

THE UNDER SECRETARY OF STATE
WASHINGTON,
NSC UNDER SECRETARIES COMMITTEE

DECLASSIFIED in Part
PA/HO, Department of State
E.O. 12958, as amended
Date: 8/6/07

S/S 7105238

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April 13, 1971

MEMORANDUM FOR THE PRESIDENT

Subject: Underground Nuclear Test Program
for the Third and Fourth Quarters
of FY 1971 (EMERY III/IV)

An uneventful and successful half-year of nuclear weapons testing suddenly, with the venting of radioactive material in Nevada on December 18, 1970, turned into a period of intensive self-examination by the Atomic Energy Commission. The Under Secretaries Committee thus delayed until now its recommendation to you on the testing program proposed by AEC for the next six months, waiting for the results of AEC's technical/managerial review of its testing procedures.

On the basis of the AEC investigation and of careful study of the issues involved, the Committee recommends your approval of the test program contained in Chairman Seaborg's original request of November 25, 1970. While recommending approval, the Committee, in its Report to you, does draw your attention to a number of factors which may give ammunition to critics of the test program. On balance, however, we found these factors, as well as the psychological impact of the Los Angeles earthquake, containable for this testing cycle. I should point out that while public health, safety, and Test Ban Treaty obligations are well understood by all involved, the possibility of the minor release of radioactivity from future underground tests remains. A release, however small, could stimulate negative publicity.

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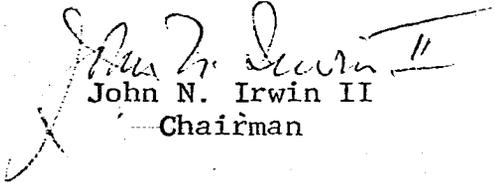
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-2-

We are preparing an analysis of public/Congressional attitudes toward testing in connection with our report on ~~the high yield underground test -- CANNIKIN -- now~~ scheduled for September of this year in the Aleutians. Our recommendations on CANNIKIN will be forthcoming shortly.

We have established, at the suggestion of the AEC, a USC Technical Working Group which will provide this Committee with inter-agency staffing on all forthcoming underground nuclear tests.


John N. Irwin II
Chairman

Enclosure:

Report of the Under Secretaries
Committee to the President on
EMERY III/IV with enclosures.

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REPORT OF THE UNDER SECRETARIES COMMITTEE
TO THE PRESIDENT

Subject: Underground Nuclear Test Program for the Third
and Fourth Quarters of FY 1971 (EMERY III/IV)

The Chairman of the Atomic Energy Commission submitted to the Under Secretaries Committee on November 25, 1970 the projected Underground Nuclear Test Program for the Third and Fourth Quarters of FY 1971 (EMERY III/IV) for the review required by NSDM 18. However, on December 18, an underground test conducted at the Nevada Test Site (BANE BERRY) vented into the atmosphere. The Commission immediately suspended all further tests, and launched a thorough investigation of the accident. Subsequently, the Commission decided to continue the suspension of the test program until the causes of the BANE BERRY venting accident had been clearly identified and appropriate corrective actions had been initiated to reduce substantially the probability of a recurrence of such an incident.

BANE BERRY INVESTIGATION:

The Atomic Energy Commission has now determined the causes of the December 18 venting:

1. The unrecognized high water content of the geologic environment surrounding the BANE BERRY device caused the detonation to act as if it were of higher effective yield and therefore emplaced at too shallow a depth.

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-2-

2. The emplacement geometry and other geologic characteristics of the surrounding media played a contributing, although somewhat lesser, role in the venting.

(The enclosure on BANE BERRY contains a more detailed technical explanation of the accident.)

After careful study of the results of the BANE BERRY investigation, the Commission has imposed (a) a number of additional scientific and technical requirements on the test program and procedures, and (b) a series of additional managerial controls over test operations. New or more stringent requirements have been or are being imposed to insure a more thorough knowledge of the geology of each test site. Specialized consultants are being retained in certain technical areas to supplement or to verify the investigations and assessments of AEC scientists and engineers. Test review procedures are being expanded and strengthened. The functions of the Advisory Panels, particularly the panel of consultants on safety, are being enlarged. An investigation of the BANE BERRY incident in more detail will continue. A major effort is being undertaken to produce a better understanding of the complex problems, both scientific and engineering, that are involved in the containment of low yield tests, with special emphasis on more conservative burial depth.

In view of the corrective measures that have been and are being taken, the Commission believes that testing can now be resumed with the expectation of enhanced safety. The Under Secretaries Committee has discussed the findings of the Commission on BANE BERRY in detail with Dr. Seaborg and members of his staff. We are satisfied that the remedial measures already taken and planned by AEC will permit the resumption of testing with reasonable assurance of minimum risk.

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PROPOSED TEST PROGRAM:

The Commission has reviewed the EMERY III/IV test program initially proposed in November and has determined that the program as originally designed is still valid and required. ~~Because the test program will not begin until~~ early in the fourth quarter of FY 1971, it will not be possible to complete the program before the end of the fiscal year. It will therefore be necessary to carry a number of tests over into the following quarter. All of the tests included in the EMERY III/IV program will be subject to the tighter technical and managerial controls now being imposed.

POSSIBLE NEGATIVE REACTION:

Although the tests included in the EMERY III/IV program do not of themselves raise any particular domestic or international issues, the resumption of underground testing, whatever the specifics of a particular test program, may very well, in the wake of BANE BERRY and the renewed international pressure for a Comprehensive Test Ban, be met with a sharp negative reaction. Given the events of the past few months and the increased public sensitivity both here and abroad to continued nuclear testing, the Committee wishes to draw your attention to three aspects of the proposed test program which may stimulate press, public, and/or Congressional opposition.

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-4-

First: Although the level of activity proposed in EMERY III/IV is in the same range as that of earlier years, the proposed program calls for an increase (from 26 to 31) in the number of tests as well as in the number of devices detonated (from 41 to 49) when compared to the corresponding period of FY 1970 (see enclosure 4).

Second: During calendar year 1969, the US detected 18 Soviet underground tests and only 13 in calendar year 1970 (see enclosure 5), a significantly fewer number than we carried out. (It should, however, be kept in mind that the Soviets may have carried out additional low yield tests which we did not identify.)

Third: The concern already expressed by some members of the scientific community and Congress about CANNIKIN, the test of the large yield ABM SPARTAN warhead slated for September, may be reinforced by the concern generated by the BANE BERRY accident with the end result being increased public opposition to both the Nevada Test Program and the Amchitka experiment.

On the other hand, the apparent increase in the proposed Nevada Test Program stems from the fact that the comparable test period last fiscal year (Third and Fourth Quarters) was shortened from six to five months by the strike of AEC contractor personnel. In fact, if all the tests contained in the proposed test program are carried out as planned over a six month period, the AEC will be maintaining roughly the same monthly level of test activity in the EMERY III/IV program as was maintained in the Third and Fourth Quarters of FY 1970, that is, five tests per month. However, because of the uncertainties on timing introduced by the current suspension of testing, what the actual monthly rate of test activity will be for EMERY III/IV cannot be precisely determined at this time. Since a significant change in the rate of testing could have public repercussions, we intend to keep the monthly level of test activity under continuing review.

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For the mid-term, the Committee understands that the decisions taken on the AEC budget will result in a decrease in weapons testing in FY 1972. The cost figures for the Nevada Test Program reveal a drop from \$143.7 million in FY 1970 to \$133.6 million (estimated) in FY 1971. The downward trend is made even clearer by the still smaller amount (\$119 million) requested for FY 1972. As for CANNIKIN, the Committee is well along in its review of this major event, and will be submitting its report to you in the near future.

CARRY-OVER AUTHORITY:

You will note that the test program proposed under EMERY III/IV covers two quarters rather than the single quarter covered in previous requests. It is as such the first semi-annual program request to be forwarded to you under the new procedure authorized by you in September. While the test program proposals will now cover a period of six months, we believe that the carry-over authority granted the Atomic Energy Commission to carry out approved tests during the quarter following the end of the original approved period if their execution has been unavoidably delayed, should remain unchanged. Thus tests approved in July could be carried out as late as the following March without further approval. (In the case of EMERY III/IV, this would mean that tests approved now could be carried out as late as September 30 without further authorization.) While the extension of the program period coupled with the existing carry-over authority lengthens significantly the possible elapsed time between the approval and the execution of a particular test, it is believed that this stretch-out poses no serious problems. We will in any event continue to follow the test program closely as it proceeds.

The Under Secretaries Committee recommends that you approve EMERY III/IV and reaffirm the existing carry-over

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authority procedure. To implement this recommendation, we have enclosed the text of a Memorandum to the Chairman of the Atomic Energy Commission which you may wish to send.

Enclosures:

1. Suggested Memorandum to the Chairman, AEC.
2. Letter from the Chairman, AEC, dated November 25, 1970.
3. Release of Radioactivity from the BANE BERRY Experiment.
4. Table - U.S. Underground Test Program FY 1964 - FY 1971.
5. Table - Comparison of U.S. and Soviet Underground Nuclear Test Programs 1964-1970.

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