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AEC 762/3

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ATOMIC ENERGY COMMISSION

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REVISION OF THE HANDEOOK "THE EFFECTS OF ATOMIC WEAPONS"

Note by the Secretary

The General Manager has requested that the attached report by the Acting Director of Military Application be circulated for consideration by the Commission during the week of June 6, 1955.

REC 762/3

W. B. McCOOL

Secretary

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ATOMIC ENERGY COMMISSION

REVISION OF THE HANDBOOK "THE EFFECTS OF ATOMIC WEAPONS"

Report to the General Manager
by the Acting Director of Military Application

THE PROBLEM

1. To consider the declassification of effects information for yields up to 100 MT for inclusion in the revision of the handbook "The Effects of Atomic Weapons", and to consider a reply to ODM letter dated April 15, 1955.

SUMMARY

2. By action on AEC 762/2 at Meeting 1082 on May 18, 1955, the Commission approved declassification of a number of items so that such information could be included in a revision of the handbook "The Effects of Atomic Weapons". However, the requirement for projecting such information up to yields of 100 MT was questioned since the President, after Operation CASTLE, stated* "We know of no military requirement that could lead us into the production of a bigger bomb than has already been produced" and because the inclusion of such information in the handbook would probably lead to a general assumption by the public that such weapons were being stockpiled despite the President's statement.

*Statement made during Press Conference April 7, 1954. Under White House rules, the President must not be quoted directly. Therefore, this statement from an unofficial transcript must be paraphrased before any use is made of it.

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3. By letter dated September 24, 1954 (AEC 540/22), the Office of Defense Mobilization was advised that the Commission understood that the Department of Defense was considering for planning purposes, the effects of a 60 MT weapon.

4. By letter dated April 15, 1955 (AEC 540/39), the ODM requested the Commission to consider release of the 60-megaton yield as the basis for vulnerability planning, or, alternatively, such other yield as the Commission may indicate.

5. By letter dated February 10, 1955 (AEC 540/37), the FCDA indicated the need for effects information for civil defense planning, particularly with respect to the fallout from large-yield weapons, and noted that civil defense support by State and local bodies requires convincing facts regarding effects of atomic weapons.

6. Based on the above requirements the staff has recommended that the effects handbook be revised to include a broad range of effects information on yields from 1 to 100 MT without revealing stockpile values.

7. To determine the optimum yield of an enemy weapon that can be used as a dispersal planning figure by ODM, the staff has recommended formation of a technical group with DOD, ODM, AEC, and CIA membership. The general information requested by ODM will be made available at the earliest practicable date from declassified information that will eventually be included in the revised handbook "The Effects of Atomic Weapons".

STAFF JUDGMENTS

8. The Divisions of Biology and Medicine, Classification, and Intelligence, and the General Counsel concur in the action recommended in this paper.

CONCLUSION

9. There is a possibility that declassifying effects information for yields up to 100 MT might convey the mistaken impression to an uninformed person that the United States is stockpiling weapons of 100 MT yield. However, since it is possibly within enemy capabilities in the future to develop weapons of greater yield than those which the United States is presently stockpiling, it is considered sound to include information on effects of yields up to 100 MT in the revised handbook.

10. To determine the specific yield of an enemy weapon on which to base dispersal planning, an interdepartmental group should be formed.

RECOMMENDATION

11. The General Manager recommends that the Atomic Energy Commission:

a. Approve the declassification of effects information as noted in AEC 762/2 for yields up to 100 MT.

b. Note that a letter such as in Appendix "B" will be dispatched to the Office of Defense Mobilization.

c. Note that a letter such as in Appendix "C" will be dispatched to the Secretary of Defense.

d. Note that the JCAE will be advised of this action by letter such as Appendix "D" to AEC 762/2.

LIST OF ENCLOSURES

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APPENDIX "A"

BACKGROUND

1. Commission action on AEC 762/2, although approving declassification of the items listed therein, questioned the extension of the information to yields of 100 MT and the Commission expressed a desire to consider further the limit of yield which should be used in the revision of the handbook "The Effects of Atomic Weapons".

DISCUSSION

[REDACTED]

*DOE
6.1(a)*

It is possible that in the future this capability may be increased to include weapons of 100 MT. Military requirements have been established for a weapon with a yield in excess of the devices tested in CASTLE.

[REDACTED]

*DOE
6.1(a)*

These yields are applicable to weapons capable of delivery by air. In addition there is a capability of producing weapons of much larger yield for delivery by ship. Since little firm information is known regarding the capabilities in this area of potential enemies of the United States, it would appear reasonable to assume a similar capability to be possessed by them.

3. The military requirements as noted above are for weapons with yields in excess of those indicated by the President in his statement of April 7, 1954.

[REDACTED]

4. The ODM was advised by letter dated September 24, 1954, (AEC 540/22) that the DOD was considering for planning purposes, the effects of a 60 MT weapon. By letter dated April 15, 1955, (AEC 540/39) ODM requested that consideration be given to the release of the 60-megaton yield as the basis for vulnerability planning, or, alternatively, such other yield as the Commission may indicate. The ODM desires such information for planning dispersion of industry. Since there is a considerable lack of specific information as to the maximum weapon yield which is within the capabilities of the USSR to deliver, it appears appropriate for the Government agencies concerned with this matter to form an interdepartmental committee which can determine a reasonable yield which will be used for dispersal planning.

5. In a letter to the Commission dated February 10, 1955, (AEC 540/37), FCDA set forth a requirement to furnish to State and local civil defense planners official data which would at least give the order of magnitude of the fallout effect of large-yield weapons. A public release covering this subject was made February 15, 1955. In addition the following statement which is indicative of the requirements of FCDA was made:

"There is one point of some importance which deserves attention in this connection. Under the Federal Civil Defense Act of 1950, the primary responsibility for civil defense rests with the States and their political subdivisions. The civil defense program, unlike our military defense program, must be built upon the willingness of State Governors, legislatures, Mayors, and local legislative bodies to support it. If we in the Federal Government are to provide effective leadership, we must present convincing facts to the leaders in the States and cities; we cannot compel their support."

6. If the revised handbook is to serve fully the needs of civil defense, it would appear appropriate to include effects information for yields within current capabilities, and for adequate planning such information should be provided for probable future capabilities.

7. Admittedly such information cannot be furnished for specific or restricted ranges of yields without some indication of stockpile composition. Providing effects information for yields of 1 KT up to 100 megatons does cover the range of yields of most likely effects interest and does not reveal any useful stockpile information.

8. Since the information proposed by the DOD for declassification includes effects information extrapolated for yields up to 100 MT, concurrence by the AEC in the DOD Proposal would make available effects information in a range of yields which would cover the most likely current and near future capabilities of any potential enemy based on the technology known to the United States.

9. The limiting of effects information to yields of 100 MT is an arbitrary selection and similar information could be computed for yields to 1,000 MT or higher. However, present indications are that such weapons could not be delivered by air, the method which is of most concern to planners of industrial dispersion.

10. It therefore appears reasonable to include in the revision of "The Effects of Atomic Weapons" effects information for yields up to 100 MT.

APPENDIX "B"

DRAFT LETTER FROM THE CHAIRMAN TO THE DIRECTOR,
OFFICE OF DEFENSE MOBILIZATION

1. The Atomic Energy Commission has approved declassification of the weapons effects information covered in your letter of April 15, 1955.

2. The Armed Forces Special Weapons Project has been requested to furnish to the Atomic Energy Commission the information relative to the items listed in paragraph B of the above reference for a range of yields up to and including 100 megatons. This information will be forwarded to you by the AEC as soon as practicable, and should prove adequate for your staff to prepare a brief handbook for public guidance in dispersion planning.

3. Concerning the matter of fixing the optimum weapon yield as a basis for planning, we believe that this is a question in which the AEC has an interest but is not competent to unilaterally determine. We believe, however, that an inter-departmental group somewhat as you recommended could serve the very useful purpose of examining this question in detail. For membership on such a technical group we would recommend representatives from the Office of Defense Mobilization, Department of Defense, Central Intelligence Agency, and the Atomic Energy Commission.

4. The Commission would appreciate an opportunity to review prior to release, any information prepared for public guidance based on such information as is furnished in fulfilling your request.

APPENDIX "C"

DRAFT LETTER FROM THE CHAIRMAN TO THE SECRETARY OF DEFENSE

1. Attached hereto is a copy of a letter from the Director, Office of Defense Mobilization, to the Chairman, Atomic Energy Commission, dated April 15, 1955, with a copy of our reply.

2. The Commission has approved declassification of the information covered in paragraph B of the above reference for the range of yields up to and including 100 Megatons.

3. It is requested that the Department of Defense furnish to the Commission for transmittal to the Office of Defense Mobilization the information requested in paragraph B of the referenced correspondence for the range of yields up to 100 megatons for use by the Office of Defense Mobilization in preparing a brief handbook for public guidance in dispersion planning.

4. In addition, as noted in paragraph A of the above reference, we have suggested to the Office of Defense Mobilization that an interdepartmental group be convened to determine the appropriate yield which should be used as the basis for vulnerability planning in connection with the dispersion of industry. We have indicated in our letter to ODM that their staff rather than the interdepartmental group should prepare the handbook for public guidance in dispersal planning.

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E.O. 12958, Sec. 3.3