

ATOMIC ENERGY COMMISSION

MEETING NO. 865

10:30 a.m., Thursday, May 21, 1953

Present

Gordon Dean
Henry D. Smyth
Thomas E. Murray
Eugene M. Zuckert

M. W. Boyer
Walter J. Williams
William Mitchell
Max Isenbergh

Roy B. Snapp
Charles A. Perry

Also Present

Don S. Burrows
Walter F. Colby
Richard W. Cook
Comdr. James M. Dunford
Brig. Gen. K. E. Fields
David P. Herron
Jesse C. Johnson
Thomas H. Johnson
Paul W. McDaniel
Philip Mullenbach
Frank K. Pittman
Gerard Smith
Oscar S. Smith
E. R. Trapnell
A. A. Wells
Stuart McLain
C. Arthur Rolander, Jr.
Capt. Wm. L. Guthrie (USN)
Shelby Thompson
Alvin C. Graves
Col. Vincent G. Huston
Dr. John C. Bugher

CLASSIFICATION CANCELLED

~~OR CHANGED TO~~

BY AUTHORITY OF L. M. Salanski
BY R. Andrus DATE 4/14/79

Fall-out Resulting from May 19 Shot

Dr. Bugher reported on the fall-out in the vicinity of the test site resulting from the May 19 shot. The activity recorded in the area of the town of St. George was as high as 6 r. Townspeople were advised to

remain indoors from 9 a.m. until noon on that day, and as a result of these precautionary measures, it was highly probable that no one exceeded the maximum permissible thirteen-week dose of 3.9 r.

With respect to long-range fall-out, the cloud at the 30,000 foot level was approaching the Gulf of Mexico and would probably head out to sea; the cloud at the 40,000 foot level was over the Gulf of Mexico and might reappear over Florida; and the cloud at the 10-20,000 foot level was over the Great Lakes with no reported fall-out as yet.

1. Discussion of Criteria for Determining Whether a Test Detonation Is Fired

Mr. Boyer said that since Mr. Graves was present, he might discuss with the Commission criteria used by the test group in determining when and under what conditions test detonations are fired. This information had been requested by Mr. Zuckert in his memorandum of May 20 and by the Commission at Meeting 864. Mr. Graves introduced the discussion by pointing out that conditions which might be considered desirable in terms of minimizing the danger of fall-out in the area within 100 miles of the test site might well be undesirable in terms of long-range fall-out.

He said that shots will not be fired if winds at the 30-45,000 foot altitude are in the direction of St. George - Bunkersville area; if a vertical wind shear is present which would focus the blast on Las Vegas; if it rains within the immediate vicinity of the test area are forecast. It is also desirable that the winds in the 30-45,000 foot altitude be horizontal and of low velocity. After taking these factors into consideration, a projected wind trajectory is made and if rain is forecast along this trajectory for the period during which the cloud might be over that area, the shot is not fired. Weather forecasts, both long-range and local, are reviewed until half an hour before the shot and if, at any time, these criteria are not met, the shot is postponed. Mr. Graves pointed out that, although the factors described have not been written down, they have been followed rigidly in practice.

Dr. Bugher and Mr. Graves discussed the accuracy of certain predictions in the past and the difficulty of making accurate long-range forecasts. Mr. Smyth and Mr. Zuckert commented that the absence of any serious fall-out or rain-out on populated areas, although due largely

to careful planning of the shots, was due in some part to good fortune.
Dr. Bugher and Mr. Graves agreed that unusual weather occurrences,
such as an unpredicted local thunderstorm causing a rain-out in the
area near the test site, were always possible although not probable and
AEC has been to some extent fortunate to have avoided such events.

Mr. Zuckert asked what would happen if, in spite of predications,
a rain-out occurred over a populated area close to the test. Dr. Bugher
replied that if a heavy rainstorm occurred within three hours of the
detonation in the vicinity of the atomic cloud, it could bring down many
in. per hour. Small areas could be evacuated in time but if this were to
happen over Salt Lake City, for example, all that could be done would
be to have the inhabitants remain indoors.

Mr. Boyer asked whether the fact that the test organization is
under pressure to meet the test schedule makes them more apt to
take chances when they are running behind. Mr. Graves replied that
no chances are taken in order to meet the schedule; the safety standards
are adhered to regardless of whether or not the series is on schedule.
Of course, mistakes in judgment are always possible, especially at the
end of a very tiring test series.

*See
10/5/54
minutes*

Mr. Boyer said that, in response to Mr. Zuckert's memorandum of
March 20 and the Commission request at Meeting 864, the criteria as
outlined by Mr. Graves would be circulated to the Commission for inform-
ation. Extreme care would be exercised in the remaining shots to see
that the criteria were applied and every precaution taken. Mr. Graves
emphasized that the criteria were not new but have been constantly
in use. Mr. Dean asked that the concern of the Commission be conveyed
to the test organization and that everything be done to avoid another
blow-out over St. George.

DELETED

9. Attendance of Congressional Observers at Shot Scheduled for
Monday, May 25

Mr. Trapnell discussed with the Commissioners arrangements
being made for the attendance of 119 Congressmen at the shot scheduled
for Monday, May 25. Mr. Murray said that he planned to attend the
shot and would take part in the briefing, if requested.

Roy B. Snapp
Secretary