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WEATHER RECONNAISSANCE ELEMENT 132.4.3.1 PROVISIONAL

OPERATIONS ORDER NO. 1-52

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IVY
REF: B.4.6

(This index replaces Operations Order 1-52 index of 28 Oct 52. Earlier index should be replaced and destroyed)

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CHART OR MAP REFERENCES: United States Air Force World Aeronautical Chart Number 748; Loran Air Navigation Chart Number V.L. 30-44, V.L. 30-30, VRL 202, 206 and 210.

TASK ORGANIZATION:

Aircrew A-1	Capt Packwood, J. R.
Aircrew A-2	1st Lt Fitzpatrick, M. H.
Aircrew A-3	Capt Mull, G. D.
Aircrew A-4	Capt Moeller, R. L.
Aircrew A-5	Capt MacHae, B. J.
Aircrew B-1	1st Lt Tilman, J.
Aircrew B-2	1st Lt Warren, H. A. JR.
Aircrew B-3	Capt Zercher, H. W. JR.
Aircrew B-4	Capt Watson, I. H. JR.
Aircrew B-5	Capt Anderson, D. J. JR.

1. GENERAL SITUATION: A test of Atomic Weapons is to be conducted in the vicinity of Eniwetok Atoll under the direction of Joint Task Force 132 in the immediate future. It is necessary to the success of this test that certain weather information be reported; that air samples be obtained; and that Radiological information be secured and relayed to the proper authorities.

a. Enemy Forces: Possible foreign action in the mission area is limited to reconnaissance activities. Forces of the Soviet Union are the most likely to attempt such operations. These could be conducted by any one, or any combination of, the following methods:

- (1) By Surface Vessel: Surface vessels of normal cargo or transport types and/or vessels similar to Marshalose fishing vessels could be utilized for reconnaissance.
- (2) By Submarine: The naval forces of the U.S.S.R. possesses the capability of placing a submarine in the test area and maintaining it on station for a maximum of twenty days.
- (3) Aircraft: The Soviet Union possesses several categories of long range aircraft capable of flying from Far Eastern Bases to Eniwetok and returning to a Soviet Base. The time such aircraft could remain in the test area would be exceedingly limited and successful reconnaissance would require advance information concerning the date and time of the test.

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b. Friendly Forces: Friendly Forces effecting, coordinating with, or supporting the mission of William #1 are as follows:

- (1) Control Destroyer USS O'Bannon, position reference point of the Intermediate Refueling Area. Call Sign HICKUP THREE.
- (2) USS Rendova, CV, radar back up and air defense; Eniwetok area. Call Sign DADO.
- (3) Air Operations Center afloat, USS Estes; Eniwetok Area. Call Sign APPROVAL.
- (4) One H-19 Helicopter maintaining ground alert at Kwajalein, Call Sign RUFUS ONE.
- (5) One AVR type crash boat positioned one mile off departure end of Kwajalein runway. Call Sign HEAVY.
- (6) One patrol type naval vessel in Kwajalein Area. Call Sign ARBE 1172.
- (7) One SB-29 in Test Area. Call Sign SUGAR THREE.
- (8) One SA-16 in Test Area. Call Sign SUGAR ONE.
- (9) One SB-29 in Intermediate Refueling Area. Call Sign SUGAR FOUR.
- (10) One SA-16 in Intermediate Refueling Area. Call Sign SUGAR TWO.

c. Operation Definitions: Areas of operation of friendly forces are defined as follows:

Test Area: Any area in which Joint Task Force forces are operating during actual or practice operations which is closer to the Command Ship than to Kwajalein or the Intermediate Refueling Area.

Kwajalein Area: Any area in which Joint Task Force forces are operating which is closer to Kwajalein than to the Command Ship or Intermediate Refueling Area and any areas in which Joint Task Force 132 forces are operating when actual or practice rehearsals are not being conducted which is closer to Kwajalein than Eniwetok.

Eniwetok Area: Any area in which Joint Task Force 132 forces are operating when actual or practice operations are not being conducted which is closer to Eniwetok than to Kwajalein.

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Intermediate Refueling Area: Any area in which Joint Task Force 132 forces are operating during actual or practice operations which is closer to the intermediate refueling point than to Kwajalein or the Command Ship.

2. MISSION: To provide aircrews and aircraft capable of performing special weather missions, obtaining air samples after the atomic device has been detonated, and performing Radiological Safety missions as directed by higher headquarters.

3. TASKS FOR TASK ELEMENT 132.4.3.1.

a. Operations: The Operations Section will be responsible for:

- (1) Conducting specialized briefings prior to each mission according to Schedule of Events as set forth in Annex "A".
- (2) Coordinating all matters with higher headquarters and other agencies interested in the success of these missions.
- (3) Providing the Maintenance Section with timely information on aircraft requirements, fuel loads, special equipment needed, etc.
- (4) Provide one officer as A.O.C. duty officer from H - 4 hrs until H + 48 hrs.
- (5) Insure that all crews members are properly briefed on radiological safety procedures, that crews are equipped with the necessary radiac instruments and protective gear, and that all crews are briefed on personal decontamination procedures to be followed upon their return to base.
- (6) Select crews for specific missions and provide stand-by crews as back up for all missions.
- (7) Schedule and complete the following missions:
 - (a) One Shower Activity Checker in the Eniwetok Area. William #1 will be designated to fly this mission. See Annex "B" for Flight Plan on William #1. 3
 - (b) Two combined E/31 Sampler and Radiological Safety missions. William 2 and 3 will be scheduled to fly these missions. See Annex "C" for Flight Plans. 142
 - (c) One local Kwajalein Weather Checker. William #4 will be designated to fly this mission. See Annex "D" for Flight Plan on William #4.
 - (d) Three Radiological Safety missions with secondary mission of air sample collection utilizing E/31, Humdry, and C-1 equipment. William #5, 6, and 7 will be designated for these missions, and Flight Plans are covered in Annex "E".

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b. Aircraft Maintenance: The Aircraft Maintenance Section will be responsible for:

- (1) Providing aircraft as required by Operations.
- (2) Insure that scheduled aircraft meet the operational requirement for special equipment.
- (3) Provide a adequate number of ground crewmen and engineering specialist in order to insure the take-off schedule and the expeditious ground handling of all aircraft.
- (4) Provide a specialized decontamination crew, available upon call from the decontamination center, for WB-29 decontamination.
- (5) Assist weather equipment maintenance personnel in the mounting and demounting of the B/31 racks.
- (6) Render maximum aid to other agencies in the installation of special equipment to be placed aboard certain WB-29.

c. Electronics: The Electronics Maintenance Section will be responsible for:

- (1) The testing and maintenance of communication equipment installed in mission aircraft.
- (2) The testing and maintenance of the Mark 10 IFF, APQ-13 Radar Set, the SCR 718 Radar Altimeter, and AFN. 9 Loran Set.
- (3) Insure that all VHF sets are channeled according to frequencies set forth in Annex "A".
- (4) Maintain communication equipment in operational state at all times.

d. Weather Maintenance: The Weather Maintenance Section will be responsible for:

- (1) The maintenance of installed weather equipment and required expendable supplies in unit aircraft.
- (2) Maintain "B" component of B/31 in state of readiness on M-1 day.
- (3) Insure that C-1 equipment and slides are serviceable on all scheduled aircraft.
- (4) Loading B/31 racks on designated aircraft and preflighting same in accordance with existing SOP's. Unloading B/31 racks upon completion of each mission after aircraft has been checked by decontamination center as coordinated with Field Director of Program 7.3.

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e. Personal Equipment: The Personal Equipment Section will be responsible for:

- (1) Providing units of emergency and survival equipment as follows:
 - Parachute - 1 per crew member or passenger plus 2 extra per aircraft.
 - One Man Raft - 1 per crew member or passenger.
 - Mac Wests - 1 per crew member or passenger.
 - Exposure suit - 1 per crew member or passenger.
- (2) Providing In-Flight feeding facilities to be composed of two IF-4 rations per crew member or passenger; water and/or coffee, four standard thermos jugs per aircraft; and two heating cups per aircraft.
- (3) Inspecting and maintaining all survival equipment installed in unit aircraft.
- (4) Providing personnel and equipment as required to assist the flight crew in accomplishing their assigned operation schedule.

c. Radiological: - The Radiological Safety Officer will be responsible for:

- (1) Establishing and maintaining liaison between Element and Radiological Safety Section of Task Group 132.4 including TSU 132.4.1 Radiological Safety Center.
- (2) Furnishing the Radiological Safety Center with schedule of WE 2 radiological missions and requirements for radiaac and equipment for use on these events.
- (3) Indoctrination of Air Radiological monitors in specialized radiological safety techniques and code procedures.
- (4) Insuring adequate crew briefing on radiological safety, air radiac multilevel trajectories and vertical profiles.
- (5) For Rad-Safe and decontamination procedures refer to Annex "H",

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X. This Element will increase routine weather reconnaissance to three missions per day on M-4 days through M-1 day. Special missions as outlined in Annexes B, C, D, and E of this Operations Order will be performed on M-1 day and M-4 Day. Provisions of this order will be implemented on M-1 Day by verbal orders of the Element Commander

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4. ADMINISTRATIVE AND LOGISTICAL MATTER:

a. ADMINISTRATION: Administration will be routine and in accordance with existing directives and S.O.P's.

b. LOGISTICS: Normal.

5. COMMAND AND COMMUNICATIONS MATTER:

a. COMMAND RESPONSIBILITIES:

- (1) The Task Group 132.4 Operations Officer will be responsible to insure that take-off schedules are met.
- (2) The Senior Air Controller aboard the Command Ship will be responsible for monitoring the position of William Two and Three, and control of William One in the Test Area.
- (3) The Senior Air Controller in Kwajalein AOC will be responsible for monitoring the aircraft while in the Kwajalein Area.
- (4) The Joint Task Force 132 Radiological Safety Officer (Code name: BROADWAY THREE) will provide Task Element 132.4.3 with coordinates of the radioactive fallout search area approximately five hours prior to each scheduled take-off. The Joint Task Force 132 Radiological Safety Officer will provide inflight instructions when changes in flight plan or penetration of radioactive areas are required.
- (5) The Field Director of Program 7.3 will be responsible for providing necessary instruments and qualified personnel to satisfy mission requirements and provide disposition of all samples collected.

b. COMMUNICATIONS:

- (1) SAR Procedures: Annex G describes Search and Rescue procedure and communication frequencies.
- (2) General Communications frequencies and Designators: Annex F lists call signs, code words, communications circuits and frequencies to be used by Task Element 132.4.3.1.
- (3) IFF Channels and Procedures:
 - (a) All aircraft equipped with the Mark 10, IFF will have the Airborne Transponder set on transmitting frequencies of 1100 megacycles (Channel 10) and the receiver portion of the air borne transponder adjusted to receive 1020 megacycles (Channel 5). Refer to individual flight plans for specific instructions on use of Mark 10 equipment.

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FRED C. SIMPSON
Lt Colonel, USAF
Commanding

ANNEXES:

- A - Schedule of Events
- B - William One (1) Flt Plan
- C - William Two (2) & (3) Flt Plan
- D - William Four (4) Flt Plan
- E - William Five (5), six (6), and seven (7) Flt Plan
- F - Gen Communications Freq and Designators
- G - Search and Rescue Procedures
- H - Radiological Saf and Decontamination Procedures

DISTRIBUTION:

- 1 cy per Aircrew
- 1 cy per TE 132.4.3.1 Section
- 3 cys Eln Historian
- 2 cys TSU 132.4.3
- 2 cys TG 132.4

OFFICIAL:

Warren D. Erickman
WARREN D. ERICKMAN
Major, USAF
Operations Officer

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ANNEX "A"

TO

OPERATIONS ORDER NO. 1-52

SCHEDULE OF EVENTS

M-2 DAY

- 0800 - Group Weather Briefing in TU 132.4.2 Conference Room for C.O.'s and Operations Officer.
- 0830 - Group Operations Meeting in TU 132.4.2 Conference Room for C.O.'s and Operations Officer.
- 1300 - Group Briefing for designated key personnel in Marine Theatre.

M-1 DAY

- 0800 - Group Weather Briefing TU 132.4.2 Conference Room for Unit Commanders and Operations Officer.
- 0830 - Group Operations Meeting in TU 132.4.2 Conference Room for Unit Commanders and Operations Officer.
- 1300 - Element Briefing of C-54 Photo Aircraft.
- 1400 - Element Briefing for William #1, 2, 3, 4, and designated stand-in crews.
- 2100 - Final Group Weather Briefing in TU 132.4.2 Conference Room for Unit Commanders and Operations Officer.
- 2130 - Group Operations Meeting in TU 132.4.2 Conference Room for Unit Commanders and Operations Officer.

M-DAY

- 0715 - H-Hour
- 1400 - Element Briefing for crews William #5 and William #6 in Briefing Tent.

M+1 DAY

- 1000 - Critique for all mission crews, who flew on M-Day, in Briefing Tent.
- 1400 - Briefing for William #7 in Element Briefing Tent.

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Annex "A" to Opr Order 1-52 (Cont'd)
M / 2 DAY

1000 - Final critique for crews on MIKE Shot.

1400 - Group critique in Task Unit 132.4.2 Conference Room for Unit Commanders and Operations Officer.

M / 3 DAY

0630 - Resume normal Weather Reconnaissance Operation.

AIRCRAFT SCHEDULE ✓

<u>Call Sign</u>	<u>On Station</u>	<u>S.E.</u>	<u>TAXI</u>
William #1	H - 5 hrs	H - 4 hrs 10 min	H - 4 hrs 05 min
William #2	H - 2 hrs 30 min	H - 1 hr	H - 55 min
William #3	H / 1 hr		
William #4	H - 3 hr 15 min	H - 2 hrs 15 min	H - 2 hr 10 min
William #5	H / 10 hrs 15 min	H / 11 hrs 30 min	H / 11 hrs 25 min
William #6	H / 22 hrs 15 min	H / 23 hrs 25 min	H / 23 hrs 25 min
William #7	H / 34 hrs 15 min	H / 35 hrs 30 min	H / 35 hrs 25 min

Call Sign TAKE-OFF

William #1	H - 3 hrs 40 min
William #2	H - 30 min
William #3	H / 2 to 7 hrs
William #4	H - 1 hr 45 min
William #5	H / 12 hrs
William #6	H / 24 hrs
William #7	H / 36 hrs

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ANNEX "D"

TO

OPERATIONS ORDER NO. 1-52

WILLIAM ONE (1) FLIGHT PLAN

1. ASSIGNED CREW: B-4

GROUND STAND BY: Crew B-1
AIR STAND BY : William #4

2. MISSION: To report all rain shower activity and significant weather data from a fixed point midway between Flora and Perry Island directly upwind for sixty (60) miles covering a zone ten (10) miles to both sides of the flight path.

3. FLIGHT PROCEDURES:


a. WILLIAM ONE will take - off from KWAJALEIN and climb to 1000 feet on take-off heading. After reaching 1000 feet, aircraft will turn to heading direct to ENIWETOK and climb to 1,500 feet on course. After take-off pilot will call KWAJALEIN Control on Channel 2 and make a final position report when 100 miles out. When 100 miles from ENIWETOK, the pilot will report to APPROVAL on VHF Channel C and remain on Channel C throughout the mission. Radio conversation to APPROVAL will be held to a minimum. At H - 40, the weather forecaster aboard WILLIAM ONE will begin a continuous weather broadcast to APPROVAL on VHF Channel C until H-10 minutes. At H-hour the pilot will proceed on a direct course for monitor after giving APPROVAL his ETA for KWAJALEIN. WILLIAM ONE will transmit Mark 10 Channel 10 and receive Channel 5. Parrot will squawk LIZY throughout the mission unless directed otherwise.

b. WILLIAM ONE will depart DESTINY so as to arrive at the IP at H-1 hour 40 minutes. A radar wind run will be taken from ENIWETOK prior to turning on the IP. Arriving at the IP at H-1 hour 40 minutes, WILLIAM ONE will proceed into the wind with 0 drift. All methods of obtaining winds; double drift, radar and loran will be utilized on the upwind leg. This upwind course will be controlled so as to arrive at Point Y (Approximately 60 NM from the IP) at H-40 minutes. Double Drift winds will be taken at H-45 minutes, H-35 minutes and H-25 minutes. Aircraft will then alter to the IP so as to arrive at Point X at H-20 minutes. WILLIAM ONE will proceed from the IP directly upwind always maintaining 0 drift. At H hour WILLIAM ONE will proceed directly to Kwajalein via MONITOR.

c. Upon completion of the WB-29 shower activity mission, the APPROVAL Controller will give the WB-29 pilot a release to base and notify KWAJALEIN AOC of its ETA. Altitude for return to KWAJALEIN will be 1,500 feet.

E-1

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d. In the event APPROVAL cannot be contacted 100 miles out on VHF Channel 6, WILLIAM ONE will use an HF frequency of 4330 Kc or 7685 Kc as a secondary means of reporting position to APPROVAL on CW. Voice weather reports may be made on 6747 Kc or 8450 Kc if VHF Channel G or Back-up Channel H fail.

e. Emergency procedures are covered in SIR Annex to this order. In case of complete communications failure, while WILLIAM ONE is in the test area, the aircraft will proceed directly to MONITOR, then to KWAJALEIN. Return altitude under all conditions will be 1,500 feet.

4. SPECIAL INSTRUCTIONS:

a. Mark 10 Procedures:

WILLIAM ONE will turn his Mark 10 to Mode 1, low position (2) minutes prior to take-off. Mark 10 will be operational for four (4) minutes, and then be placed in "IDLE" or "STANDBY" position. DESTINY Control will notify the aircraft of improper operation of Mark 10.

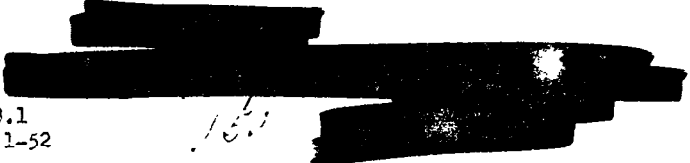
b. C-1 Air Fuel Procedures:

IPC papers will be used on this mission. Gauge right side every three (3) hours and left side every thirty (30) minutes regardless of aircraft altitude, change of course, or heading. Record only coordinates, time, and altitude for each change.

5. CREW TIME TABLE:

<u>Local Time</u>	<u>Activity</u>
0115	Mess
0200	Station
0255	S.E.
0300	Food
0325	Take-off
0535	Arrive Over Mid Point (IF)
0635	Arrive Point Y (60 NM Upwind from Point X)
0655	Arrive Point X (IF)
0715	Proceed to Kwajalein via MONITOR.
0715	Aircraft Approximately 50 NM Upwind from Mid Point
1000	Mission Critique

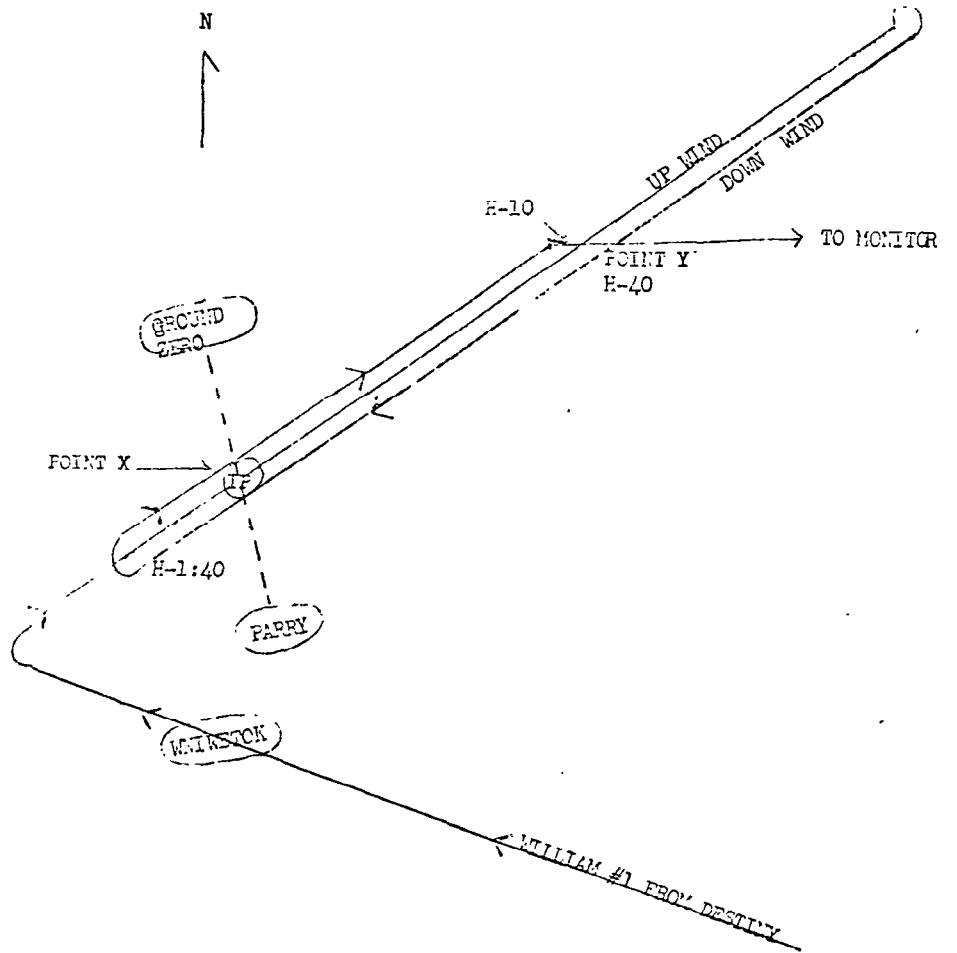
B 2



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AREA "B" To Ops Order 1-52



TASK ELEMENT 132.4.3.3
OPRS ORDER NO. 1-52

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TO

OPERATIONS ORDER NO. 1-52

WILLIAM TWO (2) AND WILLIAM THREE (3) FLIGHT PLAN

REFERENCE: Annex "L" ATG Operations Order 3-52

1. ASSIGNED CREW:STANDBY CREW

- | | | |
|----------------------|-----|-----|
| a. William Two (2) | B-5 | B-3 |
| b. William Three (3) | A-1 | B-3 |

2. MISSION: To obtain an air sample for AFOAT-1 under the direction of the AFOAT-1 representative aboard the WB-29 and to report radiological safety information as secondary mission.

3. FLIGHT PROCEDURES:

a. William Two will take-off from Kwajalein and climb to 1000 feet straight ahead. After reaching 1000 feet, aircraft will turn to a heading of 306 degrees and continue climb to 13,000 feet. Aircraft will remain at 13,000 feet until it reaches a point on course fifty (50) nautical miles from Eniwetok, then climb on course to 18,000 feet. Remain at 18,000 feet. Normal return altitude to Kwajalein will be 13,000 feet. Emergency return altitude to Kwajalein will be 13,000 feet until H / 8 hours. After H / 8 hours return may be made at any altitude desired.

b. William Three will take-off from Kwajalein and climb to 1000 feet straight ahead. After reaching 1000 feet aircraft will turn to a heading of 272 degrees, climb to an altitude of 1,500 feet and proceed to 09°30'N 164°00'E; then climb to 25,000 feet on course to operating area. Normal return altitude to Kwajalein from the operating area will be 25,000 feet. Contact APPROVAL for emergency return altitude.

c. The aircraft commanders will contact Kwajalein Control on VHF Channel C after take-off, and also report to Kwajalein Control when 100 miles out. APPROVAL will be contacted on Channel C when 100 miles from ENIWETOK and again when WILLIAM TWO is on station.

d. The AFOAT-1 Director aboard will direct the flight path of the aircraft until the cloud has dissipated to the extent where B/31 Sampling Operation can commence without danger of over contamination. He will direct the flight path of the aircraft during entire Sampling Operations, [REDACTED]

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e. WILLIAM TWO and THREE will have Mark 10 set-up for transmitting Channel 10 and receiving Channel 5 but on LAZY position during the mission unless directed otherwise. The APPROVAL Controller will identify the aircraft, monitor its course, and transmit to it any instructions necessary. Initial contact with APPROVAL will be established on VHF Channel C when one hundred miles out of ENIETOK. VHF Channel "H" will be used as backup frequency for Channel "C" for voice contacts. In the event VHF contact with APPROVAL cannot be established WILLIAM TWO and WILLIAM THREE will use CW, HF frequencies 4330 Kc, 7685 Kc and 14450 Kc, for all contacts. CW call sign for APPROVAL is WDE. Contact with WDE should be made on assigned CW frequencies immediately after take-off.

4. SPECIAL INSTRUCTIONS:

a. Pre-flight check of Mark 10 IFF:

- (1) WILLIAM TWO and WILLIAM THREE will set their Mark 10 IFF transponders on Mode One (1) and turn the selector switch to LOW two minutes prior to take-off roll. The Mark 10 IFF will be operational for four (4) minutes. The AOC will notify the aircraft of improper operations of the IFF. After this check the IFF will be placed in the "standby" position for remainder of mission unless directed otherwise.

b. Special Equipment Operation For William Two:

- (1) IPC paper will be inserted in all C-1 foils upon departure from Kwajalein and will not be changed until operating area is reached.
- (2) If lower cloud is visible, track this cloud for two (2) to three (3) hours unless directed otherwise. Report position and approximate levels of activity as determined by radac instruments.
- (3) Enter cloud, if possible, and confirm level by B/199 and/or radac instruments. If cloud is not start all sampling equipment, i.e. B-31, wing boxes (automatically on), humidity unit, and C-1 foils. Install IPC paper in left side and change to polyfibre paper in the right side. Change IPC every thirty (30) minutes. If B/199 goes off scale prior to completion of any thirty (30) minute intervals the IPC paper will be changed as frequently as is necessary to keep the B/199 "on scale" until the B/199 Operator is satisfied that the aircraft is in the desired part of the cloud. From this point IPC papers will be changed at hourly intervals on the left side. If the B/199 runs off scale and remains "off scale" shut off the equipment and use radac instruments to continue the mission.

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- (4) Expose first polyfibre paper in C-1 airfoil for three (3) hours. Expose subsequent papers for one (1) hour periods if activity levels, as determined by AFOAT-1 representative, is sufficiently high, otherwise make two (2) hour exposures. The AFOAT-1 representative will be the final authority for determining exposure time of all filter papers.
 - (5) B-31 Sampling equipment will be operated upon direction of AFOAT-1 representative aboard the aircraft. Gauge radiation level so that the minimum time in the cloud is one (1) hour to collect a B-31 sample of 275 pounds pressure.
 - (6) Humidity will be turned on upon initial entry in radiation field, and will remain on until aircraft departs radiation field.
 - (7) IPC papers will be installed in the pressurized filter box prior to take-off. Double papers will be installed with fuzzy side toward air intake vent. Aircraft will remain pressurized during the mission unless radiaec instruments indicate that aircraft interior is becoming contaminated. If excessive contamination occurs, the aircraft will be depressurized, all air flow shut-off, and crew members will use 100% oxygen until completely clear of the radiation field or as directed by the Air Radiological Safety Monitor.
- c. Special Equipment Operation for William Three:
- (1) Insert IPC paper in all C-1 foils upon departure from Kwajalein.
 - (2) Aircraft will climb to assigned altitude as described in paragraph 3, b above.
 - (3) When cloud is contacted, insert single sheet of polyfibre in right side of C-1 air foil. Expose first sheet of polyfibre three (3) hours; all subsequent sheets of polyfibre one (1) to two (2) hours or as directed by AFOAT-1 representative aboard the aircraft.
 - (4) Allow IPC paper in left side (B/199 side) of C-1 airfoil to remain in position until level of activity in cloud is determined; about one hour exposure time. Subsequent sampling will be conducted with single sheets of polyfibre in both sides of the C-1; two (2) hours exposure on the right side, one (1) hour exposure on the left side.

C-3

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- (5) Collect a B/31 sample to a pressure of 275 pounds for one (1) hour continuously while in fall-out area.
- (6) Collect humidity samples continuously while in the fall-out area. Humidity equipment will be turned off after departing the radiation field.
- (7) Procedures cited in one (1) through six (6) above are subject to revision by AFOT-1 Personnel.
- (8) Same as paragraph 4b (7) above.

5. CREW TIME TABLE:

a. WILLIAM TWO:

<u>Local Time</u>	<u>Activity</u>
0400	Mess
0500	Station
0615	S.E.
0620	Taxi
0645	Take-off
0845	Target Area
14 / 0 hrs	ETE
1000 (M / 1 day)	Mission Critique

b. WILLIAM THREE:

<u>Local Time</u>	<u>Activity</u>
0630	Mess
0815	Station
	S.E.
	Taxi
11 / 2 to 7 hrs	Take-off
	Target Area
13 / 0 hrs	ETE
1000 (M / 1 day)	Mission Critique



C-4

TASK ELEMENT 132.4.3.1
OPERATIONS ORDER NO. 1-52



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TO

OPERATIONS ORDER NO. 1-52

WILLIAM FOUR (4) FLIGHT PLANREFERENCE: Annex V ATG Operations Order 3-521. ASSIGNED CREW: A-2 STANDBY CREW: B-1

2. MISSION: The WE-29 Local Weather Aircraft will be responsible for reporting significant weather information to DESTINY within a 10 mile radius of KWAJALEIN or as directed by DESTINY Control.

3. FLIGHT PROCEDURES:

a. WILLIAM FOUR will take-off and climb straight ahead to 1000 feet at which time a turn will be made to a heading in the general vicinity of the ITC. A climb en course will be made to 10,500 feet. The aircraft will proceed out from KWAJALEIN for 50 miles and establish a track approximately 100 miles in length at the discretion of the Weather Forecaster aboard.

b. WILLIAM FOUR will contact KWAJALEIN Control on VHF Channel C after take-off and render position reports every 30 minutes while operating in the KWAJALEIN Control Area. The Weather Forecaster aboard will give a weather report to DESTINY every 20 minutes on VHF Channel E or HF (Circuit J-463 (5452.5 Kc and 8235 Kc)).

c. Information to be reported by WILLIAM FOUR is as follows:

- (1) Time and position from KWAJALEIN.
- (2) Cloud layers, heights and tops
- (3) Wind direction and velocity at flight level.
- (4) Distance and bearing of the ITC from aircraft's position.
- (5) Distance and bearing of thunderstorms, heavy rain showers and any other remarks deemed pertinent by the weather observer. All reports are to be rendered on VHF or HF Voice frequencies using clear text messages in order to insure the immediate value of the weather report.

d. WILLIAM FOUR will be released by the Senior Air Controller at the KWAJALEIN AOC when weather conditions permit. He will then contact KWAJALEIN Control for let-down instructions on Channel C and return to base.

TASK ELEMENT 132.4.3.1
OPERATIONS ORDER NO. 1-52

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e. In the event VHF contact cannot be maintained with KWAJALEIN AOC, WILLIAM FOUR will use HF Circuit J-468 on 5452.5 Kc and 8365 Kc for voice weather broadcast.

f. Emergency procedures are covered in the S/R Annex to this order. In case of complete communications failure, WILLIAM FOUR will begin a radio range let-down at H plus 5 hours if IFR conditions prevail.

4. SPECIAL INSTRUCTIONS:

a. Mark 10 Procedures:

WILLIAM FOUR will turn his Mark 10 to Mode 1, low position two (2) minutes prior to take-off. Mark 10 will be operational for four (4) minutes, and then be placed in "LAZY" or "STBY-BY" position. BOSTON Central will notify the aircraft of in-flight operations of Mark 10.

b. C-1 Air Foil Procedures:

IPC papers will be used on this mission. Change right side every three (3) hours and left side every thirty (30) minutes regardless of aircraft altitude, change of course, or heading. Record only coordinates, time, and altitude for each change.

5. CREW TIME TABLE:

<u>Local Time</u>	<u>Activity</u>
0200	Miss
0300	Station
0355	S.E.
0450	Taxi
0425	Take-off
0440	Local Orbit
9 / 0 hours	ETE
1000 (M / 1 day)	Mission Critique



TASK ELEMENT 132.4.3.1
OPERATIONS ORDER NO. 1-52

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TO

OPERATION'S ORDER NO. 1-52

WILLIAM FIVE, SIX AND SEVEN FLIGHT PLANREFERENCE: Annex X ATG Operations Order 3-521. ASSIGNED CREW:

William #5: A-3
 William #6: A-5
 William #7: A-4

STAND-BY CREW:

William #5: B-2
 William #6: B-4
 William #7: A-1

2. MISSION: To traverse certain designated areas to establish the existence or non-existence of radioactive fall-out to the east of the ENIN Area. As a secondary mission, these aircraft will perform such sampling operations as are feasible.

3. FLIGHT PROCEDURES:

a. WILLIAM FIVE, SIX and SEVEN will take-off and climb straight ahead to 1,000 feet, then turn to on course and continued the climb to an operating altitude of 15,000 feet. KWAJALEIN Control will be contacted on VHF Channel C after take-off, and a final position report will be made when 100 miles out from KWAJALEIN. Each aircraft will contact APPROVAL on VHF Channel C when 100 out, (CW call sign for APPROVAL is NNDE.) and maintain VHF contact as long as possible. Primary control from APPROVAL to these aircraft will be on circuit J-415, HF 4330, 7685, and 14450 Kc - CW only. VHF Channel H will be back-up for Channel C. CW contact with NNDE should be established immediately after take-off.

b. Upon reaching designated area, the aircraft will execute a "W" type flight pattern tracking from West to East, traversing the entire length and breadth of the search area as designated prior to take-off.

c. At such time as radioactive fall-out is encountered, the aircraft, under the direction of the E/199 equipment operator, will track the edges of the radioactive area to determine its extent. Particular emphasis will be placed on establishing the leading (wester-most) edge of the fall-out area and establish its rate of movement.

d. Penetration of the radioactive area may be directed by message to the Aircraft Commander from JTF 132 Radiological Safety Officer. Such penetrations will be for the purpose of establishing the intensity of radioactive fall-out.

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 OPERATIONS ORDER NO. 1-52

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f. Penetration of radioactive areas for the purpose of obtaining B/31, Humidity, or Filter collections will be made only as directed by Field Director, KWAJALEIN, Program 7.3.

g. Clear text weather messages will be originated by the aircraft at such times as significant inclement weather is encountered. Such messages will be incorporated with radiological messages (paragraph "f" above).

h. In the event an emergency arises, normal S.R. procedures will be used with request for S.R. intercept being passed from WB-29 to APPROVAL. The AOC KWAJALEIN will monitor all reports from WB-29's operating from H / 12 hours through H / 2 days and render assistance to the S.R. Center, KWAJALEIN. APPROVAL will advise WB-29's of nearest suitable landing area. However, the final decision in all cases unless emergency conditions warrant otherwise.

i. WB-29's will transmit Mark 10 on Mode 1 low position while in 300 miles of the EMINETOK Area.

4. SPECIAL INSTRUCTIONS:

a. C-1 Air Foil Procedures:

Use IPC papers only. Right side to be changed every three (3) hours, and left side every thirty (30) minutes regardless of altitude changes, climbs or descents, or changes in aircraft heading. Record only time, coordinates, and altitude of aircraft on data sheet provided in IPC paper envelope.

b. B/31 Operating Instructions:

WILLIAM FIVE will not collect a B/31 sample. However, WILLIAM SIX and SEVEN will have B/31 equipment aboard, and will collect B/31 samples of 275 pounds pressure upon direction of B/199 Operator aboard the aircraft.

c. Aircraft Pressurization Procedures:

Each aircraft will remain pressurized until Air Radiological Safety Monitor gives notification of entering the B/31 Sampling Area. Upon this notification, the aircraft will be depressurized, all cabin valves closed, and crew placed on 100% oxygen. A 400 PSI supply of oxygen will service a ten (10) man crew for four (4) hours at 15,000 feet with 100% oxygen flow. When the aircraft oxygen supply reaches 100 PSI the aircraft will be headed to an area of uncontaminated air, and the mission will be considered complete. Aircraft will then proceed direct to KWAJALEIN. However, routine tracking operation may be conducted under pressurized conditions after the supply of oxygen reaches 100 PSI as long as the rate of contamination is not excessive.

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5. CREW TIME TABLE:

(NOTE: This time table is subject to change)

a. WILLIAM FIVE:

<u>Local Time</u>	<u>Activity</u>
1700	Mess
1745	Stations
1845	S.E.
1850	Taxi
1915	Take-off
2115	Target Area
12 / 0	ETE
1300 (M / 1 day)	Mission Critique

b. WILLIAM SIX:

<u>Local Time (M / 1 Day)</u>	<u>Activity</u>
0500	Mess
0545	Stations
0645	S.E.
0650	Taxi
0715	Take-off
0915	Target Area
12 / 0	ETE
0900 (M / 2 days)	Mission Critique

c. WILLIAM SEVEN:

<u>Local Time (M / 1 Day)</u>	<u>Activity</u>
1700	Mess
1745	Stations
1845	S.E.
1850	Taxi
1915	Take-off
2115	Target Area
12 / 0	ETE
0900 (M / 2 Days)	Mission Critique



TASK ELEMENT 132.4.3.1
OPERATIONS ORDER NO. 1-52

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OPERATIONS ORDER NO. 1-52

GENERAL COMMUNICATIONS FREQUENCIES AND DESIGNATORS

REFERENCES:

1. AIR GROUND RADIO FACILITIES:

a. High Frequency:

<u>Circuit</u>	<u>Send</u>	<u>Receive</u>	<u>Termination and Purpose</u>
J 415	4330 Kc 7685 Kc 14450 Kc	4330 Kc 7685 Kc 14450 Kc	Kwaj - Eniwetok Command Ship - Wea Recen A/C Voice and CW Weather Reporting
J 417	6747 Kc 8450 Kc	6747 Kc 8450 Kc	Command Ship - All Control - Tanker A/C - Voice and CW CFC - (100) Estes to A/C
J 419	3450 Kc 6430 Kc 13060 Kc 10375 Kc	3450 Kc 6430 Kc 13060 Kc 10375 Kc	Kwaj MTCOM CW only. Air Route Control.
J 420	3320 Kc 5897.5 Kc 10355 Kc 16890 Kc	3320 Kc 5897.5 Kc 10355 Kc 16890 Kc	Kwaj MTCOM. Air Route Control. Voice Only.
J 421	8289 Kc	8280 Kc	Kwaj - Eniwetok Control Ship. All A/C Voice and CW. Emergenc and Distress.
J 468	5452.5 Kc 8365 Kc	5452.5 Kc 8365 Kc	Kwaj A.O.C. - Voice and CW 100 Kwaj to all A/C except B-47 Technical Control and Opnl Ckt

b. Very High Frequency:

<u>Circuit</u>	<u>Channel</u>	<u>Frequency</u>	<u>Termination and Purpose</u>
J 457	A	133.56 Mc	All A/C. CFC (100 Command Ship, Primary Control for Photo C-54's CFC (100) Monitor

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<u>Circuit</u>	<u>Channel</u>	<u>Frequency</u>	<u>Termination and Purpose</u>
J 451	B	126.18 Mc	All A/C. Control Tower CIC (AOC) Command Ship, TBS Hack, Primary Control of Effects A/C
J 452	C	137.88 Mc	All A/C. Kwaj Traffic Control CIC (AOC) Command Ship. AOC Kwaj - Monitor only. <u>Primary for Weather A/C.</u>
J 453	D	121.5 Mc	All A/C. VHF/DF Kwaj, Eni, USS Ream. CIC (AOC) Estes, Emergency and VHF, etc.
J 450	E	138.78 Mc	All A/C. CIC (AOC) Comd Ship. AOC Kwaj. Primary Sampling Control from B-29 Control A/C. To All. A/C from AOC Kwajalein.
J 456	F	135.36 Mc	All A/C. CIC (AOC) Comd Ship. P. Sampling Control from B-36 Control A/C. All
J 454	G	136.8 Mc	All A/C. CFC (AOC) Comd Ship. P. Refueling in Intermediate Area. No GCI Search. Inland Area Control.
J 455	H	143.1 Mc	All A/C. CIC (AOC) Comd Ship. Primary Refueling in Forward Area. Kwaj GCI Final Control. Back-up Channel for all B-29 A/C.

c. Kwajalein, GCI

<u>Kwajalein Trans</u>	<u>Kwajalein Rec.</u>
3475 Kc	3475 Kc
4890 Kc	4890 Kc
6640 Kc	6640 Kc
121.5 Mc	121.5 Mc
134.1 Mc	134.1 Mc
136.8 Mc	136.8 Mc
137.88 Mc	137.88 Mc
143.1 Mc	143.1 Mc

By prior arrangement, can be operative during all TG 132.4 training flights. Will be operative during rehearsals and missions. Call Kwajalein Tower on 126.18 Mc (Channel B) or Kwajalein Control on 137.88 Mc (Channel C) and ask for instructions.

Task Element 132.4.3.1
 C.F.S. ORDER NO. 1-52

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d. Kwajalein HF/DF: Will be operative during rehearsals and missions. Call Kwajalein Radio on voice (circuit J 420) and ask for HF/LF steer.

e. Kwajalein VHF/DF: Operative continuously, call Kwajalein DF Honor on 121.5 Mc (Channel D) primary and in EMERGENCY on 137.88 Mc (Channel C) secondary.

f. Kwajalein Radar Beacon: AN/CPR-6 Transmits two (2) short pips.

g. Eniwetok VHF/DF: Call Eniwetok DF Honor on 121.5 Mc (Channel D).

h. Eniwetok Radar Beacon: AN/CPR-6 Transmits three (3) short pips.

i. USS Rendova VHF/DF: Call DODO DF Honor on 121.5 Mc (Channel D).

j. Control Destroyer O'Bannon: Radio Beacon transmission on 219 Mc Identifier QR. Guard VHF Channel "D" and "Q".

k. PC 1172 Patrol Ship: Radio Beacon transmission on 1335 Mc emit un-coded signal. Guards, VHF Channel "D".

2. CALL SIGNS:

a. Aircraft:

<u>Aircraft</u>	<u>Voice Call Sign</u>	<u>OM Call Sign</u>
FB-29 'Red Rooster	William one thru	9 FY 1 thru
	William ten	9 FY 10
SA 16 SAR	Sugar one	M 801
SA 16 SAR	Sugar two	M 802
SB 29 SAR	Sugar three	M 803
SB 29 SAR	Sugar four	M 804
Helicopter	Rufus one	

b. Ground Stations:

<u>Ground Station</u>	<u>Voice Call Sign</u>	<u>OM Call Sign</u>
AOC Kwajalein	Destiny Control	2 ML
Comm Ctr Kwajalein	Rupert	AGC 2
Comm Ctr Eniwetok	Eig Ben	AGD 20
CIC (AOC) Estes	Approval	NWED
HF/DF Kwajalein	Shampoo	
VHF/DF Kwajalein	Upstairs	
VHF/DF Eniwetok	Walrus	
USS O'Bannon (Control Destroyer)	Hickup Three	
PC 1172 (Patrol Ship)	Barge 1172	
VHF/DF USS Rendova	Dodo D.F.	

Task Element 132.4.3.1
 OTHS ORDER NO. 1-52

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ANNEX "G"

TO

OPERATIONS ORDER NO. 1-52

SEARCH AND RESCUE PROCEDURES

REFERENCES: Operations Order 3-52, Annex N, A.T.G. 132.4

1. PROCEDURES:

- a. The following S/R Procedures will be adhered to by all aircraft (call sign WILLIAM) during practice or actual IVY Operations.
- b. Any aircraft in distress in the Test Area who is not in the sampling area will switch Mark 10 to "Emergency" position and announce May Day on VHF Channel C. The controller will instruct him to change to VHF Channel D (121.5) for further transmissions and instructions.
- c. If the aircraft is out of VHF Range, the pilot will switch Mark 10 to "Emergency" position and transmit "May Day" to Approval on his assigned HF Frequency. Aircraft in the sampling area will push their Mark 10 emergency button and transmit their emergency on Channel E. One E-29 control aircraft (Charlie One) and one S/R aircraft (Sugar Three) will be monitoring this frequency continuously.
- d. Aircraft in the Kwajalein Area and enroute to the Test Area will push the Mark 10 emergency button and transmit their emergency on the frequency they are transmitting on at the time of the emergency.
- e. Aircraft Commanders will use discretion when transmitting the type of emergency and using the phrase "May Day". After H / 10 hours, normal S/R procedures will prevail and all emergencies will be transmitted to the primary control ground station.
- f. For Call Signs and location of S/R aircraft refer to Paragraph 1b of this order.

[REDACTED]
[REDACTED]
Task Element 132.4.3.1
OPRS ORDER NO. 1-52
12/9 [REDACTED]

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ANNEX "H"

TO

OPERATIONAL ORDERS NO. 1-52

RADIOLOGICAL SAFETY

1. The Air Radiological Safety Officer will call Radiological Safety Center (573) to arrange for pickup of radiaac equipment to be used on his mission. Pickup time will be not later than twelve (12) hours prior to take-off.

2. The Air Radiological Safety Monitor will be responsible for drawing, assigning, directing use and returning equipment to Radiological Safety Center.

RADIOAC REQUIREMENTS

CREW	FILM	BADGES	DOSIMETERS		GOGGLES	IRON	CHAMBER	GM	GLOVES	
			LOR	200MR					LEAD	RUBBER
William #1	1	Per Pers	2	2	10 pr	1	1	2	2	
William #2	1	Per Pers	2	2	4 pr	1	1	2	2	
William #3	1	Per Pers	2	2	4 pr	1	1	2	2	
William #4	1	Per Pers	0	0	0	0	0	0	0	
William #5	1	Per Pers	2	2	0	1	1	1	1	
William #6	1	Per Pers	2	2	0	1	1	1	1	
William #7	1	Per Pers	2	2	0	1	1	1	1	
Standby	1	Per Pers	2	2	4 pr	1	1	1	1	
Standby	1	Per Pers	2	2	4 pr	1	1	1	1	

3. Protective clothing will be obtained at Radiological Safety Center two (2) days prior to M-day. Clothing will consist of:

- 1 Suit - Coveralls
- 1 Pair - Shoes
- 1 Cap
- 1 Undershirt
- 1 Pair Drawers
- 1 Pair Socks

4. The Radiological Safety Monitor will notify the Radiological Safety Center of the requirements for clothing for his crew prior to M-2 days. Clothing showing a reading in excess of 7 MR/hr will be considered contaminated.

5. Maximum radiation exposure for any flight will be a reading rate of 9R/hr as determined by the Radiological Safety Officer aboard the aircraft. Aircraft will leave radiation field immediately at this intensity of contamination.

TASK ELEMENT 132.4.3.1
OPERATIONS ORDER NO. 1-52

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6. Upon returning to Kwajalein after a radiological mission the aircraft and crew will be met by the Radiological Safety Monitor Team and checked for contamination. No crew will leave area of aircraft until checked. Contaminated personnel will be taken to Radiological Safety Center for decontamination and clothing change.

7. The aircraft will be surveyed by monitor and if contaminated will be towed to decontam area where Radiological Safety Center Supervisory Personnel will direct decontamination. Maintenance will provide sixteen (16) personnel to assist in decontamination as required.

8. The Air Radiological Safety Officer will assign film badges, record names and number of badges and return this information to Radiological Safety Center upon landing.

9. The Air Radiological Safety Officer will coordinate with AFQT-1 Representatives in observing, recording and reporting radiation data according to code procedure.

10. Dropsonde Operators will be given gloves to handle special radiological equipment. The frequency of change of detection equipment will be determined by AFQT-1 Plan.

11. The Air Radiological Safety Officer will have authority to direct mission commensurate with radiological safety.

12. The Air Radiological Safety Officer will be responsible for the procurement and disposition of C-1 Filter Papers, and supervising operation of C-1 as specified in each Flight Plan.

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OPERATIONS ORDER NO. 1-52

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[REDACTED]
[REDACTED] 166
[REDACTED]
H-2

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TO

OPERATIONS ORDER NO. 1-52

SCHEDULE OF EVENTS FOR KING SHOTK-2 DAY

- 0900 - Group weather briefing in Task Unit 132.4.2 Conference Room for Unit Commanders and Operations Officer.
- 0930 - Group operations meeting in Task Unit 132.4.2 Conference Room for Unit Commander and Operations Officers.
- 1300 - Group briefing in Marine Theatre for designated key personnel.

K-1 DAY

- 0900 - Same as K - 2.
- 0930 - Same as K - 2.
- 1300 - Element Briefing of all Photographic Aircraft in 132.4.3.1 briefing tent.
- 1400 - Element Briefing for crew of William 1, 2, 3, and 4 and designated standby crews.
- 2000 - Final Group Weather Briefing in Task Unit 132.4.2 Conference Room for unit Commanders and Operation Officers. H-Hour execute order given.
- 2030 - Group Operations Meeting in same place.

K DAY

- 0645 - Aircraft Take-offs begin.
- 1130 - H-Hour
- 1400 - Element Briefing for William #5 and 6 and designated stand-by crews in Element Briefing Tent.
- 1830 - Task Element 132.4.3.1 advised of track for first WB-29 tracker investigator mission.

K / 1 DAY

- 1000 - Mission critique for William 1, 2, and 4. Turn in of Aircraft Commanders complete narrative report of the mission flown.
- 1400 - Briefing for William 7 in Element Briefing Tent.

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2000 - First two aircraft depart Kwajalein for Hickam.

K / 2 DAY

1300 - Mission critique for William 3, 5, 6 and 7. Turn in Aircraft Commanders complete narrative report of the mission flown.

1400 - Group critique in Task Unit 132.4.2 Conference Room for Unit Commanders and Operations Officers.

2000 - Three aircraft depart Kwajalein for Hickam.

K / 3 DAY

2000 - 5 Aircraft depart Kwajalein for Hickam.

[REDACTED]

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AIRTEX "J"

TO

OPERATIONS ORDER NO. 1-52

WILLIAM ONE (1) FLIGHT PLAN FOR KING SHOT

1. ASSIGNED CREW: A-3

AIR STAND BY: William #1

2. MISSION: To report significant weather data from Ground Zero (G.Z. to 30 miles out from H-2 Hours to H-Hour and visibility between "Coral Head", "Bruce" and "Ursula" at H-10 Minutes altitude of 1,500 feet.

3. PROCEDURES:

a. Flight Pattern: Following take-off, aircraft will maintain straight course, climbing to 1,000 feet. Upon reaching 1000', aircraft will turn to on-course heading (direct from Kwajalein to Ground Zero) and climb to 1500' cruising altitude. Aircraft will cross Ground Zero at 1500', and climb to altitude of 7500' per pattern described in attachment #1. Aircraft will remain at 7500' until approximately H-30 Minutes. Let-down will be effected so as to cross Ground Zero at 1500' at H-10 Minutes. At H-10 Minutes the aircraft will be directly over Ground Zero heading westerly (downwind). The aircraft will immediately take-up a reciprocal heading (upwind) and proceed upwind until H-2 Minutes. At H-2 the aircraft will switch to BAKER Channel VHF, and listen for information as to detonation of test bomb or announcement of new H-Hour. In the event of the establishment of a new H-Hour, the flight pattern will be repeated, based on the new H-Hour. Unless a new H-Hour is established, the aircraft will maintain its easterly heading until the actual detonation. Immediately following detonation, the aircraft will switch to CHARLIE Channel and request release from "APPROVAL". After release, the aircraft will proceed directly to "BIKINI" at an altitude of 1500', thence to "KWAJALEIN".

b. Communications:

- (1) Kwajalein Tower - B Channel
- (2) Kwajalein Control - C Channel (Report in after take-off with EM for 100 miles out, also when 100 miles out use (6500 KC's) if VHF is not successful).
- (3) Approval - C Channel - establish contact as soon as possible. "H" Channel is back-up for "C" Channel. Also contact "NND" or "APPROVAL" on HF frequency of 6747 or 8450 KC's as emergency back-up in case of complete VHF failure. Follow VHF instructions from "APPROVAL".

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- (4) Stand-by on VHF Channel "B" for (Dog One) time back at H-1 Hour 30 Minutes, H-1 Hour, H-30 Minutes, and H-2 1/2 Minutes.
- (5) Visibility report rendered to "BOTTLENECK" on VHF Channel "C" at H-10 Minutes.
- (6) Obtain release from "APPROVAL" prior to departure on Channel "C" and give ETA for Kwajalein.
- (7) William One will make initial contact on VHF Channel "C" to "APPROVAL". However, "BOTTLENECK" will be located on Parry Island (code name: ELMER) and William One will direct his reports to "BOTTLENECK".

c. Weather Reporting: Weather reports will be rendered to "BOTTLENECK" every five (5) minutes giving shower activity, cloud coverage, visibility, wind direction and speed at flight altitude, and other significant weather data observed. Normally, these reports will be given on Channel "C".

d. Emergency Procedures: Normal emergency procedures will be followed. If abort occurs immediately after take-off, William One will return to West leg of Kwajalein Range and receive tower clearance for landing. If abort occurs after leaving tower frequency, William One will follow normal control instructions for emergency return and landing. One Helicopter (Rufus One) will be on air stand-by at Kwajalein along with search boat (Heavy) located one (1) mile from take-off end of runway #7.

4. SPECIAL INSTRUCTIONS:

a. IFF Procedures: William One will turn his Mark 10 to Mode 1, low position immediately after take-off, and request a PARROT check from "DUSTINY PARROT" on VHF Channel "A". "DUSTINY PARROT" will notify the aircraft of improper operation of Mark 10. After this check, William One will squawk LIZY unless directed otherwise.

b. C-1 Air Fuel Procedures: IFC papers will be used on this mission. Change right side every three (3) hours and left side every three (3) minutes regardless of aircraft altitude, change of course, or heading. Record only coordinates, time, and altitude for each change. Special emphasis will be given to completeness of these data sheets.

c. Frequency Interference: The following frequencies and frequency bands will remain clear of all interference:

136.03	150.77Mc
195Mc - 199Mc	209Mc - 213Mc
2300Mc - 2800Mc	3375Mc

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William One will shut-off all power on the SCR 718 at H-1 Hour and leave this set inoperative until after H-Hour. Use of AFQ-13 is permitted, but William One may be instructed from "APPROVAL" or "DOG ONE" to shut down his AFQ-13 set.

d. Misc. Designators:

Target Coordinates:	162°21'E 11°34'N	
Target Code Name:	YVONNE	
Visibility Check Points:	Bruce	Rojoa Island
	Ursula	Aniyanii Island
	Coral Head	A Coral Head 8 Miles West of Yvonne in Eriwetok Lagoon

e. WILLIAM ONE will be equipped with radac gear and safety device according to chart in paragraph 2 of Annex "H" to Operations Order No. 1-52.

5. OPEN TIME TABLE:

<u>Local Time</u>	<u>Activity</u>
0530	Chow
0600	On Station At Aircraft
0650	S.E.
0655	Taxi
0720	Take-off
0920	On Target
1120	Over Ground Zero
1200	Over Ground Zero
1415	Land Kwajalein



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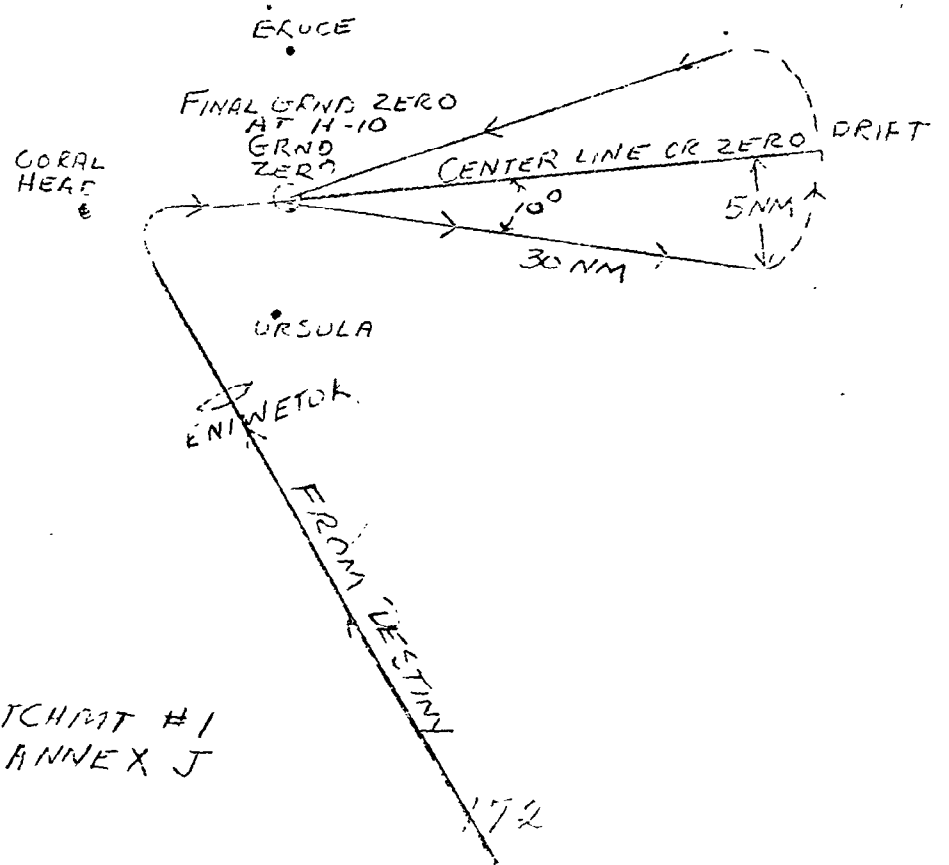
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WILLIAM ONE FLIGHT PATTERN

GROUND ZERO RECORD

162° 21' E 11° 39' N



ATTCHMT #1
ANNEX J

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TO

OPERATIONS ORDER NO. 1-52

WILLIAM TWO AND THREE FLIGHT PLAN FOR KING SHOT

REFERENCE: Annex "L" ATG Operations Order 5-52

1. ASSIGNED CREW: STANDBY CREW

- a. William Two (2) A-4 A-5
- b. William Three (3) B-3 A-5

2. MISSION: To obtain an air sample for AFOAT-1 under the direction of the AFOAT-1 representative aboard the WB-29 and to report radiological safety information as secondary mission.

3. FLIGHT PROCEDURES:

a. William Two will take off from Kwajalein and climb to 1000 feet straight ahead, then turn to a heading of 306 degrees and continue the climb to 18,600 feet. This aircraft will operate at 18,600 feet throughout this mission unless directed by APPROVAL to change altitude. William Two will climb on course to his assigned altitude and after reaching the target area will observe the visible cloud from whatever vantage point selected by the E/199 operator. Contact with Kwajalein Control will be made on Channel C after take-off, and on EIA for 100 NM out given on the initial contact. CW Contact with NWDE and AGCZ will be made after take-off on either 4330Kc, 7635 Kc, or 14450. Hourly CW position reports will be rendered to both NWDE and AGCZ until contact with the visible cloud is made. All CW messages will be double addressed to NWDE and AGCZ, and a receipt obtained from both stations. Upon reaching VHF range of Approval, William Two will establish contact on Channel C and report his position in relation to HAZARD VHF contact with APPROVAL will be maintained as long as possible.

William Two will proceed as directed by E/199 operator and begin sampling operation at his discretion. After completion of the sampling operation William Two will return to Kwajalein at 18,600 feet. However, the E/199 operator may desire a return at 2000 feet in order to complete sampling operation on Humidry equipment. Authority to return at any altitude other than 18,000 feet will be obtained from APPROVAL prior to changing altitudes.

William Two will not operate the SCR 718 until H-Hour and is assured that detonation of the Atomic device has occurred.

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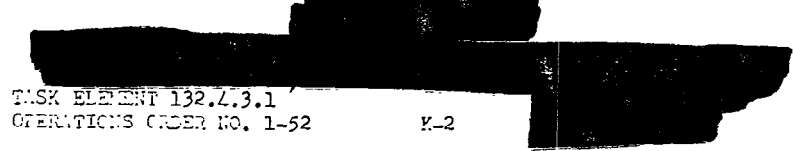
b. William Three will take off, climb straight ahead to 1000 feet, begin a turn to a west heading, and climb to 1,500 feet. Upon reaching 1,500 feet he will proceed on a direct course to 164°E 09°30'N. From this position he will climb on a direct course to the target area to an altitude of 21,000 feet. After reaching target area, path of William Three will be as directed by B/199 Operator aboard. Return to Kwajalein, after completion of B/31 sampling operation, will be at 21,000 feet unless B/199 Operator request a lower altitude for Humidity Sampling. Any change in operating altitude will be coordinated with APPROVAL prior to the change. William Three will begin a search at his assigned altitude after reaching the target area. APPROVAL will not vector this aircraft, but may render an advisory to B/199 operator. B/199 Operator will give recommendation to Aircraft Commander to begin B/31 sampling. Communication Contacts will be made to Kwajalein Control on Channel "C" after take-off. ETA for 100 miles out will be rendered on initial contact. CW contact will be established after take-off with NWDE and AGC2 on either 4330 Kc, 7635 Kc, or 14450 Kcs. All CW messages will be double addressed to NWDE and AGC2 and a receipt obtained from each station. Contact with APPROVAL will be made on Channel "C" where William Three is within VHF Range. CW position reports will be rendered to NWDE and AGC2 every hour until aircraft reaches target area.



c. The B/199 operator aboard will direct the flight path of the aircraft until the cloud has dissipated to the extent where B/31 Sampling Operation can commence without danger of over contamination. He will direct the flight path of the aircraft during entire Sampling Operations.

The Rad Safe Monitor aboard will comply with the provisions of Annex "H" with respect to turn-out from hazardous areas when readings of nine (9) Roentgens per hour are observed on radia instruments. In addition, at such time as the Rad Safe Monitor determines that the crew has received radiation dosage of approximately three (3) Roentgens (allowing for dosage to be received while enroute to home station) he will so advise the aircraft commander and the aircraft will proceed directly to Kwajalein. This action will be coordinated with APPROVAL.

d. WILLIAM TWO and THREE will have Mark 10 set-up for transmitting Channel 10 and receiving Channel 5 but in LAZY position during the mission unless directed otherwise. The APPROVAL Controller will identify the aircraft, monitor its course, and transmit to it any instructions necessary. VHF Channel "H" will be used as back-up frequency for Channel "C" for voice contacts. In the event VHF contact with APPROVAL cannot be established WILLIAM TWO and THREE will use CW, HF frequencies 4330Kc, 7635 Kc and 14450 Kc, for all contacts. CW call sign for APPROVAL is NWDE.



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4. SPECIAL INSTRUCTIONS:

a. Pre-flight check of Mark 10 IFF:

- (1) William Two and Three will set MARK 10 to Mode 1 (Normal) immediately after take-off and call "Destiny Parrot" on Channel "A" for a PARROT check. DESTINY PARROT will inform each aircraft if his MARK 10 is operating improperly. As soon as this PARROT check is accomplished, the MARK 10 will be placed in LAZY or stand-by position to remain thusly through out the mission unless directed otherwise. Improper operation of MARK 10 will not constitute an abort.

b. Special Equipment Operation For William Two:

- (1) IPC paper will be inserted in all C-1 foils upon departure from Kwajalein and will not be changed until operating area is reached.
- (2) If lower cloud is visible, track this cloud for two (2) to three (3) hours unless directed otherwise. Report position and appropriate levels of activity as determined by radiao instruments.
- (3) Enter cloud, if possible, and confirm level by B/199 and/or radiao instruments. If cloud is hot start all sampling equipment, i.e. B-31, wing boxes (automatically on), humidity unit, and C-1 foils. Install IPC paper in left side and change to polyfibre paper in the right side. Change IPC every thirty (30) minutes. If B/199 goes off scale prior to completion of any thirty (30) minute intervals the IPC paper will be changed as frequently as is necessary to keep the B/199 "on scale" until the B/199 Operator is satisfied that the aircraft is in the desired part of the cloud. From this point IPC papers will be changed at hourly intervals on the left side. If the B/199 runs off scale and remains "off scale" shut off the equipment and use radiao instruments to continue the mission.
- (4) Expose first polyfibre paper in C-1 air filter for three (3) hours, Expose subsequent papers for one (1) hour periods if activity levels, as determined by AFGAT-1 representative, is sufficiently high, otherwise make two (2) hour exposures. The AFGAT-1 representative will be the final authority for determining exposure time of all filter papers.

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- (5) B-31 Sampling equipment will be operated upon direction of AFAT-1 representative aboard the aircraft. Estimate radiation level so that the minimum time in the cloud is one (1) hour to collect a B-31 sample of 275 pounds pressure.
- (6) Humidity will be turned on upon initial entry in radiation field and will remain on until aircraft departs radiation field.
- (7) General Rad Safe Precautions:
 - (a) Rad Safe Monitor will pick-up rad safe equipment portable survey meters from Rad Safe Center. Dosemets will be distributed equally between front and rear pressurized compartments. Each crew member will be issued a film badge. Filter-Box operators will be equipped with lead-lined gloves.
 - (b) Rad Safe Monitor will determine if aircraft is equipped with pressurization system filter device. If so, double thickness IFC filter papers will be installed therein, with rough side toward air intake vent. The filter device will permit operation of the cabin pressurization system while in contaminated areas. If the aircraft is not equipped with pressurization system filter, or if the rad safe monitor determines that the interior of the aircraft is being contaminated, all operations in hazardous areas will be conducted with cabin air valves "OFF"; crew members will use 100% Oxygen while in contaminated areas, or as directed by the Rad Safe Monitor. Air Rad Safe Monitor will effect thorough briefing to all crew members on radiological safety precautions for his mission.

c. Special Equipment Operation for William Three:

- (1) Insert IFC paper in all C-1 fails upon departure from Kwajalein.
- (2) Aircraft will climb to assigned altitude as described in paragraph 3, b above.
- (3) When cloud is contacted, insert single sheet of poly-fibre in right side of C-1 air foil. Expose first sheet of polyfibre three (3) hours; all subsequent sheets of polyfibre one (1) to two (2) hours or as directed by AFAT-1 representative aboard the aircraft.

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- (4) Allow IFC paper in left side (B/199 side) of C-1 airfoil to remain in position until level of activity in cloud is determined; above one hour exposure time. Subsequent sampling will be conducted with single sheets of poly-fibre in both sides of the C-1; two (2) hours exposure on the right side, one (1) hour exposure on the left side.
- (5) Collect a B/31 sample to a pressure of 275 pounds for one (1) hour continuously while in fall-out area.
- (6) Collect humidity samples continuously while in the fall-out area. Humidity equipment will be turned off after departing the radiation field.
- (7) Procedures cited in one (1) through six (6) above are subject to revision by AFMOT-1 Personnel.
- (8) Same as paragraph 4b (7) above.

5. CREW TIME TABLE:

a. WILLIAM TWO:

<u>Local Time</u>	<u>Activity</u>
Regular Hrs	Mess
0915	Station
1030	S.E.
1035	Taxi
1100	T.S.
1300	Target Area
1440	ETE
1000 (K / 1 Day)	Mission Critique

b. WILLIAM THREE:

<u>Local Time</u>	<u>Activity</u>
Regular Hrs	Mess
1445	Stations
1600	S.E.
1605	Taxi
1630	Take-Off
1830	Target Area
1440	ETE
1000 (K / 1 Day)	Mission Critique

TASK ELEMENT 132.4.3.1
OPERATIONS ORDER NO. 1-52

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ANNEX "L"

TO

OPERATIONS ORDER NO. 1-52

WILLIAM FOUR (4) FLIGHT PLAN *1-52*

REFERENCE: Annex U ATG Operations Order 5-52

1. ASSIGNED CREW: A-2

STANDBY CREW: B-5

2. MISSION: The WB-29 Local Weather Aircraft will be responsible for reporting significant weather information to DESTINY within a 50 mile radius of KWAJALEIN or as directed by DESTINY Control.

3. FLIGHT PROCEDURES:

a. WILLIAM FOUR will take-off and climb straight ahead to 1000 feet at which time a turn will be made to a heading in the general direction of the ITC. A climb on course will be made to 10,500 feet. The aircraft will proceed out from KWAJALEIN for 50 miles and establish an orbit approximately 100 miles in length at the discretion of the Weather Forecaster aboard.

c. WILLIAM FOUR will contact DESTINY Control on VHF Channel A after take-off and render position reports every 30 minutes while operating in the KWAJALEIN Control Area. The Weather Forecaster aboard will give weather report to DESTINY every 20 minutes on VHF Channel A or HF Circuit J-462 (5452.5 Kc and 8365 Kc).

c. Information to be reported by WILLIAM FOUR is as follows:

- (1) Time and position from KWAJALEIN.
- (2) Cloud layers, heights and tops.
- (3) Wind direction and velocity at flight level.
- (4) Distance and bearing of the ITC from aircraft position.
- (5) Distance and bearing of thunderstorms, heavy rain showers and any other remarks deemed pertinent by the weather observer. All reports are to be rendered on VHF or HF Voice frequencies using clear text messages in order to insure the immediate value of the weather report.

d. WILLIAM FOUR will be released by the Senior Air Controller in the KWAJALEIN ACC when weather conditions permit. He will then contact KWAJALEIN Control for let-down instruction on Channel C and return to base.

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e. In the event VHF contact cannot be maintained with the KANJALBIN A/C, WILLIAM FOUR will use HF Circuit J-468 on 5452.5 Kc and 8365 Kc for voice weather broadcast.

f. Emergency procedures are covered in the S/R Annex to this order. In case of complete communications failure, WILLIAM FOUR will begin a radio range let-down at H plus 5 hours if IFR conditions prevail.

4. SPECIAL INSTRUCTIONS:

a. Mark 10 Procedures: WILLIAM FOUR will set Mark 10 to Mode 1 (normal) immediately after take-off and call DESTINY PARROT on Channel A for a PARROT check. DESTINY PARROT will inform each aircraft if his Mark 10 is operating. As soon as the PARROT check is accomplished the Mark 10 will be placed in LAZY or STANDEY position to remain thusly through out the mission unless directed otherwise. Improper operation of the Mark 10 will not constitute an abort.

b. C-1 Air Feil Procedures: IPC papers will be used on this mission. Change right side every three (3) hours and left side every three (30) minutes regardless of aircraft altitude, change of course, or heading. Record only coordinates, time, and altitude for each change.

5. OPER TIME TABLE:

<u>Local Time</u>	<u>Activity</u>
0600	Mass
0630	Station
0740	S.E.
0745	Tand
0810	Take-off
0830	Local Orbit
9 / 0	ETE
1000 (K / 1 Day)	Mission Critique

6. Added Special Instructions:

a. The SCR 718 will not be used or turned "on" during this mission.



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OPERATIONS ORDER NO. 1-52

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ANNEX "M"

TO

WILLIAM FIVE, SIX AND SEVEN FLIGHT PLAN

REFERENCE: Annex Q ATG Operations Order 5-52

1. ASSIGNED CREWS:

William #5: A-1
William #6: B-1
William #7: A-5

STANDEY CREWS:

William #5: B-4
William #6: A-3
William #7: A-4

2. MISSION: To traverse certain designated areas to establish the existence or non-existence of radioactive fall-out to the east of the ENTWETOK Area. As a secondary mission, these aircraft will perform such sampling operations as are feasible.

3. FLIGHT PROCEDURES:

a. WILLIAM FIVE, SIX, and SEVEN will take-off and climb straight ahead to 10000', then turn to on course and continue climb to the operating altitude of 15,000 feet. KWAJALEIN Control will be contacted on VHF Channel Q after take-off, and a final position report will be made when 100 miles out from KWAJALEIN. Immediately after take-off the aircraft will establish contact with APPROVAL (Cw call sign NWDE) and AGC2 on circuit J-415 (4330, 760 or 14450 Kc's). A double addressee position report in clear text will be given every hour to NWDE and AGC2 while enroute to the designated search area.

b. Upon reaching the designated search area, William 5, 6 and 7 will execute a "E" type pattern as shown in attachment #1 to this annex. If the sector is too narrow for the "E" pattern, a "W" type pattern will be utilized for the first 150 NM from starting point prior to initiating the "E" type pattern. APPROVAL may or may not transmit advisories to these aircraft. In the event APPROVAL does send advisories, the Aircraft Commander will follow his instructions. At such time as radioactive fall-out is encountered the aircraft will attempt to define the leading edge of the cloud by the tracking method within the confines of the prescribed sector. If fuel quantity permits, two traverses of the leading edge should be made to determine the direction and rate of movement. William Five will penetrate this contaminated area for a B/31 sample immediately after the tracking requirement has been fulfilled - fuel permitting. Penetration of the radioactive area will not be required of William 6 and 7 unless so directed by APPROVAL. Once an active area has been tracked in accordance with the above and fuel permits, the aircraft may then continue the search of the remaining portion of the sector.

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d. Penetration of radioactive areas for the purpose of obtaining B/31, Humidity, or Filter collections will be made only as directed by Radiological Safety Monitor aboard.

e. Clear text weather messages will be originated by the aircraft at such times as significant inclement weather is encountered. Such messages will be incorporated with radiological messages.

f. In the event an emergency arises, normal SAR procedures will be used with request for SAR intercept being passed from WB-29 to APPROVAL. TACC KWAJALEIN will monitor all reports from WB-29's operating from H / 12 Hours through K / 2 days and render assistance to the SAR Center, KWAJALEIN. APPROVAL will advise WB-29's of nearest suitable landing area. However, the final decision in all cases rest with the aircraft commander. When an aircraft declares an emergency he will request an intercept and position reports in clear text.

g. WB-29's will transmit Mark 10 on Mode 1 low position while in 50 miles of the ENWETOK Area.

4. SPECIAL INSTRUCTIONS:

a. C-1 Air Foil Procedures: Use ITC papers only. Right side to be changed every three (3) hours, and left side every thirty (30) minutes regardless of altitude changes, climbs or descents, or changes in aircraft heading. Record only time, coordinates, and altitude of aircraft on data sheet provided in ITC paper envelope.

b. B/31 Operating Instructions: WILLIAM FIVE will collect a B/31 sample of 275 FSI. WILLIAM SIX and SEVEN will not have B/31 equipment aboard.

c. Aircraft Pressurization Procedures: Each aircraft will remain pressurized until Air Radiological Safety Monitor gives notification of entering the B/31 Sampling Area. Upon this notification, the aircraft will be depressurized, all cabin valves closed, and crew placed on 100% oxygen. A 400 FSI supply of oxygen will service a ten (10) man crew for four (4) hours at 15,000 feet with 100% oxygen flow. When the aircraft oxygen supply reaches 100 FSI the aircraft will be headed to an area of uncontaminated air and the mission will be considered complete. Aircraft will then proceed direct to KWAJALEIN. However, routine tracking operation may be conducted under pressurized conditions after the supply of oxygen reaches 100 FSI as long as the rate of contamination is not excessive.

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d. General Radiological Safety Precautions:

- (1) Radiological Safety Monitor will pick-up radiological safety equipment and portable survey meters from the Radsafe Center. Dosimeters will be distributed equally between front and rear pressurized compartments. Film Badges will be issued to each crew member.
- (2) The Radsafe Monitor will advise the Aircraft Commander when the aircraft is to be depressurized to avoid intake of contaminated air into the interior of the aircraft. During periods of unpressurized operations, crew members will use 100% oxygen.
- (3) Each Radsafe Monitor will conduct a thorough briefing of crew members with respect to radiological safety procedure for his particular mission.

5. CREW TIME TABLE:

(NOTE: This time table is subject to change)

a. WILLIAM FIVE:

<u>Local Time</u>	<u>Activity</u>
Regular Hours	Mess
2145	Stations
2300	S.E.
2305	Taxi
2330	Take-off
0130 (K / 1 Day)	Target Area
12 / 0	ETE
1300 (K / 1 Day)	Mission Critique

b. WILLIAM SIX:

<u>Local Time (K / 1 Day)</u>	<u>Activity</u>
Regular Hours	Mess
0945	Stations
1100	S. E.
1105	Taxi
1130	Take-off
1330	Target Area
12 / 0	ETE
1300 (K / 2 Days)	Mission Critique

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Annex III to Ops Order No. 1-52

c. WILLIAM SEVEN:

Local Time (K / 1 Day)

Activity

Regular Hours

Mess

2145

Stations

2300

S. E.

2305

Taxi

2330

Take-off

0130 (K / 2 Days)

Target Area

12 / 0

ETE

1300 (K / 2 Days)

Mission Critique

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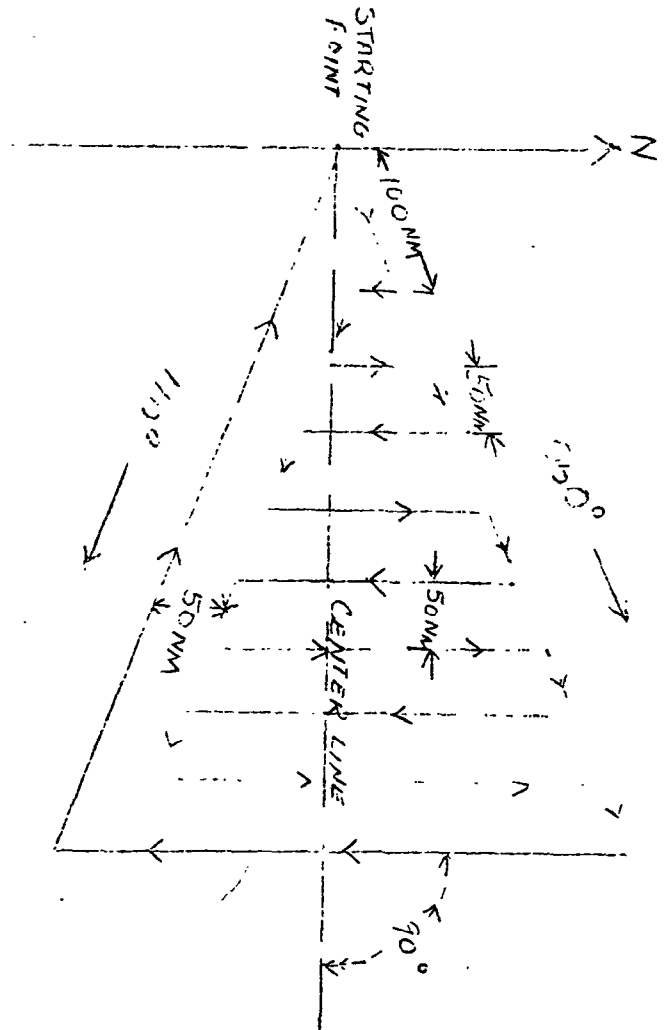
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WILLIAM FIVE, SIX AND SEVEN RADIOLOGICAL
SEARCH PATTERN



ATC/INT #1
ANNEX M

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