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This document consists of 11 Pages  
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ATOMIC ENERGY COMMISSION

FILM ON OPERATION IVY

Report by the Directors of Classification  
and Information Services

THE PROBLEM

1. to consider removing from the Restricted Data category a modified version of a motion picture on Mike Shot, Operation IVY, (IVY Project No. 21-3).

SUMMARY

DOE ARCHIVES

2. At the request of the Federal Civil Defense Administrator an attempt has been made to prepare a film suitable for showing to a Conference of Mayors, sponsored by the White House, on December 14 and 15. This film, which was shown the Commissioners at Meeting 939 on November 12, 1953, and which has been revised in accordance with suggestions at that meeting, is a deleted version of the documentary film "Operation IVY" (prepared by the Lookout Mountain Laboratory, project No. 21-3) and reveals that information on the Mike Shot of Operation IVY which it is believed can be declassified at the present time. The major items which will be declassified as a result of release of this film are:

- a. A calculable yield of Mike Shot, Operation IVY;
- b. That Mike probably was not a deliverable device;

~~This document contains restricted data as defined in Executive Order 11652. It is to be controlled in accordance with its content and any necessary to be authorized for release.~~

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c. Somewhat greater details on the methods of measuring effects.

All data on weapons manufacture and all information concerning currently deliverable weapons (i.e. the King test) has been deleted. It is believed that the declassification of the film will not adversely affect the common defense and security.

DOE ARCHIVES

3. After declassification, the film will be marked "Official Use Only" for the occasion of the showing to the Conference of Mayors. The Division of Information Services points out that the Government's reputation with the media of mass communications and the public for not withholding unclassified material from publication is likely to be impaired by continuing the "Official Use Only" marking on the film for any appreciable time after the showing to the Mayors. This Division therefore feels that there should be provision for dropping of the "Official Use Only" marking after the showing to the Mayors. This should be done when an all-media release can be made. Such release should occur at the earliest possible time agreeable to the National Security Council, the FCDA, the DOD and the AEC.

#### STAFF JUDGMENTS

4. The recommendation of this paper has the concurrence of the Divisions of Military Application, Information Services and the Office of the General Counsel.

#### RECOMMENDATION

5. That the Atomic Energy Commission:

a. Determine that the information disclosed in the deleted version of the documentary film "Operation IVY", which was screened at Commission Meeting 939 on November 12, may be published without adversely affecting the common defense and security;

b. Note that no information remains in the film which would give any indication as to the nature of the thermonuclear reaction, or to the manner in which it is brought about;

[REDACTED]

c. Note that this film will first be shown to the forthcoming Mayors' Conference and that it will be marked Official Use Only for that occasion;

d. Approve public release of the declassified film to all media at a subsequent time determined to be most useful for purposes of domestic public information and of U.S. international information operations;

e. Note that MLC concurrence in this action will be sought by copy of this paper.

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DOE ARCHIVES

LIST OF ENCLOSURES

APPENDIX "A"

Background and Discussion

APPENDIX "B"

Letter from FCDA to Chairman, AEC  
dated October 15, 1953

APPENDIX "C"

Letter from Chairman, AEC to  
FCDA dated October 29, 1953

APPENDIX "D"

Teletype from LASL to AEC dated  
November 13, 1953

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APPENDIX "A"

BACKGROUND AND DISCUSSION

1. It is clear that with the entrance of nuclear weapons into the realm of megaton yields, new concepts of civilian defense must be formulated which will prepare civilian defense organizations for the destruction which would follow the detonation of such weapons over any portion of the United States. That this problem was recognized both by the AEC and by the Federal Civil Defense Administration is demonstrated in part by exchange of correspondence between the Federal Civil Defense Administrator and the Chairman of the AEC Appendices "B" and "C". As requested by the Civil Defense Administrator, a "sanitized" version of the motion picture on Operation IVY has been prepared for showing before the group of mayors who will be attending the Mayors' Conference sponsored by the White House on December 14 and 15.

**DOE ARCHIVES**

2. The film a deleted version of the film "Operation IVY", shows certain of the footage pertaining the Mike Shot of Operation IVY. All information which would give any indication as to the nature of the thermonuclear reaction, including identity of reactants, or the manner in which the reaction is brought about, has been deleted from the film leaving only the clear indication that the detonation was that of a thermonuclear device. While all specific mention of the yield of IVY Mike has been deleted from the film, sufficient information remains to permit calculation of the yield by a technically qualified person. This information has been allowed to remain in the modified version since to remove it would destroy the usefulness of the film. We do not feel that declassification of the yield of the Mike device, Operation IVY, will adversely affect the

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common defense and security since it does not give any indication as to how such a device is designed or built or any indication as to how it operates. Moreover, the yield of Mike is well within that which our foremost scientists have often openly discussed as being possible (e.g. "a thousand times more powerful than the Hiroshima bomb" -- H.A. Bethe). Moreover, the observed yield of any particular device does not in any way imply that such a device is the most powerful or least powerful which we are able to build; it indicates merely the power (the yield) of the specific device tested. While this declassification of the calculable yield of a specific device is contrary to paragraph 12b(6) of the Joint AEC-DOD Classification Guide, it is not considered necessary to revise the Guide at this time since such revision would apply the declassification action in this case to all other such weapons or devices.

DOE ARCHIVES

3. In addition to the yield of the Mike device, the modified Operation IVY film may also imply that the Mike device was probably not a deliverable device. This is not clear from the picture since no view of the device itself is shown. The fact that it is on the ground may be explained on the basis of the requirement for extensive scientific measurements, (e.g. the 2 mile helium box), and the size of the "house" door, on the basis of motorized equipment such as cranes. The Los Alamos scientists do not object to the release of this item of information, a judgment in which the Office of Classification concurs, since the deliverability or non-deliverability of the Mike device bears no relationship to whether or not the AEC possesses deliverable thermonuclear weapons, but refers only to a characteristic of the specific device tested.

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4. Lastly some of the methods of measuring weapon effects are shown in somewhat greater detail than has heretofore been released. However, Los Alamos has advised that there would be no objection to the release of this information. In fact much information of this type is already declassifiable involving as it does instrumentation and unclassified techniques which are used for other purposes.

5. The teletype setting forth the position of the Los Alamos Laboratory with respect to the film discussed above is attached as Appendix "D" to this paper. It is to be noted that the references in the teletype to the Curtiss and the "Bhangmeters" are now irrelevant since those sequences have been deleted from the film.

DOE ARCHIVES

6. The Division of Information Services calls attention to difficulties in relations with public media which it believes are likely to follow continued withholding of the film from public exhibition after it has been declassified as recommended by this paper. On some past occasions for various reasons it has been decided not to make public release of information determined to contain no Restricted Data. However, in no such instance has the declassified information been given, as is intended in this case, by communication to a group of public leaders under an Official Use Only marking.

7. Communication of declassified material on H-weapons to a fairly numerous group of public leaders such as Mayors would almost certainly assure that the most impressive facts given the group would soon become public through speeches and press, radio and television interviews after these officials return to their home cities; and that the source of the facts would become public.

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8. Should this happen, the pressure for public showing of the declassified film will become very strong. Indeed, the pressure already has started on the basis of rumors about the content of the film.

9. Although the TOP SECRET and SECRET versions of the film were previously shown to limited audiences whose official duties required their viewing it, one report on the film's content already has been published (the November 1953 issue of FORTUNE magazine, page 121):

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"There is little doubt that the small atoll upon which the device, forerunner of the H-bomb, was detonated was indeed blasted off the face of the Pacific. Where it had been was left a submarine crater several hundred feet deep and wide enough to swallow a dozen Pentagons. The fireball was more than three miles in diameter. The radioactive cloud that materialized from it soared to a height of perhaps twenty miles, well into the stratosphere, in the span of a few minutes, and the energy released was probably twice the four to five megaton estimates usually mentioned. If that was so, the Eniwetok experiment was, in destructive power released, equal to between 400 and 500 Hiroshimas."

On November 16, 1953, the Associated Press correspondent assigned to the Department of Defense placed a request with the Public Information Service that correspondents be permitted to view the film at least for useful background information in reporting to the general public as accurately as possible within security limitations progress on the government's national defense programs.

10. Resisting the pressure for public showing of a declassified film will place the AEC in the position of withholding material which will not affect the common defense and security, according to its own official determination, and which is of absorbing interest to the American public. It seems prudent to the Division of Information Services to avoid this dilemma by determining that following the showing to the Mayor's Con-



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ference, the film will be made available to the public media at a time and under conditions which will best advance the nation's interests in the fields of domestic public information and foreign information operations.

DOE ARCHIVES

11. The FCDA has in mind proposing a January public release when the film would carry a final message from the President or Governor Peterson in place of the concluding seashore soliloquy of the film's principal narrator in the present version. The January timing is described by FCDA as necessary in order to get clearances for and mechanical reproduction of the new ending. However, the Division of Information Services recommends that FCDA be urged, in order to place the Government in the most tenable position after the showing to the Mayors, to make full media public release promptly thereafter. Information Services feels that there will be wide public approval of releasing the film in recognition of the right of citizens as well as officials to be acquainted with the unclassified facts on the atomic weapons phase of the national defense and security.

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APPENDIX "B"

October 15, 1953

Dear Admiral Strauss:

Confirming our conversation Monday, regarding the Mayors' Conference sponsored by the White House December 14 and 15, I feel that it would be beneficial to show a "sanitized" version of the motion picture we discussed. I hope you will be able to work out something.

Kindest regards.

DOE ARCHIVES

Sincerely,

Val Peterson  
Federal Civil Defense  
Administrator

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APPENDIX "C"

UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON 25, D. C.

October 29, 1953

Honorable Val Peterson  
Administrator  
Federal Civil Defense Administration  
Washington 25, D. C.

Dear Mr. Peterson:

DOE ARCHIVES

This is in reply to your letter of October/5 confirming our recent conversation as to the possibility of showing a "sanitized" version of a film on field experimentation in the Pacific to the Mayors' conference sponsored by the White House on December 14 and 15.

As you know, we are trying very hard to complete the necessary reviews and coordination both within the Commission and with other agencies, which are pre-requisite to a public showing. At present, the film is essentially in draft form and we cannot state, with any firmness, that the short time interval will permit us to put the film in shape suitable for this conference. However, please be assured of our best efforts to accomplish this.

Sincerely yours,

/s/

Lewis L. Strauss  
Chairman

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APPENDIX "D"

INCOMING TELETYPE

November 13, 1953

FROM: J Division, LASL, Los Alamos, New Mexico

TO: USAEC, Washington, D. C.

For Charles Marshall from Graves. Cite JIG21453.

**DOE ARCHIVES**

Confirming our telecon of November 12, this laboratory will interpose no objection to the release of version of IVY film shown here but Commission should understand that release represents a change in philosophy. Major items released are; one, megaton yields, approximately twelve megatons. Elimination of words saying this will not conceal this information from knowledgeable observers; two, Mike was a device not deliverable; three, Curtiss is an assembly ship for atomic weapons; four, quick methods of obtaining approximate yields are available, are called Bhangmeters, and depend on measuring some quantity as a function of time; five, methods of measuring various effects are given in much more detail than previously. We recommend that one should not adopt the philosophy that since this has been released one must be more careful of other information and thereby tighten up security to such an extent that our work becomes more difficult. That philosophy might easily give the Commission a very heavy handicap.