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HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 167, c/o Postmaster
San Francisco, California
27 April 1954, 1200I

CHANGE
(NO. 2)

Operations Order
Task Group 7.4 No. 5-54

1. The following Change constitute Change No. 2 to Task Group 7.4 Operations Order 5-54.

2. Make the following pen and ink corrections.

(a) Annex Z, Appendix 1 paragraph 10, add (4) to read: After H-Hour personnel will NOT swim or fish in the ENIWETOK ATOLL area until further notice.

OFFICIAL:

Paul H. Fackler

PAUL H. FACKLER
Lt Colonel, USAF
Director of Operations

HOWELL M. ESTES, JR
Brigadier General, U. S. A. F.
Commander

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HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 187, c/o Postmaster
San Francisco, California
20 April 1954 1200M

Declassified DOD DIR 5200.10

CHANGE
(NO. 1)

Operations Order
Task Group 7.4 No. 5-54

1. The following corrections constitute Change No. 1 to Task Group 7.4 Operations Order No. 5-54.

2. Make the following pen and ink corrections:

a. Annex E, Appendix 4: After 14 BABYFOOD add: (o) Under Channel "A" and delete (o) under Channel "D".

b. Annex L, paragraph 3a, line 9, change: PEWTER TWO on "G" to read PEWTER TWO on "A".

c. Annex Y, paragraph 3a, line 9, change: Channel "D" to read Channel "A" (143.1 mcs).

OFFICIAL:

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[signature] 4/29/86
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JDiaz 5/5/86

CHANGE NO. 1
TASK GROUP 7.4
OPRS ORDER NO. 5-54

Declassified
DOD DIR 5200.10

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Declassified DOD DIR

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APPENDIX 3
TO
ANNEX "M"
OPERATIONS ORDER NO. 5-54

PART 1 - WB-29 RAD/SAFE CODE FOR CLOUD TRACKING OPERATIONS

The code for in-flight reporting of radiation will be used in conjunction with the five digit groups normally devoted to AFOAT-1 reporting. Position, time and altitude will be as normally reported on weather reconnaissance flights. The first group of the five digits group will be used for encode the radiation observations. Readings and general observations are to be coded in sequence and if conformance with the code below. Should the first five digit group not adequately describe the report, successive five-digit groups should be used. To indicate such amplification, the first digit of the first five digit group should be coded accordingly. The numbers indicated for coding the desired information below are examples only. Formal random code numbers will be assigned by CJTF SEVEN prior to the first shot for successive three-hour periods starting at H-hour and terminating at H plus 48 hours. Copies of formal code numbers will be furnished to the Weather Central and the operating agency.

EXAMPLE

*CODE NUMBERS FOR PERIODS IN HOURS AFTER H HOUR				RADIATION MESSAGE
6 to 9	9 to 12	12 to 15	15 to 18	
				First Digit (Report Identification)
4	6	1	7	No detectable radiation above background
9	2	6	8	Radiation (gamma only) report follows
7	0	4	2	Radiation (gamma only) report follows with one amplifying five-digit group
8	4	7	1	Radiation (gamma only) report follows with two amplifying five-digit groups
3	9	8	6	Radiation (gamma only) report follows with three amplifying five-digit groups
1	5	3	0	Dummy
5	1	9	3	Dummy
6	8	0	5	Dummy
2	3	5	9	Dummy
0	7	2	4	Dummy
				Second Digit (Intensity reading above estimated aircraft background)
2	6	5	3	Less than 10 10 mr/hr, but above background

[redacted]

[redacted]

7	2	8	6	10 to 50 mr/hr.
5	7	2	0	50 to 100 mr/hr.
3	4	0	8	100 to 500 mr/hr.
9	1	3	2	500 to 1000 mr/hr.
6	5	9	1	1 to 5 r/hr.
8	9	1	5	5 to 10 r/hr.
1	8	6	4	More than 10 r/hr.
4	0	7	9	Dummy
0	3	4	7	Dummy
				Third Digit (Pertinent additional information on reading reported)
8	9	2	6	No comment on reported readings, or this is an amplifying five-digit group.
5	7	0	3	Instruments (RADIAC) malfunctioning.
2	5	1	9	Readings fluctuating.
6	2	2	5	Spotty radiation levels encountered.
0	3	5	2	Radiation levels in the area are higher, but flying on fringe and taking observations at lower levels of radiation.
3	4	7	0	Having passed through rain shower, background is definitely higher.
1	6	4	8	Readings fluctuating because of intermittent showers.
4	0	6	1	Radiation intensity approximately constant since last report.
7	8	9	4	Radiation intensity steadily increasing since last report.
9	1	8	7	Radiation intensity steadily decreasing since last report.
				Fourth Digit (General trends of mission and other pertinent information)
5	7	2	4	Rad/Safe mission progressing satisfactorily.
1	4	5	2	Changed track (for rad/safe reasons) to that indicated in the clear at end of this message. (Indicate track change in approximate full degrees of latitude and longitude from present position.

[redacted]

2.	1	3	0	Having mechanical difficulties which effect Rad/Safe mission or designated track. (Amplify at end of message, in the clear, if desired).
3	0	4	9	Cloud is visible.
6	2	0	3	Cloud is not visible.
0	5	6	7	No comment.
4	9	8	5	Dummy.
7	3	9	8	Dummy.
9	8	1	6	Dummy.
8	6	7	1	Dummy.
				Fifth Digit (For amplification of previous information)
2	5	7	1	No Comment.
4	2	0	3	Executed turn-out at intensity indicated in second digit of this report.
1	9	4	2	Operating position relative to cloud is unknown.
7	1	9	0	Working leading edge of cloud.
9	6	5	4	Working cloud boundary.
0	8	6	5	Dummy.
3	4	8	6	Dummy.
5	7	2	9	Dummy.
6	0	3	8	Dummy.
8	3	1	7	Dummy.

EXAMPLE: (H plus 14 hour message).

". . . . . .40549 34125 64321 83679. . . . . ."

for

"Radiation report follows with one amplifying five-digit group, 100-500 mr/hr, radiation levels in the area are higher but flying on fringe and taking observations at lower levels of radiation, cloud is visible, working leading edge of cloud, dummy, reading fluctuating, Rad/Safe mission progressing satisfactorily, plus two dummy five-digit group"

"Actual code numbers for each shot will be assigned and distributed by JTF SEVEN five (5) days prior to shot time.

[redacted]

Annex "N"

In 3 pages

ANNEX "N"

TO

OPERATIONS ORDER NO. 5-54

DECONTAMINATION

[redacted]

ANNEX "N"
TO
OPERATIONS ORDER NO. 5-54
DECONTAMINATION

HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 187, c/o Postmaster
San Francisco, California
7 April 1954, 1800 M

1. MISSION: To provide, operate and maintain facilities for personnel and aircraft decontamination and for personnel dosimetry.

PART 1
AIRCRAFT DECONTAMINATION

2. RESPONSIBILITIES:

a. Test Support Unit:

(1) Provide primary aircraft decontamination facilities on ENIWETOK ISLAND.

(2) Furnish necessary supplies and equipment to decontaminate all affected Air Force aircraft.

(3) Be prepared to assist TG 7.3 in the decontamination of Navy aircraft.

b. Test Aircraft Unit:

(1) Furnish representatives from communications to advise the decontamination officer concerning any communications equipment involved in the washdown of affected aircraft.

(2) Furnish ground crew members to assist in washing down organizational aircraft.

c. Test Services Unit:

(1) In the event of an accidential contamination, furnish representatives of communications and ground crews of the affected aircraft to assist in decontamination operations.

3. PROCEDURES: Procedures to be followed are listed below in in chronological sequence of execution. These procedures will be thoroughly rehearsed.

a. On D-Day, sampler F-84's, WB-29 and FB-36 will be parked in designated "hot" decay areas.

b. All other aircraft will be checked upon landing for evidence of radiological contamination. If an aircraft is contaminated, above 25 mr/hr, it will be isolated and posted.

c. The Sampler FB-36's will be parked, one on the decontamination pad and one on the turn around pad, and checked for radiation intensities by the same monitor used in a. and b. above.

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[redacted]

d. Unless urgency necessitates, no aircraft decontamination will be attempted until D plus 1 day, at which time the B-36's will be decontaminated first.

e. As soon as the radiation intensities are reduced to tolerable levels, to be determined by the Aircraft Decontamination Officer, Test Support Unit, the B-36's will be returned to there normal parking space.

f. Second priority for decontamination will be the F-84 sampler aircraft.

g. Third priority for decontamination will be WB-29 aircraft.

h. Fourth priority for decontamination will be those aircraft accidentally contaminated.

i. Before aircraft are cleared for flying, the intensity of radiation at crew positions must be less than 10 mr/hr.

j. As aircraft are decontaminated, they will be released to maintenance.

PART 11
PERSONNEL DECONTAMINATION

4. RESPONSIBILITIES:

a. Test Support Unit:

(1) Provide primary personnel decontamination facilities for all personnel on ENIWETOK ISLAND.

(2) Provide protective clothing for use by sampler aircraft crews, aircraft decontamination crews, maintenance crews, etc.

(3) Provide all film badges and dosimeters for use by sampler aircraft crews and for all other individuals who will enter a radiation field of more than 10 mr/hr.

(4) Maintain individual records of dosage received so that personnel may be withdrawn from exposure to radiation before exceeding their maximum permissible exposure of 3.9 roentgens for the operation.

b. Test Aircraft Unit:

(1) Brief personnel concerning all procedures to be followed in personnel decontamination.

c. Test Services Unit:

(1) Brief personnel concerned on procedures to be followed in personnel decontamination.

5. PROCEDURES: The Personnel Decontamination Section of the Test Support Unit will:

a. On D minus 10 days, furnish to J-7 Division, TG 7.1, estimate of number of film badges needed on shot and subsequent days.

b. On D minus 1 day, obtain dosimeters and calibrated radiac instruments from the Instrumentation Section of the Test Aircraft Unit.

[redacted]

c. On D minus 1 day, install film badges and other special radiation detection controls in designated aircraft.

d. On D Day, issue protective clothing, film badges and dosimeters to all air-crew members of sampling aircraft and to air-crew members of aircraft which will be flying within 100 miles of the shot site at H-Hour.

e. On D Day, issue protective clothing, film badges and dosimeters to all individuals who will be utilized as rad-safe monitors by Air Force Task Units.

f. On D Day, operate the personnel decontamination center for all individuals who have been issued film badges. Level of tolerance acceptable on any skin surface is 1 mr/hr; on clothing it is 7 mr/hr; and on underclothing it is 2 mr/hr.

g. On D Day, assist in removing aircrew members from sampler aircraft and provide transportation to the personnel decontamination center.

h. On D plus 1 day, launder contaminated clothing until levels of intensity are reduced substantially to that of background. When clothing has been decontaminated sufficiently, it will be returned to the issue section and reused. Shoes will be isolated and allowed to undergo natural decay processes until the level of radiation intensity is sufficiently lowered.

i. Each day, deliver to J-7 Division, TG 7.1, all exposed film badges. Record the results of each day's operations on individual cumulative radiation exposure cards. If any individual has reached 3.0 roentgens cumulative dosage during the preceeding twenty-four hour period, his name will be reported immediately to his commander and to the Rad-Safe Officer, TG 7.4.

HOWELL M. ESTES, JR.
Brigadier General, U. S. A. F.
Commander

OFFICIAL:

PAUL H. FACKLER
Lt Colonel, USAF
Director of Operations

[redacted]

Annex O

In 3 pages

ANNEX O

TO

OPERATIONS ORDER NO. 5-54

B-50 IBDA FLIGHT PROCEDURES

[redacted]

ANNEX O
TO
OPERATIONS ORDER NO. 5-54
B-50 IBDA FLIGHT PROCEDURES

HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 187, c/o Postmaster
San Francisco, California
7 April 1954, 1800M

1. MISSION:

a. To provide Strategic Air Command and other interested agencies with IBDA data.

b. To familiarize Strategic Air Command crews with the phenomena associated with thermonuclear detonations.

2. RESPONSIBILITIES:

a. The SAC Detachment Commander will be responsible for proper crew selection and for the procedures outlined in paragraph 3 below until arrival of the aircraft at Eniwetok, and for that portion subsequent to crew debriefing.

b. The Test Aircraft Unit Commander will be responsible for that portion of the procedures outlined in paragraph 3 below subsequent to arrival of the aircraft at Eniwetok and until completion of debriefing of all assigned missions.

3. PROCEDURES:

a. Three (3) Guam based B-50 aircraft and crews, to include a qualified Rad-Safe monitor, will be selected and dispatched sufficiently in advance of each shot so as to arrive at Eniwetok not later than 1500 hours on D minus three (3) days. One (1) of the three (3) B-50's will be modified to give a capability for crater photography, in addition to participating in the shot-day missions. The modifications will be done through coordination of TU-13, TG 7.1 personnel and the Test Aircraft Unit, for completion by 1600 hours on D minus one (1) day.

(1) No more than four (4) maintenance personnel will accompany each aircraft to Eniwetok. These personnel will be qualified to perform any maintenance necessary to assure proper preparation of the aircraft for its mission.

(a) A small enroute maintenance kit will accompany each aircraft to Eniwetok (No B-50 parts will be available).

(b) One R-4360 built-up engine, complete with power pack, will be prepositioned at Eniwetok and this level will be maintained throughout the operation.

(2) All crews and maintenance personnel concerned will be briefed on Pacific Proving Grounds restriction on

[redacted]

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contraband items such as firearms, cameras, narcotics, etc, as prescribed in Task Group 7.4 Operations Order 1-53.

(3) All of the above personnel will possess a minimum security clearance of SECRET.

(4) All crews will be capable of assuming any position in flight to provide for a replacement in the event the leader or number two (2) aircraft is forced to abort.

b. Immediately upon landing, the crews will be checked through security and billeting. The Flight Commander will then report to the Test Aircraft Unit Commander to receive instructions on:

(1) Crystallization of aircraft with proper test frequencies.

(2) Briefings to attend.

(3) Spotting of aircraft in take-off order.

(4) Procurement of Film Badges and Dosimeters.

c. The B-50's, call sign HARDTIME 1, 2 and 3, will take off on D day as scheduled in Annex C (Aircraft Mission Execution Chart). HARDTIME ONE (1) will call the AOC, call sign DIRTY FACE, on VHF Channel "C". HARDTIME TWO (2) and THREE (3) will standby on Channel "C". DIRTY FACE will check all modes of IFF and the HF air-ground Channel J-410 on all aircraft. Aircraft will proceed along designated corridor in a night cell formation assigned by Annex D (Aircraft H-hour Positions and Flight Patterns). DIRTY FACE will maintain control until the flight is approximately 50 miles from Eniwetok, then will instruct HARDTIME ONE (1) to contact the CIC, call sign BOUNDARY TARE, on VHF Channel "G", with IFF squawking mode 2. HARDTIME TWO (2) and THREE (3) will switch to Channel "G" at this time but will not squawk IFF unless instructed to do so by BOUNDARY TARE. In the event HARDTIME ONE (1) is forced to abort, HARDTIME TWO (2) will assume the lead together with HARDTIME ONE's H-hour position, with HARDTIME THREE (3) assuming HARDTIME TWO's H-hour position. If two (2) HARDTIME aircraft abort, the remaining HARDTIME aircraft will fill HARDTIME ONE's H-hour position.

d. BOUNDARY TARE Controller will establish radio and IFF contact with HARDTIME ONE (1) and provide him with range and bearing to his H-hour position. Upon reaching his prescribed orbit pattern he will establish wind run pattern to culminate in his H-hour position as prescribed in Annex D. H-hour position tolerances are plus or minus five (5) seconds. Positioning will be the responsibility of the aircraft commander. BOUNDARY TARE will provide range from Ground Zero, and will issue any required emergency instructions. HARDTIME TWO (2) and THREE (3) will position themselves on HARDTIME ONE (1), as prescribed by Annex D. with BOUNDARY TARE Controller periodically checking their relative positions. BOUNDARY TARE will provide weather and upper wind information as required and will instruct HARDTIME ONE (1) to switch to Channel "B" for all time hacks. HARDTIME TWO (2) and THREE (3) will automatically switch to Channel "B" when HARDTIME ONE (1) is instructed to do so for time hacks. All HARDTIME aircraft will maintain radio silence on Channel "B" at all times. Immediately upon completion of IBDA photography (approximately H plus 15 minutes), the three (3) aircraft will rejoin in formation over the Command Ship or at a point in space as directed by the Controller, and advise BOUNDARY TARE that mission is complete. At

[redacted]

[redacted]

no time will these aircraft enter or maneuver to a position closer than 10 nautical miles from the atomic cloud. BOUNDARY TARE will provide range and bearing to base and will retain control until the flight is approximately 50 miles from Eniwetok. At this time HARDTIME ONE (1) will be instructed to switch to Channel "C" and call DIRTY FACE. HARDTIME TWO (2) and THREE (3) will also switch to Channel "C" at this time. If at any time HARDTIME aircraft cannot contact DIRTY FACE on Channel "C" or BOUNDARY TARE on Channel "C", HF air-ground circuit J-410 will be used as an alternate.

e. Crews will be debriefed immediately upon landing. The two (2) B-50's departing for Guam on shot-day, will turn in the VHF mission crystals, film badges and dosimeters; these two (2) aircraft will be refueled; maintenance personnel will be picked up; and the aircraft will depart for Guam without delay. Normal OATC procedures will be used.

f. Participation will be in shots UNION, YANKEE, NECTAR and ECHO.

g. The post-crater mission will be accomplished by the modified B-50 as soon as possible after detonation, depending upon the Rad/Safety situation. At the completion of this mission, photographs taken, film badges and dosimeters and VHF mission crystals will be turned in; aircraft refueled, maintenance personnel picked up, and aircraft will depart for Guam without delay. Normal OATC procedures will be used.

HOWELL M. ESTES, JR.
Brigadier General, U. S. A. F.
Commander

OFFICIAL:

Ralph H. Fackler

PAUL H. FACKLER
Lt Colonel, USAF
Director of Operations

[redacted]

[redacted]

Annex Q

In 2 pages

ANNEX Q

TO

OPERATIONS ORDER NO. 5-54

OBSERVER AIRCRAFT FLIGHT PROCEDURES

[redacted]

ANNEX "Q"
TO
OPERATIONS ORDER NO. 5-54
OBSERVER AIRCRAFT FLIGHT PROCEDURES

HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 187, c/o Postmaster
San Francisco, California
7 April 1954, 1800M

1. MISSION:

a. To monitor the arrival of official observers and project participants who will visit Eniwetok during the CASTLE operation.

b. To integrate and properly position the observer aircraft, call sign VIKING, into CASTLE Operations, providing also for the departure of these aircraft from the operational area to the point of next intended landing outside Pacific Proving Ground area.

2. RESPONSIBILITIES:

a. Official observers and project participants will be assisted in accordance with the provisions of Task Group 7.4 Headquarters Office Instructions, Number 900-1, dated 20 February 1954.

b. Briefings for official observers and participants are outlined in Annex X (Briefings).

c. Test Aircraft Unit will:

(1) Brief the observer aircraft commander to file DD Form 175 at least twelve hours prior to scheduled take-off for the observer mission.

(2) Integrate the observer aircraft into Annex "C" (Aircraft Mission Execution Chart).

d. VIKING Aircraft Commander will:

(1) Attend VIP briefings.

(2) Establish and maintain route, altitude, and orbit patterns and comply with instructions received from the ACC and CIC.

3. PROCEDURES:

a. The official observer aircraft, call sign VIKING 1, 2, 3, etc., will take off as scheduled in Annex "C" (Aircraft Mission Execution Chart), and climb to the altitude prescribed in Appendix 2, Annex D (H-Hour Aircraft Flight Plans), on a course of 180°. VIKING pilots will call DIRTY FACE on VHF Channel "C". DIRTY FACE will check all modes of IFF, and HF air-ground Circuit J-410 while VIKING aircraft are proceeding to their H-hours positions as designated in Appendix 1, Annex D (Aircraft H-Hour Positioning Chart). Aircraft will fly the 180° course for fifty (50) NM, then establish a direct course for a position sixty (60) NM fron Ground Zero, along an outbound true bearing of 225° from Ground Zero to enter and maintain prescribed orbit patterns at this point. DIRTY FACE will instruct VIKING aircraft to contact the CIC (BOUNDARY TARE) for positioning control on VHF Channel "C" and HF Circuit J-410. VIKING aircraft will squawk IFF Mode 2.

[redacted]

b. BOUNDARY TARE controller will establish radio and IFF contact with VIKING aircraft and provide them with range and bearing to their H-hour positions. VIKING aircraft will remain under the direct control of BOUNDARY TARE on VHF Channel "C" until completion of their missions, except when directed to switch to VHF Channel "B" for time hacks. VIKING aircraft will maintain radio silence on Channel "B", returning to assigned mission Channel (VHF "C") immediately after receiving the time hacks. Aircraft will maintain a side attitude to Ground Zero until after shock wave arrival to allow the Official Observers to watch the cloud growth. BOUNDARY TARE will continue to monitor the VIKING aircraft flight path after H-Hour to insure that they maintain 60 NM from Ground Zero.

c. VIKING aircraft will be instructed by BOUNDARY TARE to switch to VHF Channel "B" for the following time hacks:

(1) H - 2 hours 2 minutes for H - 2 time hack.

(2) H - 1 hour 2 minutes for H - 1 time hack.

(3) H- 32 minutes for H - 30 minutes time hack.

(4) H - 3 minutes and remain on B until after H-hour.

d. VIKING aircraft will maintain assigned altitude at all times and execute normal orbit pattern so that observers can watch cloud development.

e. Commanders of VIKING aircraft will depart from the operational area not later than H + 1 hour. However, the departure plan must be coordinated first with the CIC (BOUNDARY TARE) on VHF Channel "C". BOUNDARY TARE will then release the VIKING aircraft concerned from the area, with instructions to proceed to its point of first intended landing as specified by the pilot in his previously filed DD Form 175. BOUNDARY TARE also will notify DIRTY FACE of the VIKING departure.

f. Personnel aboard each VIKING aircraft will turn in their density goggles and film badges, together with any other related special equipment, to the TG 7.1 Radiological Safety monitor accompanying each aircraft. In turn, the Rad Safety monitor will insure that all such items of equipment are returned to the proper agency of Joint Task Force SEVEN.

g. Aircraft commanders will maintain orbit pattern as outlined in their briefing and b above. All VIKING aircraft will follow this pattern without exception. Should any person aboard the VIKING aircraft insist that the flight pattern be changed, the aircraft commander will contact his controller on BOUNDARY TARE using normal communications procedures. BOUNDARY TARE will relay this information to the Commander, Task Group 7.4 for his decision.

OFFICIAL:

Paul H. Fackler

PAUL H. FACKIER
Lt Colonel, USAF
Director of Operations

HOWELL M. ESTES, JR.
Brigadier General, U. S. A. F.
Commander

[redacted]

TASK GROUP 7.4
OPRS ORDER NO. 5-54
ANNEX Q

Annex R

In 2 pages

ANNEX R

TO

OPERATIONS ORDER NO. 5-54

SAMPLE RECOVERY PROCEDURES

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ANNEX R
TO
OPERATIONS ORDER NO. 5-54
SAMPLE RECOVERY PROCEDURES

HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 187, c/o Postmaster
San Francisco, California
7 April 1954 1800M

1. MISSION: The purpose of this Annex is to outline tasks to be accomplished by this headquarters and by subordinate Task Units in sample recovery operations.

2. RESPONSIBILITIES:

a. Sample recovery operations encompasses three (3) separate operations: Sample removal, Sample packaging, and Sample return. The Air Task Group Rad-Safe responsibilities will be executed in the following manner: Test Aircraft Unit will be responsible for sample removal: Test Support Unit will be responsible for providing assistance and normal support for Sample return. Sample packaging is the responsibility of Task Group 7.1.

b. The extent to which the Air Task Group is responsible in each of these three (3) operations is as follows:

(1) The Test Aircraft Unit will:

(a) Park and secure aircraft.

(b) Assist pilot from aircraft, and remove film badges.

(c) Provide one trained Rad-Safe monitor to stand-by during Sample removal to insure that exposure to radiological hazard is reduced to a minimum.

(d) Provide personnel for removal of radiochemical samples from aircraft.

(e) Provide personnel to support Task Group 7.1 in their packaging responsibilities.

(2) The Test Support Unit will:

(a) Isolate parking area, using ropes, radiation signs and military or air police guards to enforce the quarentine as required.

(b) Refuel sample return aircraft as required.

(c) Provide meals and inflight lunches.

(d) Provide billeting for the crews of sample return aircraft.

(e) Assure timely loading to accomplish take-off schedule as listed in g below.

[redacted]

[redacted]

(f) Insure that samples will not present a radiological hazard on the return flight as a result of improper packaging.

(g) Assure the departure of four (4) R6D sample return aircraft from ENIWETOK ISLAND on the following schedule:

1. Two (2) aircraft as early as H/5:00, to be determined by progress of sampling,

2. One (1) aircraft departs ENIWETOK approximately H/36:00.

3. One (1) aircraft departs ENIWETOK approximately H/72:00.

(3) The MATS will arrange for the arrival of sample return aircraft at ENIWETOK on the following schedule:

(a) Priority I trips will arrive at 0600M on D-2 days and will be operated with heavy type transport equipment.

(b) Priority II trip will be in position and ready for departure at ENIWETOK ISIAND with a back-up aircraft at KWAJALEIN ISLAND at 1800M on D-Day and will be operated with medium type transport equipment.

(c) Priority III trip will be in position and ready for departure at ENIWETOK ISLAND at 0600 on D/3 days and will be operated with medium type transport equipment.

3. PROCEDURES: Specific detailed operating procedures for the accomplishment of the above will be prepared by the Test Unit responsible.

HOWELL M. ESTES, JR.
Brigadier General, U. S. A. F.
Commander

OFFICIAL:

PAUL H. FACKLER
Lt Colonel, USAF
Director of Operations

[redacted]

Annex S

In 2 pages

ANNEX S

TO

OPERATIONS ORDER NO. 5-54

AOC PROCEDURES

[redacted]

ANNEX "S"
TO
OPERATIONS ORDER 5-54
AOC PROCEDURES

HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 187, c/o Postmaster
San Francisco, California
7 April 1954, 1800M

1. PURPOSE: To outline all control procedures and functions of AOC personnel for Operation CASTLE.

2. SCOPE: This Annex describes in detail all procedures to be used in the AOC to conform with the policies and responsibilities as outlined in Annex "K", Operations Order No. 1-53.

3. PROCEDURES:

a. The AOC (DIRTY FACE) will supervise and coordinate operations of ENIWETOK Approach control, Area control and SAR control. A senior controller will be assigned to the AOC for the purpose of supervising the operation of the AOC during all periods of operation. During all shot and rehearsal periods he will be under the supervisory control of the Senior Air Controller of the CIC (BOUNDARY TARE) and will work with and assist the CIC in accomplishing the aircraft missions as outlined in Annexes "F" through "M", "O" through "Q" and "U". The Area Controllers, Status Controllers, Approach Controllers, SAR controllers, Plotters and radio operators of the AOC will be personnel assigned to the operational control of headquarters, Task Group 7.4 by Test Units for the purpose of operating the AOC on a twenty-four (24) basis and to man the AOC to maximum strength during all shot and rehearsal periods. Personnel will report to duty as scheduled and will check the facilities and equipment assigned to perform their mission to insure it is functioning properly. The status and plotting boards will be checked for proper display of information.

b. All aircraft will take off as scheduled in Annex "C" contacting DIRTY FACE on 137.88MC (Channel C). DIRTY FACE will check all modes of IFF equipment and HF air-ground communications on all aircraft in route to assigned control point in Annex "D" (H-Hour positions and Flight Patterns). If any F-84 aircraft fails to respond to the proper IFF or communications check they will be aborted and returned to base. The above checks will be conducted while on course to assigned mission. DIRTY FACE will maintain positive IFF and VHF control until BOUNDARY TARE establishes positive radar and radio control.

c. VHF Channels, IFF modes and mission instructions for aircraft are specified in aircraft mission briefings and individual controller instructions.

d. The Status Controller will be responsible, through information received and told to his plotters and radio operators for the maintaining of the appropriate status boards. On the mission status board, position one (1) and six (6) will be obtained from the control tower, posted and told forward to BOUNDARY TARE. Positions two (2) through five (5) will be received from BOUNDARY TARE. Position five (5) will be confirmed by the Area Controller. Positions are:

(1) Position one (1) - Actual take off time of aircraft.

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(2) Position two (2) - Actual time CIC establishes contact and accepts control from AOC (approximately 50 miles from ENIWETOK at designated control point outbound).

(3) Position three (3) - Actual time aircraft arrives at assigned mission station.

(4) Position four (4) - Actual time aircraft departs mission station.

(5) Position five (5) - Actual time AOC establishes contact and accepts control from CIC. (Approximately 50 miles at designated control point inbound).

(6) Position six (6) - Actual time aircraft lands.

e. Plotting will be the responsibility of the Status Controller through his assigned plotters and tellers. Aircraft will be plotted from position one (1) to position two (2) and from Position five (5) to position six (6) at three minute intervals from positions received from the AREA Controllers scope. After aircraft depart position two (2) they will be plotted by one arrow with time and call sign as told forward from the CIC.

f. SAR missions in the ENIWETOK area will be conducted as set forth in Annex "F" and will be controller from the AOC as directed in "Emergency Rescue Operating Procedure (AOC)".

HOWELL M. ESTES, JR.
Brigadier General, U. S. A. F.
Commander

OFFICIAL:

Paul H. Fackler

PAUL H. FACKLER
Lt Colonel, USAF
Director of Operations

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Annex "T":

In 3 pages w/2 Appendices

consisting of 9 pages

ANNEX "T"

TO

OPERATIONS ORDER NO. 5-54

CIC PROCEDURES

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ANNEX T
TO
OPERATION ORDER NO. 5-54
CIC PROCEDURES

HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 187, c/o Postmaster
San Francisco, California
7 April 1954, 1800M

1. PURPOSE: To outline all control procedures and functions of CIC personnel for Operation CASTLE.

2. SCOPE: This annex covers all detail procedures for use in the CIC. The overall aircraft control policies and responsibilities are outlined in Annex K, Operations Order 1-53.

3. PROCEDURES:

a. Supervisory control of the air operation will be exercised from the CIC on the USS ESTES, call sign "BOUNDARY TARE". BOUNDARY TARE as a supervisory control agency, will work with and assist the AOC (DIRTY FACE) and the RB-36 Control Aircraft (CASSIDY) in accomplishing the aircraft missions as outlined in Annexes F through M, O through Q and U. To provide maximum coordination and assistance, the senior air controller, Task Group 7.4 will delegate to six (6) assistant controllers (from USS ESTES CIC complement) direct control of specified aircraft. The plotters, tellers, monitor-tellers and status personnel to coordinate CIC operations with the AOC and JOC will be the enlisted personnel of the CIC complement. A member of the CIC complement will supervise the status display and plotting procedures under the overall supervision of the Senior Controller of Task Group 7.4. Personnel will report for duty as specified in specific briefing for each assigned position. Upon reporting for duty they will thoroughly check the electronic equipment assigned to perform their mission to insure it is functioning properly. The aircraft status boards and plotting boards will be checked for proper information pertaining to their assigned aircraft.

b. All aircraft will take-off as scheduled in Annex C contacting the AOC on VHF Channel C. DIRTY FACE will check all modes of Mark 10 IFF on all aircraft immediately after take-off and HF airground communications on all aircraft except jets. The aircraft will take-off and proceed on course through assigned corridor in Annex D to mission station making the above electronic checks enroute. DIRTY FACE will maintain positive IFF and VHF control until BOUNDARY TARE establishes positive radar and radio contact at assigned control point in Annex D7-1. Aircraft equipped with HF air ground equipment will establish radio contact on assigned HF air ground frequency with BOUNDARY TARE.

c. VHF Channels, IFF modes and mission instructions for aircraft are specified in specific aircraft mission briefings and individual controller instructions.

d. The controller will be responsible, through his teller, to maintain and display on the appropriate status boards positions two (2) through five (5) on each aircraft assigned for his control. Positions

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One (1) and six (6) will be received from the AOC and be the responsibility of the status Controller for proper display.

(1) Position one (1) - Actual take-off time of aircraft.

(2) Position two (2) - Actual time CIC establishes and accepts control from AOC. (Approximately 50 miles outbound at assigned control point.

(3) Position three (3) - Actual time aircraft arrives at assigned mission station.

(4) Position four (4) - Actual time aircraft departs mission station.

(5) Position five (5) - Actual time AOC establishes and accepts control from CIC. (Approximately 50 miles out, inbound at assigned control point.)

(6) Position six (6) - Actual time aircraft lands.

e. Plotting will be the responsibility of the controller through his assigned teller. Aircraft will be plotted from positions two (2), to three (3) and positions four (4) to five (5) with three arrows with the lead arrow designating the last position of the aircraft. The time will be plotted in minutes below each arrow with the letter designating the aircraft call sign ($\xrightarrow[08]{}$ $\xrightarrow[11]{}$ $\xrightarrow[14]{E-2}$). While aircraft are at position three (3) (on mission station) one (1) arrow will be used to reduce congested plotting on the operation board. Plots will be displayed on each aircraft at a mixmum interval of three minutes.

f. Aircraft in emergency and the assisting aircraft or ships will be plotted with three arrows at an interval not to exceed one (1) minute to maintain an accurate position, direction and time. Emergencies will take priority over other aircraft plots to maintain an up to the minute display.

g. Controllers will be thoroughly familiar with aircraft flight procedures, as outlined for each specific event.

h. Scope Controller Assignments:

(1) Controller #1: Scope #1, SAC B-50's IBDA Aircraft, call sign; HARDTIME 1, 2 and 3. SA-16 Search and Rescue Aircraft, call sign: STABLE.

(2) Controller #2: Scope #2, C-54 Photo Aircraft, call sign: PEWTER 2, B-36 FEATHERWEIGHT SAMPLERS, call sign; FLOYD 1 and 2.

(3) Controller #3: Scope #3, C-54 Photo Aircraft, call sign: PEWTER 3 and Official Observers, call sign; VIKING. (EAGER BEAVER.)

(4) Controller #4: Scope #4, B-36 Effects Aircraft, call sign: ELAINE 1. F-84 SAMPLERS, call sign TIGER RED 1 and 2, TIGER WHITE 3 and 4.

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(5) Controller #5: Scope #5, RB-36 Control, call sign: CASSIDY 1. WB-29 Weather Aircraft, call sign: WILSON 1 SA-16 Search and Rescue, call sign: STABLE. F-84 Sampler Aircraft, call sign: TIGER RED, 3 and 4 and TIGER BLUE, 1 and 2.

(6) Controller #6: Scope #6, B-47 Effects Aircraft, call sign: ELAINE 2. F-84 Sampler Aircraft call sign: TIGER SNIFFER 1 and 2, TIGER WHITE 1 and 2, and TIGER BLUE 3 and 4.

(7) Controller #7: Scope #7, C-54 Photo Aircraft, call sign: PEWTER 1. WB-29 cloud trackers, call sign: WILSON 2 and 3.

HOWELL M. ESTES, JR.
Brigadier General, U. S. A. F.
Commander

2 Appendices:
1. GIC Plotter-Teller Instructions
2. GIC Operators Instructions

OFFICIAL:

Paul H Fackler

PAUL H. FACKLER
Lt Colonel, USAF
Director of Operations

[redacted]

TASK GROUP 7.4
OPRS ORDER NO. 5-54
ANNEX T

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APPENDIX 1
TO
ANNEX T
OPERATIONS ORDER NO. 5-54
CIC PLOTTER TELLER INSTRUCTIONS

Scope Controller #1: Will control three (3) B-50 type aircraft, call sign, HARDTIME 1, 2 and 3; and two (2) SA-16 Search and Rescue aircraft, call sign, STABLE. He will report for duty fifteen (15) minutes prior to the scheduled arrival at Position 2 of HARDTIME 1, 2 and 3 in Annex C (Aircraft Mission Execution Chart). He will check Scope #1 and VHF Channel G to assure they are functioning properly and have his teller check his communications with the Effects Status Clerk and his plotter. HARDTIME 1 will be lead aircraft for formation and be the only aircraft showing IFF (mode 2). The controller will monitor VHF Channel G to receive a call from HARDTIME 1 when approximately fifty (50) miles from Eniwetok at designated control point in Annex D (Aircraft H-Hour Position and Flight Patterns). When positive control is established with HARDTIME aircraft the teller will give the status clerk the time control is accepted and start three minute position reporting to the plotter. The controller will give HARDTIME 1 range and bearing to his assigned mission station in Annex D. When HARDTIME aircraft reach respective mission stations, position three will be reported to the status clerk. HARDTIME 2 and 3 will position themselves on HARDTIME 1. The controller will closely monitor the flight patterns of HARDTIME 1, 2 and 3, and be prepared to issue necessary instructions or provide range and bearing in relation to Ground Zero to aid them in meeting H-Hour positions. After H-Hour, mission complete, HARDTIME 1 will assume lead aircraft position and be given range and bearing to FRED and instructed to squawk 1. When HARDTIME aircraft depart cloud area for base, the teller will give position four to the status clerk. The controller will have HARDTIME switch to VHF Channel C and call DIRTY FACE when approximately fifty (50) miles from FRED and report position five. The controller will notify HARDTIME to switch to VHF Channel B for all time hacks and return to Channel G immediately following receipt of same.

After HARDTIME aircraft have reached position five the controller will accept control of STABLE on VHF Channel H and the HF air ground circuit J-410. STABLE will be on a vector to BOUNDARY TARE from his H-Hour position showing IFF mode 3. STABLE will hold over BOUNDARY TARE upon arrival and maintain this position until the sampling proceeds sixty (60) miles from BOUNDARY TARE. STABLE will then be vectored to a position twenty (20) miles from BOUNDARY TARE and between BOUNDARY TARE and CASSIDY 1 in the flight path of TIGER aircraft. As the sampling range extends STABLE will be moved approximately one-third the distance from BOUNDARY TARE to CASSIDY 1.

The controller must at all times be aware of cloud fall out and be prepared to move STABLE to a safe orbit position. The controller will

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provide STABLE aircraft with sea conditions for the local area and be prepared to take over search and rescue during emergencies. After the last TIGER aircraft has completed sampling and returning to base the controller will vector STABLE to his assigned corridor in Annex D and switch control to DIRTY FACE.

Scope Controller #2: Will control one C-54 photo aircraft, call sign, PEWTER 2 and two B-36 sampler aircraft, call sign, FLOYD 1 and 2. He will report for duty fifteen (15) minutes prior to the scheduled arrival at position 2 for PEWTER 2 in Annex C (Aircraft Mission Execution Chart). He will check scope #2 and VHF Channel H to insure they are functioning properly and have his teller check his communications with the Effects Status Clerk and his plotter. He will monitor VHF Channel A to receive a call from PEWTER 2 when approximately fifty (50) miles from Eniwetok at designated control point in Annex D (Aircraft H-Hour Positions and Flight Pattern). When positive control is established with PEWTER 2, the teller will give the status clerk the time control is accepted and start three minute position reporting to the plotter. The controller will give PEWTER 2 range and bearing to his assigned mission station with IFF on mode 2. When PEWTER 2 reaches mission station, position three will be reported to the status clerk. The controller will place PEWTER 2 in a starboard race track pattern with approximately three (3) minute legs broadside to Ground Zero. The controller will provide PEWTER 2 with range from Ground Zero each time he passes through his assigned true bearing from Ground Zero. The controller will provide position reports and necessary vectors to insure PEWTER 2 meeting his H-Hour position within accepted tolerance of plus or minus fifteen (15) seconds. Immediately after H-Hour, PEWTER 2 will be instructed to squawk mode 1 and fly at his own discretion to photograph cloud. The controller will continue to track PEWTER 2 and give him range and bearing to his designated control point upon completion of mission. When PEWTER 2 departs cloud area for base, the teller will give position four to the status clerk. The controller will maintain control until PEWTER 2 reaches the control point, inbound, and control is accepted by DIRTY FACE, at which time, position five will be told to the status clerk. Scope Controller #2 will have PEWTER 2 switch to Channel B for Time Hacks: designated by blinking light only (disregard solid light). Immediately after DIRTY FACE accepts control of PEWTER 2, Controller #2 will switch to Channel F and standby to accept control of FLOYD 1 and 2 upon arrival at their designated control point. FLOYD 1 and 2 will be vectored to CASSIDY 1 squawking mode 1. This will be position three for FLOYD 1 and 2. CASSIDY 1 or 2 will direct sampling mission for FLOYD 1 and 2. The controller will continue to track and have plotted three minute positions. When FLOYD completes sampling mission position four will be reported and the controller will vector FLOYD aircraft to the designated control point fifty (50) miles from base and turn control of FLOYD aircraft over to DIRTY FACE on VHF Channel C. This will be position five for FLOYD 1 and 2.

Scope Controller #3: Will control one C-54 photo aircraft, call sign, PEWTER 3 and Official Observer aircraft call sign: VIKING and EAGER BEAVER. He will report for duty fifteen (15) minutes prior to the scheduled arrival at position 2 for PEWTER 3 in Annex C (Aircraft Mission Execution Chart). He will check Scope #3 and VHF Channel G to insure they are functioning properly and have his teller check his communications with the Effects Status Clerk and his plotter. He will monitor VHF Channel G to receive a call from PEWTER 3 when approximately fifty (50) miles from Eniwetok at designated control point in Annex D (Aircraft H-Hour Position and Flight Patterns). When positive control is established with

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PEWTER 3, the teller will give the status clerk the time control is accepted and start three minute position reporting to the plotter. The controller will give PEWTER 3 range and bearing to assigned mission station with IFF on mode 2. He will switch PEWTER 3 to Channel C prior to arrival of VIKING at position 2. When PEWTER 3 reaches mission station, position three will be reported to the status clerk. The controller will place PEWTER 3 in a starboard race track pattern with approximately three (3) minute legs broadside to Ground Zero. The controller will provide PEWTER 3 with range from Ground Zero each time he passes through his assigned true bearing from Ground Zero. The controller will provide position reports and necessary vectors to assure PEWTER 3 meeting his H-Hour position within accepted tolerance of plus or minus fifteen (15) seconds. Immediately after H-Hour, PEWTER 3 will be instructed to squawk mode 1 and fly at his own discretion to photograph cloud. The controller will continue to track PEWTER 3 and give him range and bearing to designated control point upon completion of mission. When PEWTER 3 departs cloud area for control point, the teller will give position four to the status clerk. The controller will maintain control until PEWTER 3 reaches the control point, inbound, and control is accepted by DIRTY FACE at which time position five will be told to the status clerk. Scope Controller #3 will have PEWTER 3 switch to Channel B for Time Hacks: designated by blinking lights only. (Disregard solid light).

The above general control procedures will apply to VIKING aircraft with the following specific instructions. The controller will place VIKING's in a starboard race track pattern with approximately five (5) minute legs broadside to Ground Zero. He will provide VIKING's with range from Ground Zero each time they pass through their assigned true bearing from Ground Zero. He will provide position reports and necessary vectors to assure VIKING's do not come nearer to Ground Zero than sixty (60) NM. VIKING aircraft will observe the H-Hour blast from side aspect and remain side aspect to view the blast and cloud.

Scope Controller #3 after releasing PEWTER 3 and VIKING aircraft will standby to accept control of EAGER BEAVER. The EAGER BEAVER aircraft will be on VHF Channel B and have no IFF. The URD-2 will be used to obtain bearings for steers to bring EAGER BEAVER aircraft within radar range. Specific control points will be received prior to penetration of area to assist in control procedures. The EAGER BEAVER aircraft will be vectored to CASSIDY. Every effort will be made to track by radar and when not possible DR through time and distance will be applied. Departure point and estimated time and place of penetration into area will be provided prior to mission.

Scope Controller #4: Will control a B-36 Effects aircraft, call sign, ELAINE 1 and F-84 Sampler aircraft, call sign, TIGER RED 1 and 2, and TIGER WHITE 3 and 4. He will report for duty fifteen (15) minutes prior to the scheduled arrival at position 2 for ELAINE 1 in Annex C (Aircraft Mission Execution Chart). He will check Scope #6 and VHF Channels E and F to insure they are functioning properly and have his teller check his communications with the Effects Status Clerk and his plotter. He will monitor VHF Channel E to receive a call from ELAINE 1 when approximately fifty (50) miles from Eniwetok at the designated control point on course to assigned mission station in Annex D (Aircraft H-Hour Position and Flight Patterns). When positive control is established with ELAINE 1, the teller will give the status clerk position two and the time control is accepted from DIRTY FACE and start giving three minute positions to the plotter. The controller will give ELAINE 1 range and bearing to assigned mission station, squawking mode 3. When ELAINE 1 reaches mission station, position three, it will be reported to the status clerk. The controller will continually monitor ELAINE 1 in his flight pattern in

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Annex D. ELAINE 1 will primarily position himself and will normally require no assistance if his equipment functions properly; although the controller will be responsible to closely monitor his position and see that the track is plotted to assure the Senior Controller that ELAINE 1 will be in position at H-Hour. Scope Controller #4 will instruct ELAINE 1 to switch to Channel B for all time hacks. Immediately after H-Hour, ELAINE 1 will proceed to base receiving range and bearing to base from the controller and squawk mode 1. Upon departing position three, mission station, the teller will give position four to the status clerk. The controller will switch ELAINE 1 to F Channel after shock wave passes and continue to track and have ELAINE 1 plotted until approximately fifty (50) miles from Eniwetok at which time he will instruct ELAINE 1 to switch to Channel C and contact DIRTY FACE. Scope Controller #6 after switching to Channel F will standby to receive TIGER RED 1 and 2, and TIGER WHITE 3 and 4 respectively upon arrival at position 2. The controller will vector TIGER elements to CASSIDY 1. CASSIDY will assume control of TIGER aircraft when radio and IFF contact is made or when TIGER aircraft have CASSIDY in sight and have established radio contact. This will be position three for TIGER aircraft and the time reported to the Sampler Status Clerk. CASSIDY upon accepting control of TIGER aircraft will complete rendezvous and turn samplers over to CASSIDY Sampler Controller on VHF Channel E. Scope Controller #4 will also switch to Channel E and track TIGER aircraft and be prepared to assist CASSIDY. The CASSIDY Sampler Controller upon completion of mission will return TIGER aircraft to Channel F, CASSIDY control will accomplish a rendezvous with the assistance of BOUNDARY TARE, if required, or vector them individually to BOUNDARY TARE. BOUNDARY TARE upon establishing radio and IFF contact will accept control from CASSIDY and report position four to the status clerk. The controller will give the TIGER element a steer to their designated control point and obtain a fuel status report and altitude. When the TIGER elements reach the control point, inbound, they will be instructed to switch to C Channel and call DIRTY FACE. This will be position five.

Scope Controller #5: Will report for duty fifteen (15) minutes prior to the first aircraft arrival at position 2 in Annex C (Aircraft Mission Execution Chart). He will control WILSON 1, CASSIDY 1, STABLE 1, TIGER RED 3 and 4, and TIGER BLUE 1 and 2. He will check scope #5 and VHF Channel F to insure they are functioning properly and have his teller check his communication with the Status Clerk and his plotter. He will monitor VHF Channel F to receive a call from WILSON 1. When approximately fifty (50) miles from Eniwetok at the designated control point in Annex D (Aircraft H-Hour positions and Flight Patterns). When positive control is established with WILSON 1 the teller will give the status clerk position two and start giving three minute positions to the plotter. The controller will give WILSON 1 range and bearing to his mission station and standby to receive weather reports from WILSON 1. When WILSON 1 reaches weather reconnaissance area over Ground Zero, position three will be told to the status clerk. WILSON 1 will start his H-Hour positioning run to arrive 60 to 65 miles from Ground Zero at H-Hour, tail aspect, on mode 3. After H-Hour WILSON 1 will be vectored to CASSIDY to sample in the cloud area. CASSIDY will be controlled in the same manner as WILSON through position three on mode 3. After H-Hour CASSIDY will direct sampling operations in cloud area with WILSON 1, FLOYD and TIGER aircraft. STABLE will be positioned as outlined in Annex D showing mode 3 IFF and released after H-Hour to controller on Scope #1 on circuit J-410 and H Channel. CASSIDY will assume control of TIGER aircraft when radio and IFF contact is made or when aircraft have established radio and visual contact with CASSIDY. This will be position three for TIGER aircraft

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and the time reported to the Sampler Status Clerk. CASSIDY upon accepting control TIGER aircraft will complete rendezvous and turn sampl rs over to CASSIDY Sampler Controller, on VHF Channel E. The controller will also switch to Channel E and track TIGER aircraft, and be prepared to assist CASSIDY in case of emergencies. The CASSIDY Sampler Controller upon completion of mission will return TIGER aircraft to Channel F. CASSIDY control will accomplish a rendezvous with the assistance of BOUNDARY TARE, if required, or vector them individually to BOUNDARY TARE. BOUNDARY TARE upon establishing radio and IFF contact will accept control from CASSIDY and report position four to the status clerk. The controller will then give TIGER element steers to the designated control point and upon arrival instruct them to call DIRTY FACE on Channel C. The B-36 Samplers, call sign, FLOYD will be a back up for CASSIDY in case CASSIDY aborts. Controller #5 will be prepared to position FLOYD in replacement position for CASSIDY.

Scope Controller #6: Will control a B-47 Effects aircraft, call sign, ELAINE 2 and F-84 Sampler aircraft, call sign, TIGER SNIFFER 1 and 2, TIGER WHITE 1 and 2, and TIGER BLUE 3 and 4. He will report for duty fifteen (15) minutes prior to the scheduled arrival at position 2 for ELAINE 2 in Annex C (Aircraft Mission Execution Chart). He will check scope #6 and VHF Channels E and F to insure they are functioning properly and have his teller check his communications with the Effects Status Clerk and his plotter. He will monitor VHF Channel E to receive a call from ELAINE 2 when approximately fifty (50) miles from Eniwetok at the designated control point in Annex D (Aircraft H-Hour Positions and Flight Patterns). When positive control is established with ELAINE 2, the teller will give the status clerk position two and the time control is accepted from DIRTY FACE and start giving three minute positions to the plotter. The controller will give ELAINE 2 range and bearing to assigned mission station, squawking mode 3. When ELAINE 2 reaches mission station position three, it will be reported to the status clerk. The controller will continually monitor ELAINE 2 in his flight pattern in Annex D. ELAINE 2 will primarily position himself and will normally require no assistance if his equipment functions properly; although the controller will be responsible to closely monitor his position and see that the track is plotted to assure the Senior Controller that ELAINE 2 will be in position at H-Hour. Scope Controller #6 will instruct ELAINE 2 to switch to Channel B for all time hacks. Immediately after H-Hour, ELAINE 2 will proceed to base receiving range and bearing to base from the controller and squawk mode 1. Upon departing position three, mission station, the teller will give position four to the status clerk. The controller will switch ELAINE 2 to F Channel after shock wave passes and continue to track and have ELAINE 2 plotted until approximately fifty (50) miles from Eniwetok at which time he will instruct ELAINE 2 to switch to Channel C and contact DIRTY FACE. Scope Controller #6 after switching to Channel F will standby to receive TIGER SNIFFER 1 and 2, TIGER WHITE 1 and 2, and TIGER BLUE 3 and 4, respectively, upon arrival at position 2. The controller will vector TIGER elements to CASSIDY-1. CASSIDY will assume control of TIGER aircraft when radio and IFF contact is made or when TIGER aircraft have CASSIDY in sight and have established radio contact. This will be position three for TIGER aircraft and the time reported to the Sampler Status Clerk. CASSIDY upon accepting control of TIGER aircraft will complete rendezvous and turn samplers over to CASSIDY Sampler Controller on VHF Channel E. Scope Controller #6 will also switch to Channel E and track TIGER aircraft and be prepared to assist CASSIDY. The CASSIDY Sampler Controller upon completion of mission will return TIGER aircraft to Channel F, CASSIDY control will accomplish a rendezvous with the assistance of BOUNDARY TARE, if required, or vector them individually to BOUNDARY TARE, BOUNDARY TARE upon establishing radio and IFF contact will accept control from CASSIDY and report position four to the status clerk. The controller will give the TIGER element a steer

to their designated control point amd obtain a fuel status report and altitude. When the TIGER elements reach the control point, inbound, they will be instructed to switch to C Channel and call DIRTY FACE. This will be position Five.

Scope Controller #7: Will control one C-54 photo aircraft, call sign, PEWTER 1 and monitor two (2) WB-29 cloud trackers, call sign WILSON 2 and 3. He will report for duty fifteen (15) minutes prior to the scheduled arrival at position 2 for PEWTER 1 in Annex C (Aircraft Mission Chart). He will check scope #7 and VHF Channel A to insure they are functioning properly and have his teller check his communications with the Effects Status Clerk and his plotter. He will monitor VHF Channel A to receive a call from PEWTER 1 when approximately fifty (50) miles from ENIWETOK at the designated control point in Annex C (Aircraft H-Hour Position and Flight Patterns). When positive control is established with PEWTER 1, the teller will give the status clerk the time control is accepted and start three minute position reporting to the plotter. The controller will give PEWTER 1 range and bearing to assigned mission station. When PEWTER 1 reaches mission station, position three will be reported to the status clerk. The Controller will place PEWTER 1 in a starboard race track pattern with approximately three (3) minute legs broadside to Ground Zero. The controller will provide PEWTER 1 with range from Ground Zero each time he passes through his assigned true bearing from Ground Zero. The Controller will provide position reports and necessary vectors to insure PEWTER 1 meeting his H-Hour position within accepted tolerance of plus or minus fifteen (15) seconds. Immediately after H-Hour, PEWTER 1 will fly at his own discretion to photograph cloud. The Controller will continue to track PEWTER 1 and give him range and bearing to his assigned control point upon completion of mission. When PEWTER 1 departs cloud area for control point, the teller will give position four to the status clerk. The controller will maintain control until PEWTER 1 reaches the control point, inbound to ENIWETOK and control is accepted by DIRTY FACE at which time position Five will be told to the status clerk. Scope Controller #7 will have PEWTER 1 switch to Channel B for time hacks designated by blinking lights only. (Disregard solid light). Scope Controller #7 after releasing PEWTER 1 at position 5 will standby to monitor WILSON 2 and 3 on VHF Channel "A". Position reporting procedures for WILSON 2 and 3 will be the same as for PEWTER 1. They will report rad-safe information on VHF Channel "A" to BOUNDARY TARE and to DIRTY FACE on Circuit J-411. The Controller will be prepared to copy rad-safe information in cade and pass to officer maintaining check list for disposition.

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APPENDIX 2
TO
ANNEX T
OPERATIONS ORDER NO. 5-54
CIC OPERATORS INSTRUCTIONS

STATUS CONTROLLER: The Status Controller is the Senior Controller's assistant and will supervise operational control of the two HF point-to-point operators on Circuits J-407, J-408, HF air-to-ground operator on Circuit J-410, and VHF Relay operator. Every effort will be made to keep all circuits open for operations with the clearest circuit being used to interchange information between DIRTY FACE and BOUNDARY TARE. All messages received from DIRTY FACE or to be sent to DIRTY FACE will go through the Status Controller for disposition. Messages requiring immediate action, will so state, and take priority over aircraft position reporting. Communications difficulties on the above circuits will be reported to the Status Controller, who will contact the Electronics Officer or the CIC Officer for corrective action. All circuits will be continually monitored during entire operational periods. He will assure that positions one (1) through six (6) are properly displayed on the aircraft status boards. He will receive positions one (1) and six (6) from DIRTY FACE over one of the HF point-to-point circuits or over the VHF Relay circuit and will give positions two (2) through five (5) to DIRTY FACE. Exchange of control will be confirmed between BOUNDARY TARE and DIRTY FACE for positions two (2) and five (5). Positions one (1) through six (6) will be displayed by entering the times in red that each position was reached by each aircraft - positions two (2) and five (5) will be confirmed by circling the time entries in respective positions. A status log will be kept up to date by the status controller to assure positions one (1) and six (6) are received from the AOC and properly displayed on the CIC status boards and that positions two (2) through five (5) are told to the AOC. Positions will be told between the AOC and CIC by given call sign, position and time (PEWTER 2, position three, one zero two zero). Aircraft in emergency and assisting aircraft or ships will take priority over other aircraft plots to assure accurate positions. The Status Controller will be directly responsible to the Senior Controller.

TELLERS: The Tellers will provide their plotter with a position on each aircraft at least each three minutes. In case an aircraft is in an emergency, the frequency of plots will be increased to depict a constant heading and position. The Teller will give the plotter call sign, bearing and range. (WILSON 1 zero two five at forty). The Teller and Plotter will use head and chest sets for reporting on a direct circuit. The Teller for scopes four, five and six will give positions two through five to the Sampler Status Clerk and three minutes positions on CASSIDY 1, WILSON1, ELAINE 2, VIKING and all TIGER aircraft to his plotter. STABLE will also be his responsibility until H-Hour only. The Teller for scopes one, two, three and seven will give positions two through five to the Effects Status Clerk, and three minute positions on PEWTER 1, 2, and 3; HARDTIME 1, 2, and 3; FLOYD 1 and 2; WILSON 2 and 3; and EAGER BEAVER Aircraft to his Plotter. At H-Hour he will also assume telling responsibilities on STABLE. The Tellers will be responsible to see that the plotted positions are maintained on the operation board each three minutes on all aircraft. He may read positions direct from the controllers scope or obtain call sign, range and bearing from the scope controllers.

HF AND VHF RELAY OPERATIONS: The HF point-to-point monitor-tellers will make every effort, through the Status Controller, to keep circuits J-407, J-408, and VHF Relay operational to the AOC. The primary purpose of these circuits will be to pass aircraft positions and maintain coordination on

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operational matters between the CIC and the AOC. The VHF relay will be a back up for the HF point-to-point circuits and provide an additional means of communications between the AOC and CIC. The HF air-ground monitor-teller will continually monitor this circuit to receive any messages from aircraft out of VHF range and pass necessary messages to the aircraft. After H-Hour, STABLE 1 and 2 will be controlled on Circuit J-410. The HF air-to-ground circuit may also be used by the Senior Controller for coordination or by the Controller on scope five if the sampler element (CASSIDY exceeds VHF range). Positions one and six will be received from the AOC and positions two through five will be given to the AOC. Positions will be given using the aircraft call sign, position and time (PEWTER 1 position two at zero six one five). The operator receiving the positions from the AOC will write the position information on a slip of paper and give it to the Status Controller (PEWTER 1 position two at zero six one five). The Status Controller will provide the monitor teller with the same information for positions to be told to the AOC.

PLOTTERS: The Plotter for Scopes #1, 2, 3, and 4 will receive positions on PEWTER 1, 2 and 3; HARDTIME 1, 2 and 3; FLOYD 1 and 2; WILSON 2 and 3; and STABLE from his teller. The Teller will give aircraft call sign, bearing and range. (PEWTER 1, zero nine zero at forty). Arrows will be used to plot the position of aircraft with the point of the arrow designating the position of aircraft. Aircraft arriving and departing mission positions will have three arrows showing flight path. Upon plotting fourth arrow, number 1 will be removed. ($\frac{P-1}{40} \rightarrow \frac{}{41} \rightarrow \frac{}{44} \rightarrow \frac{P-1}{47}$)

Aircraft upon reaching assigned mission station will be plotted with only one arrow, the last plotted position. The time will be placed by each arrow in minutes. The teller will normally give a position on each aircraft each three minutes, although in case an aircraft is in an emergency, a position and time will be plotted each minute. Aircraft in emergency will take priority over other aircraft plots to insure constant plotting with three arrows to depict aircraft heading and position. The plotter for Scopes #4, 5 and 6 will receive positions on ELAINE 2, CASSIDY, STABLE, WILSON 1, all TIGER, and VIKING aircraft from Teller on scopes four (4), five (5) and six (6). The Teller will give aircraft call sign, bearing and range (ELAINE 2, 180 at 10), arrows will be used to plot the position of aircraft. Aircraft arriving and departing mission position will have three arrows showing flight path and upon plotting the fourth, arrow number one (1) will be removed. ($\frac{C-1}{40} \rightarrow \frac{}{41} \rightarrow \frac{}{44} \rightarrow \frac{C-1}{47}$).

Aircraft upon reaching mission station will be plotted leaving only one (1) arrow, the last plotted position. The time will be placed by each arrow in minutes. The Teller will normally give a position on each aircraft each three minutes. In case of an aircraft emergency, a position and time will be plotted each minute. Aircraft in emergency will take priority over other aircraft plots to insure constant plotting with three arrows to depict aircraft heading position and time.

EFFECTS STATUS CLERK: The Effects Status Clerk will enter the time each aircraft reaches positions one through six in the appropriate space as received from the Status Controller and his teller over his direct circuit. The Teller will state aircraft call sign, position and the time (PEWTER 2 position one 0705). The only entry made by the Status Clerk will be the time in the appropriate position opposite aircraft call sign. Positions one and six will be told to the Effects Status Clerk by the Status Controller, and positions two through five by his Teller. Positions two and five will be confirmed by the Status Controller and the Status Clerk will circle the time to so designate. The Effects Status Clerk will have the following aircraft on his Status Board, PEWTER 1, 2, and 3; HARDTIME 1, 2, and 3; ELAINE 2; WILSON 1; and VIKING aircraft.

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SAMPLER STATUS CLERK: The Sampler Status Clerk will enter the time each aircraft reaches positions one through six in the appropriate space as received from the Status Supervisor and Teller over his direct circuit. The Teller will state aircraft call sign, position and time (CASSIDY position 2, 0710). The only entry made by the status clerk will be the time in the appropriate position opposite the aircraft call sign. Positions one and six will be told to the Sampler Status Clerk by the Status Controller. Positions two through five will be received from his Teller. Positions two and five will be confirmed by the Status Supervisor and the Staus Clerk will circle the time to so designate. The Sampler Status Clerk will have the following aircraft on his status board: CASSIDY 1, STABLE, WILSON 2 and 3, FLOYD 1 and 2, TIGER SNIFFER 1 and 2, TIGER RED 1 and 2, TIGER RED 3 and 4, TIGER WHITE 1 and 2, TIGER WHITE 3 and 4, TIGER BLUE 1 and 2, TIGER BLUE 3 and 4, and EAGER BEAVER aircraft.

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Annex U

In 2 pages

ANNEX U

TO

OPERATIONS ORDER NO. 5-54

CONTROL DESTROYER PROCEDURES

[redacted]

ANNEX U
TO
OPERATIONS ORDER NO. 5-54
CONTROL DESTROYER PROCEDURES

HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 187, c/o Postmaster
San Francisco, California
7 April 1954, 1800M

1. MISSION:

a. To control aircraft as directed by the USS ESTES.

b. To assist in SAR operation in coordination with the USS ESTES.

c. To provide navigational aids to aircraft during rehearsal and shot periods.

d. To provide backup control facilities for the USS ESTES and the ACC, ENIWETOK.

2. RESPONSIBILITIES:

a. The Senior Air Controller, Control Destroyer, is responsible for executing the provisions of this Operations Order.

b. Task Group 7.4 will provide a Senior Air Controller for the Destroyer to:

(1) Assist in planning CIC operations.

(2) Supervise CIC operations during operational periods.

3. PROCEDURES:

a. The Control Destroyer, Call Sign DOLL HOUSE, will be positioned as jointly agreed by Task Group 7.3 and Task Group 7.4 at shot time. After H-Hour, DOLL HOUSE will be positioned by Task Group 7.3 in coordination with Task Group 7.4.

b. Detailed Control Destroyer CIC SOP's will be prepared by the Senior Air Force Controller on the Control Destroyer in coordination with the Senior Controller, Task Group 7.4.

4. COMMUNICATIONS REQUIREMENTS:

a. Two (2) VHF radio channels.

b. One (1) AN/SPS-6 Radar and Mark 10 IFF.

c. One (1) LF Beacon.

d. One (1) HF radio channel to CIC, Command Ship.

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5. SPECIFIC DESTROYER CIC FUNCTIONS: (During Rehearsal and Shot Periods)

a. Maintain a plotting board showing the planned positions of all aircraft and times aircraft are in positions "1" through "6". (See Annex "T")

b. Exercise control of JTF SEVEN SAR Forces as directed by USS Estes.

c. Take initial SAR action and keep CIC USS Estes informed of all emergencies within Control Destroyer radar coverage.

d. Maintain positive control of such JTF SEVEN aircraft as may be delegated by USS Estes.

e. Detect, identify and positively track by radar such aircraft as delegated by USS Estes.

f. Assist in passing jet aircraft to USS Estes and AOC ENIWETOK when requested.

g. Relay, upon request, information to and from aircraft operating in the test area.

HOWELL M. ESTES, JR.
Brigadier General, U. S. A. F.
Commander

OFFICIAL:

PAUL H. FACKLER
Lt Colonel, USAF
Director of Operation

[redacted]

Annex V

in 2 pages

ANNEX V

TO

OPERATIONS ORDER NO. 5-54

MISSION ABORT CRITERIA

[redacted]

ANNEX V
TO
OPERATIONS ORDER NO. 5-54
MISSION ABORT CRITERIA

HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 187, c/o Postmaster
San Francisco, California
7 April 1954, 1800M

1. PURPOSE:

a. To establish minimum criteria for aborting CASTLE (UNCLASSIFIED) missions.

2. SCOPE:

a. These criteria apply to all Task Group 7.4 aircraft participating in Operation CASTLE (UNCLASSIFIED). These criteria are those considered minimum and will be waived only by the Task Group Commander or his Deputy. The establishment of these minimum abort criteria do not restrict aircraft commanders from aborting missions for any additional, valid reasons.

3. RESPONSIBILITY:

a. Test Unit Commanders are responsible for insuring that all aircraft commanders are thoroughly familiar with the provisions of this Annex.

4. ABORT CRITERIA:

a. Prior to Take-Off:

(1) Incomplete crew (members considered critical by aircraft or unit commander concerned).

(2) Failure of engine to check out according to Technical Order or other major preflight discrepancy which might affect the safe completion of the mission.

(3) Inoperative Rad/Safe equipment, essential to the mission.

(4) Inoperative HF Homer or IFF responder or interrogator equipment in Control RB-36.

(5) Inoperative IFF in F-84 Samplers.

(6) Inoperative VHF radio in F-84 Samplers.

(7) Inoperative HF radio in WB-29's.

(8) Inoperative sampling equipment in F-84 or RB-36 sampling aircraft.

b. After Take-Off:

(1) Inability to establish or maintain radio contact with control agencies.

[redacted]

(2) Failure of an engine or any primary aircraft system such as hydraulic, oxygen, electric, controls, flight instruments, etc.

(3) Failure of Rad/Safe or any other specialized equipment essential to the completion of the mission.

(4) Serious injury to or incapacitating illness of a crew member.

(5) Failure of APX-6 IFF equipment in F-84's or SAR aircraft.

(6) Failure of VHF radio equipment in F-84's.

(7) Inability of Control RB-36 to establish or maintain radio contact with F-84's.

(8) Failure of IFF interrogator and/or HF Homer in Control RB-36 (Discretion of Senior Controller).

5. GENERAL:

a. F-84's: In the event one (1) F-84 from a two (2) ship element is forced to abort the other aircraft of that element will accompany it to base.

b. Control RB-36: In the event the Control RB-36 is forced to abort prior to take-off, the scientific and control team will board the back-up Control B-36 and take off with as little delay as possible. In the event the Control RB-36 is forced to begin an abort prior to H plus two (2) hours, upon landing the scientific and control team will board the back-up B-36 Control Aircraft which will be standing by with engines running. The CIC will take over control of all airborne F-84's and SAR aircraft for the duration of any period in which the B-36 Control Aircraft is not available and will coordinate all readjustments necessary in F-84 flight plans. In the event of abort by the Control RB-36 after H plus two (2) hours, the sampling operation will be cancelled, unless otherwise directed by CTG 7.4. Instructions pertinent to this situation will be relayed to all concerned agencies by the CIC, USS ESTES.

OFFICIAL:

PAUL H. FACKLER
Lt Colonel, USAF
Director of Operations

HOWELL M. ESTES, JR.
Brigadier General, U. S. A. F.
Commander

Annex W

In 2 pages

ANNEX W

TO

OPERATIONS ORDER NO. 5-54

MULTI-ENGINE AIRCRAFT RADIOLOGICAL REPORTING CODE

ANNEX W
TO
OPERATIONS ORDER NO. 5-54
MULTI-ENGINE AIRCRAFT RADIOLOGICAL REPORTING CODE

HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 187, c/o Postmaster
San Francisco, California
7 April 1954, 1800M

1. PURPOSE:

To provide a code system for reporting radiation encountered by multi-engine aircraft in flight. It will be used by all multi-engine aircraft, except those specifically assigned separate radiological reporting codes. This code has been developed primarily for voice air-to-ground transmission, to either the AOC or the CIC, on HF Circuit J-410.

2. APPLICATION:

Multi-engine aircraft to which this code applies will, upon encountering radiation, transmit the information enumerated below in accordance with the following sequence.

a. Aircraft call sign.

b. The report will be identified as a "Sweet-Sour Report".

c. Approximate local time, position and altitude of aircraft will be given in the clear.

d. Actual code numbers for each shot will be assigned and distributed by JTF SEVEN prior to first shot.

e. Code for radiation intensity reading (above estimated aircraft background). (Code numbers will be re-designated by CJTF SEVEN for each shot. The numbers appearing below are for example only).

55 No detectable radiation above background.

77 Less than 10 mr/hr, but above background.

33 10 to 50 mr/hr.

66 50 to 100 mr/hr.

11 100 to 500 mr/hr.

99 500 to 1000 mr/hr.

22 1 to 5 r/hr.

00 5 to 10 r/hr.

88 More than 10 r/hr.

44 Dummy.

f. Code name for the cloud is "GILDA".

g. The size of the contaminated area will be given in approximate nautical miles in the north-south direction, followed by the approximate nautical miles in the east-west direction e.g., "50 slash 20".

h. The approximate center of the contaminated area should be given in nautical miles, in relation to a known fix.

i. If determinable, the leading edge of the contaminated area should be identified by the code name "GILDA ABLE", and its approximate distance from a known fix should be given in nautical miles.

3. EXAMPLE:

"This is SAND BLASTER TWO/Sweet-Sour-Report/one six three zero/ four zero west of (fix)/ten thousand/one one/GILDA six zero/ four zero/five zero northwest of (fix)/ GILDA ABLE six zero west of (fix)."

"SAND BLASTER TWO radiation report for 1630 local, 40 NM west of (fix), 10,000', 100 to 500 mr/hr, area of cloud 60 NM north-south by 40 NM east-west, entered at 50 NM northwest of (fix), leading edge is at 60 NM west of (fix)."

HOWELL M. ESTES, JR.
Brigadier General, U. S. A. F.
Commander

OFFICIAL:

PAUL H. FACKLER
Lt Colonel, USAF
Director of Operations

In Annex "I"

In 2 pages

ANNEX "I"

TO

OPERATIONS ORDER NO. 5-54

BRIEFINGS

UNCLASSIFIED

ANNEX "X"
TO
OPERATIONS ORDER NO. 5-54

BRIEFINGS

HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 187, c/o Postmaster
San Francisco, California
7 April 1954, 1800M.

1. PURPOSE: To outline and standardize Briefing Procedures within Task Group 7.4 Units.

2. RESPONSIBILITY:

a. The Director of Operations, Task Group 7.4, will have monitorial responsibility for the conduct and procedure of those briefings defined herein, except the VIP Briefings.

b. Task Unit Commanders will be directly responsible for those briefings designated herein.

3. DEFINITIONS:

a. VIP Briefing: The official Task Group 7.4 presentation covering the overall Task Group mission and designed as an orientation for VIP level observers or such other persons as designated at the discretion of the Commander, Deputy Commander or the Chief of Staff. This briefings will ordinarily be presented as the occasion demands by the Commander, or at his discretion, by a designated alternate.

b. General Operational Briefing: This briefing covers the broad aspects of any specific operational mission. This presentation represents the Commander's concept of the mission and is for all participants and designated observers. The Director of Operations, Task Group 7.4 will make the presentation, assisted by such other personnel as he may designate.

c. Specialized Aircrews Briefing: This briefing covers essentially the same material as the General Briefing but in minute detail. It will contain information applicable to all participating aircrews.

d. Specialized Mission Briefing: This briefing covers the specific details relative to specialized mission of the particular units, e.g.; Cloud Sampling, Effects, and IBDA.

e. Unit Operational Briefing: This briefing, commonly called "Crew Briefing" covers the fine points of the aircraft mission by units plus any additional items deemed necessary. This briefing will usually be given by the Unit Operations Officer, or in the case of certain aircraft, the aircraft commander.

f. VIP Crew Briefing: VIP crew briefing is a special briefing for VIP aircraft crews and passengers. This presentation will be made by the Task Group 7.4 Briefing Officer.

4. SCHEDULE:

a. VIP Briefing: To be given at the discretion of the Commander, Deputy Commander, or Chief of Staff, Task Group 7.4.

UNCLASSIFIED

UNCLASSIFIED

b. General Briefing: 0800, E-1 Day.

c. Special Aircrew Briefing: Announced at the General Briefing.

d. Special Mission Briefing: Announced at the General Briefing.

e. Crew Briefing: One hour before first station time on M-Day.

f. VIP Crew Briefing: Will be announced at the General Briefing.

g. Special Aircrew, Special Mission, and Unit Crew briefings may be varied from the above schedule at the discretion of the Unit Commander; however, the schedule should be firm and a definite schedule announced at the 0800 General Briefing on [redacted] event minus 1.

5. GENERAL:

a. Wherever possible, a Unit or Detachment Briefing Officer should be designated in those instances where the Unit Commander chooses an alternate to himself for presentations.

b. Presentations should be brief but comprehensive; chronological, and with each major point supported by suitable visual aids. All briefings will be formal and for the General Briefing, no smoking will be allowed. Smoking during other briefings will be at the discretion of the Unit Commander or Briefing Officer. Commanders should insure that all participants are present and seated a minimum of five minutes before scheduled briefing time.

c. Two briefing rooms will be available; Building 79 is equipped with a P.A. system (stationary and mobile microphone), black light presentation capability, a baloptican, a 16mm movie projector and screen, chart stand and pointer, lighted stage and speakers stand, and seating capacity for 200. Building 135 contains a Briefing Room which is available through the Test Aircraft Unit for groups of 100 to 150 people. Facilities therein are limited to a stage, some sliding panels, and a blackboard. Other necessary equipment will have to be provided by the using agency.

HOWELL M. ESTES, JR.
Brigadier General, U.S.A.F.
Commander

OFFICIAL:

Paul H. Fackler

PAUL H. FACKLER
Lt Colonel, USAF
Director of Operations

ANNEX Y

TO

OPERATIONS ORDER NO. 5-54

NAVY AIRCRAFT FLIGHT PROCEDURES

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ANNEX "Y"
TO
OPERATIONS ORDER NO. 5-54
NAVY AIRCRAFT FLIGHT PROCEDURES

HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 187, c/o Postmaster
San Francisco, California
7 April 1954, 1800 M

1. MISSION: To conduct missions as directed by Task Group 7.3 in support of scientific projects.

2. RESPONSIBILITIES:

a. Task Group 7.3 is responsible for:

(1) Providing one (1) P4Y aircraft to JTF SEVEN for support of scientific missions. (This aircraft, call sign 14 BABYFOOD, will be based at ENIWETOK Air Field).

(2) Briefing the aircrew on the assigned mission.

b. Task Group 7.4 is responsible for:

(1) Insuring that this aircraft is integrated into the prepositioning, take-off, mission execution and landing schedules of other aircraft operating from ENIWETOK Air Field.

(2) Direct control of this aircraft while operating in the shot area.

3. PROCEDURES:

a. 14 BABYFOOD aircraft will be prepositioned on Shot minus One Day as directed by Task Group 7.4. It will take off at the time specified in Annex "C" under control of FRED Tower on VHF Channel "H". Immediately after take off, the P4Y will be instructed to switch to VHF Channel "C" for DIRTY FACE control. DIRTY FACE will check 14 BABYFOOD's IFF and instruct it to proceed on mission squawking Mode 3. DIRTY FACE will vector this aircraft out on its designated corridor as specified in Annex "D". When 50 miles out from FRED, DIRTY FACE will instruct 14 BABYFOOD to switch to Channel "A" (~~121.5 mc~~ 143.1 mcs) and to call BOUNDARY TARE for control and further instructions.

b. BOUNDARY TARE will control 14 BABYFOOD at the altitude assigned in Annex "D" while in the shot area.

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BOUNDARY TARE will provide sufficient vectors and range and bearings from Ground Zero to insure that 14 BABY FOOD is no closer to Ground Zero at H-Hour than as specified in Annex "D". At completion of the assigned mission, BOUNDARY TARE will vector this aircraft direct to his assigned corridor and as specified in Annex "D" and when 50 miles out from FRED, BOUNDARY TARE will instruct 14 BABY FOOD to switch to VHF Channel "C" and call DIRTY FACE for control.

c. DIRTY FACE will vector this aircraft to FRED and turn him over to FRED Tower for landing instructions.

HOWELL M. ESTES, JR.
Brigadier General, U. S. A. F.
Commander

OFFICIAL:

PAUL H. PACKLER
Lt Colonel, USAF
Director of Operations

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Annex "Z"

In 3 pages W/1 Appendix

consisting of 3 pages

ANNEX Z

TO

OPERATIONS ORDER NO. 5-54

PRE-SHOT SAFETY PRECAUTIONS

[redacted]

ANNEX Z
TO
OPERATIONS ORDER NO. 5-54
PRE-SHOT SAFETY PRECAUTIONS

HEADQUARTERS
TASK GROUP 7.4, PROVISIONAL
APO 187, c/o Postmaster
7 April 1954, 1600M

1. REFERENCES:

a. Annex A, JTF SEVEN Operations Order No. 3-53.

b. Special Bulletin, JTF SEVEN, Subject: "Safety Instructions", dated 19 February 1954.

c. ENIWETOK Building Layout, 1" = 400'.

2. GENERAL SITUATION:

a. This plan is applicable to all personnel of Task Group 7.4 located on ENIWETOK ISLAND.

b. This plan governs preparation for the safety of personnel and equipment at H-Hour and until the actual detonation plus fifteen (15) minutes.

c. No evacuation of Task Group 7.4 personnel from ENIWETOK will be conducted in preparation for a local detonation. Evacuation which may become necessary because of post-mission radioactivity is covered in Task Group 7.4 Operation Plan No. 1-54. Actions to be taken in the event of high wind or natural disaster are covered in Task Group 7.4 Operations Plan No. 2-54.

d. Security of aircraft, equipment, vehicles, materiel and organizational areas is a responsibility of owning and/or using or controlling agencies.

e. A nuclear detonation will take place in the ENIWETOK ATOLL at a specified time and location to be announced. It is possible that the shot may be delayed or rescheduled for another day. However, the safety instructions contained herein will apply regardless of the exact firing.

f. Possible hazards which must be considered in conjunction with detonations in the local area include: Intense light, heat, blast, high winds, flying debris and minor water wave effects. Of these phenomena which will occur at time of burst, only intense light will constitute a hazard to personnel. However, the intense light is a serious hazard only to personnel who look in the direction of the burst during and immediately following H-Hour. Only sites RUBY and FLORA will be used for tests in the ENIWETOK area.

3. MISSION:

a. Insure that necessary precautions are taken to safeguard personnel and equipment, including aircraft from the effects of nuclear detonations which are conducted in the ENIWETOK area.

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4. TASKS FOR SUBORDINATE UNITS:

a. Commander, Test Support Unit:

(1) Take necessary action to safeguard personnel and equipment for which he is responsible in accordance with Appendix 1 hereto.

(2) Secure L-13, H-19 and H-13 aircraft in the hanger prior to H-Hour.

(3) Secure all other Air Force aircraft under operational control of the Test Support Unit which are not airborne at H-Hour.

(4) Insure that the emergency telephone system is operating properly.

(5) Insure that emergency facilities are in place in an operational status and that operating personnel are afforded adequate protection nearby. Personnel should not occupy vehicles at H-Hour.

(6) Reestablish the flight line dispensary as soon after H-Hour as is possible.

(7) Retain the Control Tower equipment in operational status. Tower will be unmanned from H minus 2 minutes and until passage of the shock wave.

b. Commander, Test Aircraft Unit:

(1) Take necessary action to safeguard personnel and equipment for which he is responsible in accordance with Appendix 1 hereto.

(2) Secure all aircraft of the Test Aircraft Unit which are not airborne at H-Hour.

c. Commander, Test Services Unit:

(1) Take necessary action to safeguard personnel and equipment for which he is responsible in accordance with Appendix 1 hereto.

(2) Secure all aircraft of the Test Services Unit which are not airborne at H-Hour.

(3) Maintain all communications facilities operational throughout H-Hour.

d. Other Supporting Activities of Task Group 7.4:

(1) Provide for the security of personnel and equipment as provided in Appendix 1 hereto.

(2) Take special precautions as necessary.

x. All Units:

[redacted]

[redacted]

(1) Conduct musters on H minus 1 Day and on H minus 1 Hour to insure positive control of all personnel throughout the period of danger. The muster at H minus 1 Hour will be conducted in the vicinity of the ramp/work area.

(2) Conduct necessary briefings and insure that all personnel understand fully the actions which they must take for personal safety during and following H-Hour.

(3) All personnel will evacuate the living area prior to H-1 hour. They will be assembled in unit work areas in the vicinity of the ramp to remain at this location throughout H-Hour and until H-Hour plus 15 minutes, unless otherwise notified.

(4) Carefully examine living and work areas and areas adjacent thereto to insure that all debris and all light or loose objects which may be dislodged by blast and/or high winds, are removed or otherwise secured. Such object become dangerous missiles when dislodged into the atmosphere by blast or wind effects.

(5) Be prepared to furnish damage control, emergency and work parties as required.

(6) Designate inspection officers for proper security of personnel, aircraft, buildings and areas.

1 Appendix:
1 - Safety Inctructions

HOWELL M. ESTES, JR.
Brigadier General, U. S. A. F.
Commander

OFFICIAL:

PAUL H. FACKLER
Lt Colonel, USAF
Director of Operations

[redacted]

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APPENDIX 1
TO
ANNEX Z
OPERATIONS ORDER NO. 5-54
SAFETY INSTRUCTIONS

1. SAFETY OF PERSONNEL:

a. Unit Commanders will conduct a muster and will report thereon to the Director of Personnel, this Headquarters by 1545 hours on H minus 1 Day. A final muster will be conducted at H minus 1 Hour in unit work areas in the vicinity of the ramp.

b. Personnel will be briefed on safety precautions to be observed before, during and after the shot.

c. All buildings will be evacuated, except for the AOC.

(1) Long sleeve shirts and long pants are not necessary for protection against thermal radiation. Gusts of wind and some overpressures are expected; exercise precautions to secure light objects nearby.

(2) All personnel will be faced away from ground zero at H-Hour. Personnel will not turn to view the fireball until at least 10 seconds after burst, and will do so then with caution.

(3) The shock wave will travel at a rate of approximately 5½ seconds per nautical mile. Personnel will remain at their stations to await the passage of the shock wave. There is a possibility that more than one shock wave will be felt. It is not anticipated that any water wave of sufficient magnitude to damage property will be generated. Personnel will be cautioned, nevertheless, to be prepared in the event a wave does follow the blast. Approximately 3 minutes will elapse before a wave reaches ENIWETOK.

2. SAFETY OF MATERIEL AND UNIT AREAS:

a. Aircraft:

(1) All aircraft must be parked nose toward Ground Zero, magnetic heading 345°, with the area in front of aircraft carefully cleared of possible missiles. Wheels should be chocked, with brakes set. Parking should be planned so that slight shifts in position will not cause collisions between aircraft.

(2) Gust locks should be placed on all control surfaces.

(3) Doors, windows, hatches, bomb bay doors, etc., should be opened and secured in the open position, so that there are no sealed enclosures such as cockpits, cabins, or bomb bays.

(4) L-13's and helicopters should be stored in the hangar with their wings folded and rotors stowed. Further

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protection may be afforded by tying them down to sand bags or piling sand bags around their landing gear.

b. Vehicles:

(1) Secure all vehicles. Tugs and power units will be secured down blast and at a safe distance from the parked aircraft. All windows will remain open.

c. Other Organizational Materiel:

(1) Every effort will be made to secure all items of organizational materiel in such a manner that they do not constitute a hazard. Maintenance stands should be secured in a manner similar to that specified for vehicles.

d. Unit Areas:

(1) A careful examination of work and living areas and areas adjacent thereto should be conducted to insure the removal of all debris and light or loose objects which might be dislodged. Thorough policing by all personnel will reduce the possibility of loose or movable objects becoming missiles by the action of blast or high wind.

(2) Special attention should be given to securing objects with sharp, cutting or jagged edges, e.g., large sheets of metal, glass, wooden planking, etc.

e. Building and Tents:

(1) All windows, doors and tent flaps will be secured in the open position to allow for rapid equalization of pressure. Hangar doors will be open and procautions should be taken to prevent slippage.

(2) All movables should be removed from the tops of desks and furniture.

(3) Main power switches which control electricity used in tents will be placed in the "OFF" position and will remain off until all danger has passed.

(4) All buildings will be evacuated of personnel during detonation, except for the AOC.

3. SIREN SIGNALS:

a. Before the Shot:

(1) Shot Time Minus 5 Minutes:

(a) Five (5) siren blasts. In the event of siren failure, the fire engine whistle will be used.

(2) Shot Time Minus 1 Minute:

(a) Three (3) siren blasts.

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(3) Shot Time Delayed:

(a) One (1) continuous blast indicates the shot has been delayed. If there is a delay, warning blast will be repeated at Shot minus five (5) minutes and Shot minus one (1) minute before the new shot.

b. After the Shot:

(1) If five (5) consecutive blasts are heard anytime after the shot, take cover in the nearest building and close all doors and windows, because of radiation.

(2) If three (3) consecutive blasts are heard anytime after the shot, Unit Commanders will prepare personnel to go aboard ship for a temporary evacuation in accordance with Task Group 7.4 Operations Plan No. 1-54.

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