

NATIONAL MILITARY ESTABLISHMENT
MILITARY LIAISON COMMITTEE
TO THE
ATOMIC ENERGY COMMISSION
P.O. BOX 1814, WASHINGTON, D.C.

UNCLASSIFIED DOCUMENT # 7480057-1000
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This document consist of 5 Pages.
Cys. 1 of 1 Cys. Series: A-HD

MLC 12.4

RCC3.950811.005

Honorable David L. Lilienthal
Chairman, Atomic Energy Commission

Authority of the Chairman,
Military Liaison Committee
Name: David L. Lilienthal Rank: Major General Date: 8/21/48

Dear Mr. Lilienthal:

Reference is made to your letter of 23 July 1948 in which you requested in connection with the Fiscal Year 1950 Budget, recommendations or comments from the Military Liaison Committee concerning the Commission's program in those areas of the atomic energy field which are of particular interest to the Military Establishment. Although you have stated that you desired this information by 1 August 1948, the magnitude of this subject is such that it was impossible to prepare detailed remarks in that short time. The Committee has several projects and problems in mind which can be presented in an informal and preliminary manner, and it is hoped that you will consider the remarks that follow to be of that nature entirely.

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The Committee is pleased to note the general trend of the present reorganization of the Commission since it is strongly of the opinion that a functional type of central organization is particularly appropriate to carry out adequately the responsibilities of the Atomic Energy Commission. We are anxious to be informed of the details of the reorganization as they become more firm.

Both the Military Liaison Committee and the Committee on Atomic Energy of the Research and Development Board during their visits to Commission installations have gained the impression that a more free exchange of information between the various Commission laboratories and production facilities would be beneficial. It is our opinion that great benefit to the entire project would be derived from the assignment of many of the research problems confronting individual installations to the laboratories within the Commission best prepared to solve these problems. In this connection it would appear most desirable that the X-10 Laboratory at Oak Ridge be established as a principal applied engineering laboratory for the Commission.

After the recent trip of the Committee on Atomic Energy of the Research and Development Board to Hanford, its views concerning the status of development of the Redox and waste recovery processes were submitted to the Research and Development Board on 27 July 1948. A copy of this letter was forwarded to you with letter, MLC 50.2, dated

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95-M-0111

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW
1ST REVIEW DATE: 11/1/04
AUTHORITY: EAAC, EAR, EAO
NAME: Dr. M. H. ...
2ND REVIEW DATE: 5/1/05
AUTHORITY: EAAC, EAR, EAO
NAME: Dr. M. H. ...

OSD ATSD(AE) DECLASSIFICATION
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DECLASSIFIED ON: 11 Dec 1995
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6 August 1948. Briefly, it is the view of the Committee on Atomic Energy concurred in by the Research and Development Board and the Military Liaison Committee, that greater effort must be placed on the development of these important projects. The measures considered by the Committee to be necessary in order to expedite this development are continued emphasis on the Redox process, clarification of the relationship between contractors working on the process and acceleration of the schedule recognizing certain calculated risks which should be taken over and above those usually taken in a normal development of this magnitude. Further, it would appear desirable to investigate and develop alternate processes utilizing competent chemical organizations other than those working on Redox.

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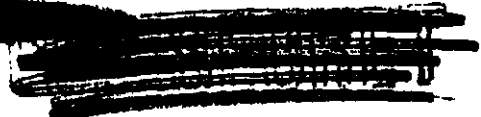
The Military Liaison Committee has been concerned over possible adverse effects to the reactor development program resulting from the decision to concentrate reactor development at the Argonne National Laboratory under the University of Chicago. It is felt that this decision could result in an over-emphasis on the academic approach to the development problems and an undesirable lack of emphasis on the industrial approach to these problems. The recent recommendation of the Reactor Safeguards Committee against the construction of the high-flux pile at Chicago would indicate that probably all reactor development, in fact, cannot be conducted at the Argonne Laboratory. The Committee is not prepared at this time to suggest a solution to this matter, but it feels that the entire question of reactor development should be carefully reviewed, with a view to expanding the responsible industrial participation in this program.

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In discussing the operation of the gaseous diffusion plant with officials of the Carbide & Carbon Chemicals Corporation at Oak Ridge recently, it became apparent to the Committee that maximum efficiency of operation of the present plant has probably been attained. There are indications that by additions to the plant it would be possible to obtain more fissionable material from the present raw materials consumption or to obtain the present output of fissionable material from less raw material, and we recommend that this possibility be studied. From the standpoint of production of fissionable material, the expanded program for the construction of reactors at Hanford raises related problems regarding raw material economy. The results of the recent Sandstone Operation proving more economical utilization of uranium in weapons make a complete review of this entire problem essential. The Committee is aware that both the Commission and the General Advisory Committee are studying this matter at the present time. However, it seems to be desirable to reach a decision on the matter in the near future.

The Military Liaison Committee is completely in accord with the objective of the Commission to reduce production activities at the

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Los Alamos Laboratory. It is our view that ultimately all weapon production at Los Alamos should be eliminated and adequate provision should be made to perform this function elsewhere. The early operation of the metal fabrication facilities on a maximum production basis at Oak Ridge and Hanford will alleviate this problem at Los Alamos to a great extent. In this connection, and based upon only meager information, the Committee on Atomic Energy was impressed with the high cost for the construction proposed at Hanford for the metal fabrication operation.

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It is the view of the Military Liaison Committee that great strides are necessary in the engineering of atomic bombs both for fabrication and for field serviceability. To improve this situation, it should be a major objective of the Commission to take advantage of what might be termed the "industrial engineering and production approach."

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In view of the long-range raw materials situation, the Military Liaison Committee considers that the development of reactors of the breeder type is of great importance. It is essential that the possibilities of breeders be fully explored as an item of great importance.

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The Military Liaison Committee has inspected most of the underground storage and production facilities in the atomic energy program. Whereas we feel that those plants which are now underground are necessary, it would appear unnecessary to carry out any further underground construction. Further protection of weapon components, with the exception of nuclear components, can best be accomplished by dispersal in above-ground storage. The practical invulnerability of the uranium production facilities at Dayton would appear to make it unnecessary to construct additional plants of this nature underground. Further, it would appear that construction of other Commission facilities underground, with the possible exception of a special reactor for polonium production, is neither practicable nor desirable.

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The requirement for increased production facilities for high explosive castings is dependent on the decision regarding the ratio of non-nuclear components to nuclear components of weapons for stockpile, and the possibility of changes in the entire HE stockpile consequent to new weapon design. Although it is recognized that project "Sugar" will increase substantially the production capabilities, we feel that consideration should be given to further high explosive production facilities.

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The Committee on Atomic Energy was impressed by the efforts being made at Hanford for the elimination of radioactive particles discharged from the plutonium separation plants. However, it appeared that this has been a costly operation. The importance of removing the contaminants is recognized, but the Committee feels that emphasis should be placed on the development of more economical methods.

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The Military Liaison Committee views with concern the critical raw material situation, particularly the uncertainty of supply from foreign sources. The Committee sees the need for a program to develop domestic low-grade ore supplies and has asked to be brought up to date on the Commission's activities in this regard. We feel that there should be no relaxation of this development program; rather, consideration should be given to the acceleration of the program particularly in connection with the development of sources of ore from domestic phosphates. The critical ore situation makes early development of an improved chemical separation process imperative, but we feel that even though this process is developed successfully, the production of raw material from domestic sources should be carried forward with utmost vigor.

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The Joint Chiefs of Staff have recently expressed an interest in the development of materials for radiological warfare. Obviously, the facilities of the Commission will be required to produce essentially all of the material which might be utilized for radiological warfare. It is realized that studies have not progressed sufficiently to determine definitely either the nature of material to be used or the amounts to be required. However, the development of this information might require considerable utilization of Commission facilities and the ultimate production of the material would probably require large plant facilities. Therefore, consideration will have to be given to the inclusion of this project in the Atomic Energy Commission program.

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The foregoing remarks are intended in no way to be a complete statement of the problems presently requiring Commission consideration. Further, it is emphasized that these comments can be considered as being both preliminary and informal only. It is felt, however, that they may be of some assistance to the Commission in considering the matter of its organization, objectives, and budget requirements.

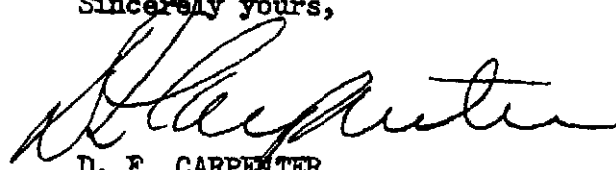
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The Committee on Atomic Energy has established a Long Range Objectives Panel for the purpose of studying possible future application of every aspect of atomic energy in military operations, looking

into the future as far as it is believed these findings will influence the planning of current research, development, and procurement activities. The report of this panel will supplement the above comments. That report is being forwarded in draft form to the three Departments and to the Atomic Energy Commission for review and comment prior to final submission.

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Sincerely yours,


D. F. CARPENTER
Chairman

RNB/mec

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See TST Memo dtd 9-3-48 from McCornack to members of the Program Council - 424

See reply LX1-340 dtd 11-5-48 from Strosser to Webster also interim reply dtd 9-7 from Waller to Carpenter #3321

Received in Office of Chairman

8/31/8 12:00