

10:30 a.m., Friday, April 6, 1951

Handwritten notes:
NN091161
HR-11/RS 11-10-92

Present

Gordon Dean
Sumner T. Pike
Henry D. Smyth
Thomas E. Murray

Philip J. Farley
D. G. MacDonald
Jesse C. Johnson

M. W. Boyer
Walter J. Williams
Everett L. Hollis

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1. Discussion of Raw Materials Program (see also Meeting 544)

The Commission resumed consideration of long-range uranium procurement policy commenced at Meeting 544 (see AEC 359/5 and memoranda by Commissioner Murray dated March 28 and April 6, 1951).

The Chairman said that in attempting to frame a policy for the acquisition of ore, he had concluded in his own mind that it was not sufficient to base the policy simply on military requests or requirements. He had also concluded that it was unrealistic to base it entirely on how much ore the Commission could get if willing to pay a certain price per pound. He was also convinced that it was not satisfactory to set an arbitrary amount and go after that regardless of cost in dollars, men, and materials. At the same time, he appreciated that the Commission needed to set a goal.

It seemed to Mr. Dean, therefore, that the first step in setting a goal would be to set a minimum (perhaps six thousand tons per annum) over the next ten years. This minimum goal would represent what the AEC would need to operate present and authorized plants plus a little cushion for

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inventory in raw and feed materials pipelines. He did not favor stopping at six thousand tons, however, but would go after more ore, having in mind two things: first, the importance of going after ore which will get to the Commission before 1954; and second, the importance of increasing the output of North American deposits. He was doubtful of long-term commitments which either did not get ore in a hurry or which did not tend to increase U.S. independence of sources across the Atlantic.

Mr. Dean continued that he stressed the time element because he believed that, with the increase expected in the weapons stockpile by 1955, the U.S. will probably be considering at that time whether weapons manufacture should be continued at increased or even at our present rate. He thought, furthermore, that to develop uneconomical long-term commitments which will not pay off in the next three years would, in the long run, be disruptive of all programs that utilize uranium for peacetime purposes and notably for power.

Mr. Smyth said that he shared Mr. Dean's eagerness to develop potentialities in this continent as a domestic reserve. As long as ore can be obtained from overseas, however, he would prefer to get as much ore as possible from foreign sources into this country. Indeed, if the requirements of the program were to diminish, it would seem wise to continue to bring in the major portion of raw material supply from the Congo and South Africa and cut down domestic production.

Mr. Pike said that in view of the importance of the time element in the present international situation, it was necessary to consider at what point programs authorized now could expect to yield results. Little could be done at this point to affect 1951 ore deliveries. Measures taken now might affect receipts from domestic sources in 1952. It appeared from the discussions during his recent visit with Mr. Smyth to Canada that the Canadians are pushing development of the Athabaska deposits and that with encouragement from AEC deliveries should reach the U.S. from that source in 1953 or 1954.

The Commission then turned to consideration of particular goals and programs in Canada, South Africa, and the Western Hemisphere. There was discussion particularly of the further information on plans for development of gold mines in South Africa, on financial arrangements which might be made with the South Africans, on the expected uranium content of Orange Free State mines and of low-grade sources, and of the readiness of the technical and managerial personnel of the gold mining companies to undertake

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an expansion of the present construction program. In answer to questions, Mr. Johnson said that the South Africans had been made fully aware that the Commission was eager to get uranium from mines from the Orange Free State and had been told during earlier negotiations that the Commission was willing to contract for all uranium which could be gotten out of plants in production by the end of 1954. Mr. Johnson favored discussions now with South African technical people to establish the rate at which further expansion could efficiently be undertaken with the willing cooperation of the South Africans, and pointed out that Mr. McQuiston of the Division of Raw Materials was going to South Africa shortly and could undertake such discussions.

Mr. Boyer referred to the proposal advanced during the discussion on the previous day with the Committee on Raw Materials (see AEC 206/3) for sinking of another shaft at the Shinkolobwe Mine. Mr. Johnson pointed out that M. Sengier would have to be convinced of the desirability of this step and that a survey on the ground in the Belgian Congo ought to be undertaken before an attempt was made to persuade him. He expected to make such a trip shortly.

Mr. Smyth raised a question as to the prospects for obtaining uranium deliveries from South America in the event the recently approved exploration program was successful. Mr. Johnson said that the State Department was to undertake discussions with South American countries regarding the exploration program and arrangements for obtaining ore. He expressed the view that if one country, such as Venezuela, where a U.S. Geological Survey Team was scheduled to undertake a preliminary exploration shortly, were to develop a program, the interest of the other South American countries would be stimulated.

Mr. Johnson said that he recommended that the Commission give high priority to research and development on a process for recovering uranium from the Florida leach zone. Upon development of the process he would favor early construction of a production plant as the quickest way to test and improve the process and subsequently bring down costs. After further discussion, the Commission:

- a. ESTABLISHED a minimum annual procurement goal of 6 thousand tons of U-308, to be attained by 1955;



b. AGREED to provide all possible help and encouragement to the Canadian Government to stimulate increased production of uranium ore in Canada in the period before 1955;

c. AGREED that bringing the presently authorized six uranium processing mills in South Africa to the earliest possible completion would have overriding priority in the South African program;

d. REQUESTED a staff report and recommendations, following a forthcoming visit and discussions in South Africa, on the number of additional mills which could be put in South Africa without diluting effort on the present six mills referred to in c above and without overstraining the South African economy;

e. REQUESTED an early report on prospects for uranium in Orange Free State gold mines, on the schedule for bringing in gold mines in the Orange Free State and the time-scale for any construction of uranium mills in these mines, and on the financial or other assistance which would be necessary to bring uranium mills at these mines into production by 1955;

f. REQUESTED the Director of Raw Materials to schedule a trip to the Belgian Congo as soon as possible;

g. APPROVED a high priority for research and development on a process to recover uranium from the Florida leached zone; and

h. NOTED that the Military Liaison Committee would be advised of these actions at the next joint conference, and that the General Advisory Committee would be advised by means of a copy of AEC 359/5 and the Commission's action thereon.

Mr. Murray requested that the minutes record that he could not vote in the affirmative on the Commission's decision in a above establishing a minimum annual procurement goal of 6,000 tons of \overline{U}_3O_8 to be obtained by 1955 and that he adhered to the recommendation of a 10,000 ton minimum goal as outlined in his memorandum to the Chairman dated March 28, 1951 (a copy of which is on file in the office of the Secretary).

Mr. Glennan who was unable to attend the meeting subsequently requested that his concurrence in the action taken above be recorded.

At this point Mr. Johnson left the meeting.

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2. AEC Irradiations at Chalk River

Mr. Smyth and Mr. Pike reported orally on their recent visit to Canada and on discussions held with representatives of the Atomic Energy Board of Canada and of the Chalk River Project regarding irradiations of AEC materials in the NRX reactor and provisions for the storage and handling of AEC materials at the site.

Mr. Smyth sketched on the blackboard a diagram of the organization of the Canadian project and he commented on lines of communication between the U.S. AEC Liaison Officer and personnel at different levels of the Canadian organization. It was evident that C. J. Mackenzie, President of the Board, and in all likelihood Dr. David Keys, Director of the Chalk River group, had not been aware of the practice of Chalk River personnel of X-raying AEC materials to be irradiated in the NRX pile. On the other hand, the lower echelon technical people, whose direct responsibility for the safety of the reactor had prompted the practice, were apparently not fully advised about the limitations on exchange of information imposed on AEC personnel by the Atomic Energy Act. There was no evidence of bad faith on the part of the Canadians, but rather of a failure of communication and a natural concern on the part of operating people for the safety of their facilities. Mr. Smyth recalled that on occasion details of data furnished the Chalk River personnel by the AEC in connection with earlier irradiations had been discovered by the Canadians to be inaccurate; there was always a possibility also that fuel elements might have been damaged or disturbed in transit.

Mr. Pike said that security provisions at Chalk River had appeared generally good, but that the physical layout of the reactor and the limited facilities of the AEC Liaison Officer's offices made his "custodianship" of materials such as the NPR rods little more than nominal.

As to what use had been made of the X-ray picture of the NPR element Mr. Smyth said there not only was no evidence that the plate had ever been furnished the Research Division of the Chalk River project but there was every reason to believe that Canadian heavy water technology was so advanced that data regarding AEC fuel element design would have had little or no value to the Canadians. In this connection Mr. Smyth said that he had been impressed with the competence of the Chalk River group, and that his visit had reinforced his conviction of the advantages which would accrue to the Commission program from a fuller exchange of information with the Canadians.

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There was further discussion of the security significance of data obtained in the past by the Canadians in connection with AEC irradiations and of the minimal significance of additional information the Canadians now sought about the NPR fuel element. Mr. Dean asked that the General Counsel arrange a meeting with the Joint Committee on Atomic Energy as soon as possible to discuss the resumption of the irradiations and related matters.

During the above discussion Mr. Murray left the meeting.

3. SF Accountability

Mr. Boyer reported that an apparent discrepancy of 100 grams of plutonium at DP West, Los Alamos, had been discovered on the basis of preliminary SF accountability inventory. The Federal Bureau of Investigation had been alerted as a precautionary measure while further checking continued. (See AEC 213/49 subsequently circulated.)

At this point Mr. Boyer and Mr. Williams left the meeting.

4. AEC 27/34 - Declassification Coordination with U.K. and Canada; Proposed Visit of Mr. C. A. Rennie (U.K.) and Dr. B. W. Sargent and Mr. H. Clayton (Canada) to New York Operations Office

The Commission:

APPROVED the recommendation of AEC 27/34.

5. AEC 153/28 - Public Information Policy and Clearance Procedure for Operation GREENHOUSE

The Commission:

APPROVED the recommendation of AEC 153/28.

Philip J. Farley
Acting Secretary

Approved by the Commission: May 2, 1951.