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SUBORBITAL AND SPECIAL ORBITAL PROJECTS DIRECTORATE

Airport Facility and Operations Handbook

Baseline
August 2006

Original signed by
Edward W. Sudendorf
Airport Manager

National Aeronautics and Space Administration

Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, Virginia 23337

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FORWARD

This handbook establishes the responsibility and procedures to effectively disseminate requirements, standards, procedures, and guidelines for the operation of the Airport at the Goddard Space Flight Center (GSFC)/Wallops Flight Facility (WFF).

Comments and questions concerning the contents of this handbook should be addressed to the Airport Manager, Code 830, Wallops Flight Facility, Wallops Island, VA 23337. This is a controlled document and will be reviewed annually and revised when necessary.

Copies of this handbook have been distributed to WFF personnel with responsibilities that require use of this handbook. This document is posted at http://www.wff.nasa.gov/~apb/. Additional copies may be obtained from the WFF Aircraft Office, Code 830.

Record of Revisions

Revision Number	Revisions	Date Entered	Entered By
Baseline		August 2006	E. Sudendorf

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SECTION ONE:
GENERAL INFORMATION

101. GENERAL RULES

The regulations set forth are issued to promote the safe, orderly, and expeditious movement of air traffic at the NASA Goddard Space Flight Center/Wallops Flight Facility (WFF) Airport and within its designated airport traffic area. To that end, all pilots operating within this area shall adhere to the procedures contained in this document except when to do so would place aircraft and occupants in an unsafe circumstance. Deviation from these procedures shall be accomplished in accordance with the best rules of airmanship. The rules and procedures set forth herein will in no way modify or nullify existing safety regulations or instructions issued by higher authority.

It is incumbent upon all pilots to abide by TITLE 14 CFR, Federal Aviation Regulations, Part 91, General Operating and Flight Rules, except when this handbook contains more stringent regulations. All other personnel engaged in support of aircraft operations at the WFF Airport shall also be bound by the rules and provisions contained herein, as applicable.

102. REFERENCES

a. TITLE 14 CODE OF FEDERAL REGULATIONS (CFR), Chapters I and III, Federal Aviation Regulations

b. U.S. Navy Document “NAEC Engineering Document 91-7824 Rev G of 14 Jan 93.”

c. GPG 7900.1, Use of the Wallops Flight Facility Airport (in review)

d. 830-AMPM-0001, Aircraft Maintenance Program Manual (AMPM)

e. 803-WI-8072.1.9, Safety Procedures for Aircraft Operations with Live Ordnance at Wallops Flight Facility Airport

f. 830-PLAN-0001, Wildlife Management Plan

g. 803-PLAN-0001, Aircraft Mishap Response Plan

h. DOD Low Altitude Instrument Approach Procedures

i. FAA AC No. 90-42, Traffic Advisory Practices at Airports Without Operating Control Towers

j. Form NASA WI-1539, NOTAMS, WFF Airport

k. Form NASA WI-1550, Hazardous Waste Disposal Inventory

103. DEFINITIONS

AGL - Above Ground Level: Used as a reference when conveying or determining the altitude of an aircraft.

APU - Auxiliary Power Unit: An aircraft onboard power unit for providing temporary power to onboard systems.

Aircraft - A machine or device, such as an airplane, a helicopter, a glider, or a dirigible, that is capable of atmospheric flight.

Airport - An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, including buildings and facilities.

Air Traffic - Aircraft operating in the air or on an airport surface, exclusive of loading ramps and parking areas.

ATA - Air Traffic Area: That air space within 5 statute miles of the geographical center of an airport and below 2,500 feet above ground level.

ATC - Air Traffic Control: A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

Armed Forces - The United States Army, Navy, Air Force, Marine Corps, and Coast Guard, including their regular and reserve components and members.

CFR - Crash, Fire, and Rescue: Those vehicles and/or personnel used for crash, fire, and rescue emergencies at the Wallops Flight Facility Airport.

Civil Aircraft - Aircraft other than public aircraft.

Class D Airspace - For WFF, that airspace that extends from the surface to 2,500 feet (above ground level) within a 4.4 nautical mile radius of the geographical center of the WFF Airport and within 1.8 nautical miles each side of SWL VORTAC 181 degree radial, extending from 4.4 nautical miles to 2.2 nautical miles south of the SWL VORTAC. This Class D Airspace reverts to a classification of Class E Airspace (Uncontrolled Airspace) when the Control Tower is unmanned.

CTO - Control Tower Operator: A person trained and certified to control air and ground traffic in an airport environment.

EMT - Emergency Medical Technician: A person trained and certified to provide basic medical services before and during transportation to a hospital.

FAR - Federal Aviation Regulations.

FMB - Facilities Management Branch: An organization within GSFC that falls under the designation of GSFC Code 200.

FOM - Facilities Operations Manager: A designated individual responsible for monitoring all matters that affect the safety, utilization, and general livability of an assigned building(s) and its surroundings.

GPU - Ground Power Unit. Ramp and/or hangar equipment used to provide temporary power to aircraft.

GSFC - Goddard Space Flight Center: One of several NASA field centers of which the WFF is a subdivision.

HAZMAT - Hazardous material.

IFR Conditions - Instrument Flight Rules. Weather conditions below the minimum for flight under visual flight rules, as applied to Wallops Airport Class D Airspace, i.e., any condition wherein the ceiling is less than 1,000 feet or the visibility is less than 3 miles.

Large Aircraft - Aircraft of more than 12,500 pounds, maximum certified takeoff weight.

LT - Local Time: At the WFF local time can be either Eastern Standard Time or Daylight Saving Time dependent upon the time of the year.

Mission Management Aircraft - Aircraft used primarily for transporting NASA personnel and their staffs.

MSL - Mean Sea Level: A reference used to determine the elevation of an airport.

NOTAM - Notice-To-Airmen: A notice containing information concerning the establishment, condition, and/or change in any facility, service, procedure or hazard in the National Airspace System of which the timely knowledge is essential to personnel concerned with flight operations.

Operate - With respect to aircraft, means to use, cause to use, or authorize to use aircraft for air navigation, including the piloting of aircraft, with or without the right of legal control.

OSD - Operation and Safety Directive: An approved GSFC Wallops Flight Facility plan for the conduct of a mission/project that assures safe compliance with approved procedures and criteria.

PPR - Prior Permission Request: A prior request for approval necessary to land at the Wallops Flight Facility Airport.

Public Aircraft - Aircraft used only in the service of a government or political subdivision. It does not include any government-owned aircraft engaged in carrying persons or property for commercial purposes. (Refer to TITLE 14 CFR, Chapter I for further information.)

Research Project - A reference to research activities at the Wallops Flight Facility Test Range.

Restricted Area - Airspace designated under TITLE 14 CFR, Part 73, Special use Airspace, within which the flight of aircraft while not wholly prohibited, is subject to restriction.

RSM - Range Support Manager: The assigned primary contact for approved projects or programs at the Wallops Flight Facility.

Small Aircraft - Aircraft of 12,500 pounds or less, maximum certified take-off weight.

Traffic Pattern - The traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from an airport.

UNICOM - Universal Communications: A ground-to-air radio communication station that may provide airport advisory information when the local Control Tower is unmanned.

VFR - Visual Flight Rules: Rules that govern the procedures for conducting flight under visual conditions.

WFF - Wallops Flight Facility: A subdivision of GFSC under which reside several organizational codes.

104. AIRPORT INFORMATION (See Figure 1-1, Wallops Airport Facilities)

1. Location and Description

The WFF Airport is a NASA facility located approximately 5 miles west of the town of Chincoteague on the Eastern Shore of Virginia. The geographical coordinates of the airport are 37°56′ north latitude, and 75°28′ west longitude. The airport elevation is 41 feet above MSL.

2. Mission

The primary mission of the WFF Airport is to provide direct support for the WFF Test Range, including aeronautical research; rocket launch and U.S. Navy combat training activities, and support for aircraft conducting atmospheric scientific research. Additionally, the airport provides administrative and logistic support in conjunction with the above activities.

3. Military Aircraft Activity

Through prior approval, military aircraft are authorized to use the WFF Airport for official project use and for training on a cost reimbursable, and non-interference basis to NASA program activities.

4. Civil Aircraft Operations

Through prior approval, limited civil aircraft operations are authorized on a non-interference basis. An exception applies to those civil aircraft that are involved in approved research programs.

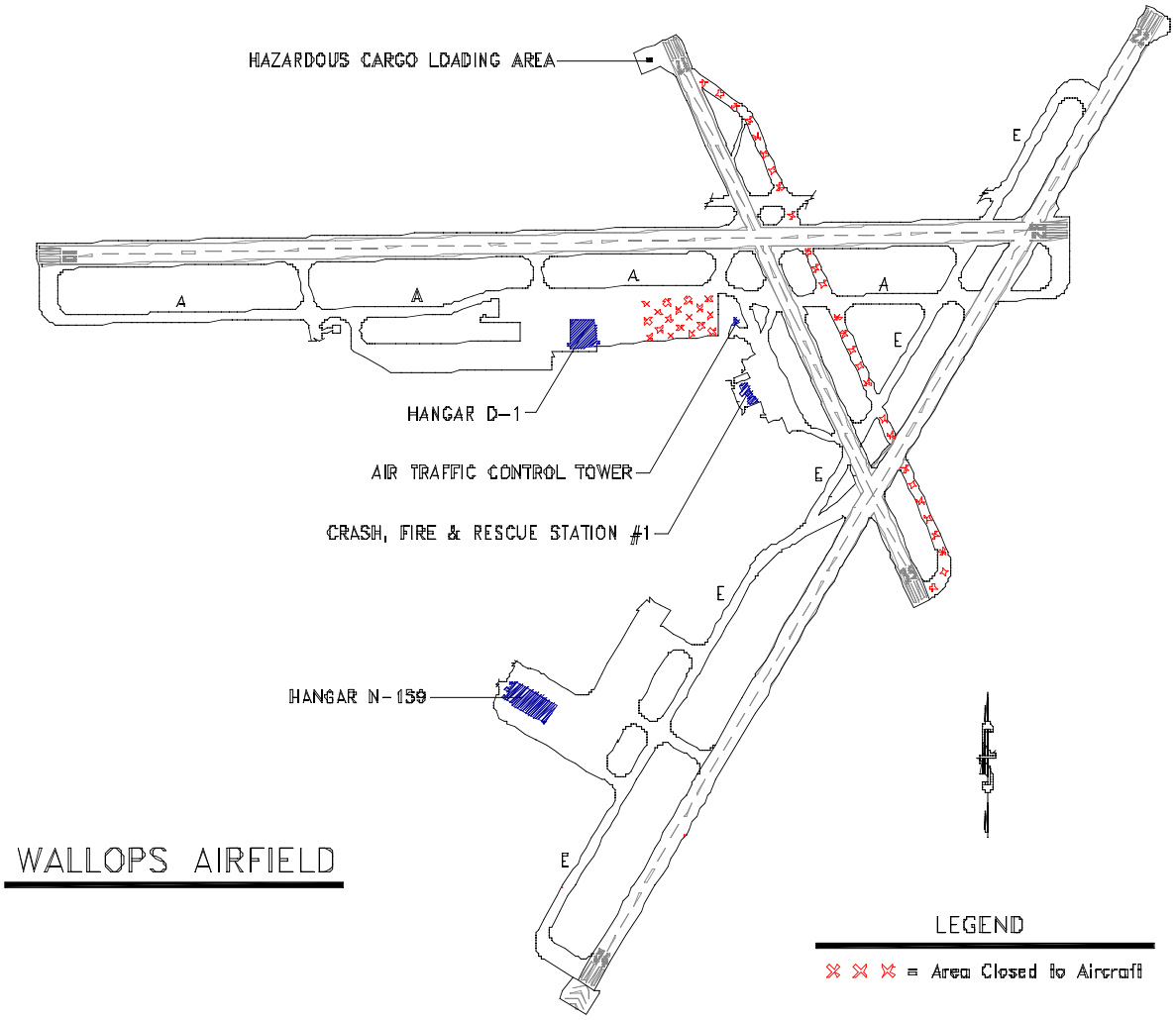

Figure 1-1. Wallops Airport Facilities

5. Runway Information

The WFF Airport has three runways constructed of concrete and asphalt. Specific runway information is listed in Table 1-1:

Table 1-1. Runway Information

Runway	Magnetic Headings*	True Headings	Dimensions
10-28	101.79°/281.79°	090.36°/270.36°	8000 ft. x 200 ft.
04-22	043.62°/223.62°	032.19°/212.19°	8750 ft. x 150 ft.
17-35	169.13°/349.13°	157.70°/337.70°	4820 ft. x 150 ft.

Note: The current magnetic variation is 11.43°W (August 2000).

6. Arresting Gear

Runway 04-22 is equipped with two independent sets of short field arresting gear. The two sets of gear are located 1,500 feet from the north end and 1,800 feet from the south end of 04-22. The arresting gear is the E-28 type, which is owned, annually inspected, and certified by the U.S. Navy; and maintained, tested and operated by WFF in accordance with U. S. Navy Document "NAEC Engineering Document 91-7824 Rev G of 14 Jan 93." This arresting gear is specifically related to WFF support for U.S. Navy programs.

During certain Patuxent River Naval Air Station scheduled test flights, both sets of arresting gear are in battery (i.e., arresting cables under tension across the runway). SMALL AIRCRAFT SHOULD AVOID ROLLING ACROSS THE CABLES WHEN THE GEAR IS IN BATTERY. By way of NOTAM, runway of 04-22 is closed when the Control Tower is unmanned.

7. Pavement Wheel Loads

Throughout the airport the weight bearing capabilities of the WFF Airport pavement are not consistent because of varied construction materials and thickness. As a result, the maximum allowable gross weight for large aircraft must be evaluated on a case-by-case basis. This evaluation is performed at the Airport Manager's office.

105. HANGAR AND SERVICE FACILITIES

1. Hangar Space

Hangar space is limited to NASA-owned or -operated aircraft and to those aircraft involved in research at the WFF Airport. The need or requirement for hangar space must be requested in advance from the assigned RSM or primary WFF contact.

2. Project Office and Lab Space

Office and lab space is available for approved aircraft projects. These rooms vary in size and are located in the Building N-159 hangar facility. Reservations for this space must be requested in advance from the assigned RSM or primary WFF contact.

3. Repair Facilities

The WFF Airport Facility is not equipped to provide other than minor or limited repairs to transient aircraft. Normally, project research entities shall provide their own maintenance personnel when engaged in flight operations at WFF. When necessary, however, limited assistance may be available to personnel and aircraft involved in research at the WFF Airport.

4. Fuel Services

Fuel services are available within the normal workweek (Monday through Friday) and workday from 0830 LT through 1600 LT and at other times by prior arrangement and approval. Government-owned, -operated, or -leased aircraft, and civilian aircraft engaged in projects may be refueled at WFF. The two acceptable methods of payment for fuel are DOD credit cards and funding established in advance that is normally related to existing approved projects and/or programs at WFF. There are no established funding procedures for issuing fuel to civilian aircraft on unofficial flights.

Pilots requiring fuel may establish a schedule through their assigned WFF RSM or primary WFF contact. To facilitate the procurement of fuel, the person initiating the request should specify the time, date, location on the airport, type of fuel required, estimated number of gallons required, requestor's name and related program.

An assigned crewmember of the aircraft shall operate the fueling nozzle except for NASA mission management aircraft and certain WFF project aircraft. In circumstances where single piloted aircraft are involved, an additional person to operate the fuel nozzle may be provided by WFF. Under these conditions, however, the pilot shall be expected to supervise the refueling operation.

Fuel is dispensed from trucks equipped with single point refueling fittings.

Table 1-2 depicts the fuel capability at the WFF Airport:

Table 1-2. Wallops Airport Fuel Systems

	Dispensing Equipment	Capacity*	Pump Rate (GPM)	Storage Capacity (gal.)*
JP-5	1 truck	6,000 gallons	200	100,000**
"	2 trucks	5,000 gallons	200	
"	1 truck	3,000 gallons	200	
JPTS	1 truck	5,000 gallons	200	20,000***

* Useable fuel is approximately 90 percent of tank storage.
** Five interconnected 20K-gallon tanks.
*** Two interconnected 10K-gallon tanks.

5. Oxygen

Both liquid oxygen and gaseous breathing oxygen are available to official business and project-related aircraft.

6. Ground Support Equipment

Table 1-3 lists electrical starting units and other ground support equipment available for use at the Wallops airport:

Table 1-3. Ground Support Equipment

System	Description	Quantity
Unitron, Electrically Driven (Towable)	115 VAC @ 400 Hz, 90 kVA	1
Ground Power Unit, Diesel Driven (Towable)	115 V @ 400 Hz, 90 kVA; 28 VDC @ 600 Amps	3
Hobart Generator, Gasoline Driven (Towable)	28 VDC @ 700 Amps	1
DC Power Unit (Handcart)	28 VDC @ 300 Amps	4
AM/32A-60B (Towable)	Air Start: 147 lb/min, @ 48 psi 115V @ 400 Hz @ 75 kVA	2
MA1A Huffer (Towable)	Air Start: 147 lb/min, @ 48 psi	1
Tow Tractor (International)	20,000-lb draw bar	1
Tow Tractor (Northwestern)	12,000-lb draw bar	2
Tow Tractor (Northwestern)	4,000-lb draw bar	2
PH-2 Stairs, Entrance (Self-propelled)	Adjustable height: from 8 ft. to 12.5 ft.	1
Stairs, Entrance (Truck Mounted)	Adjustable height: from 8 ft. to 24 ft.	1
Unitron Frequency Converter (Fixed --- N-159)	115 VAC @ 400 Hz, 250 Amps	1
Forklift (Hyster S40XL)	2,750-lb capacity, 10 ft. max. height	1
PT400 Heating Unit (Handcart)	400,000 BTUs	2
A/M 32C-18 Air Conditioner Diesel Driven (Towable)	600,000 BTUs	1
Air Conditioner, Air-A-Plane Diesel Driven (Truck Mounted)	600,000 BTUs	1

106. AIRPORT LIGHTING

1. Runway Lights

Runway lights are turned on during tower operating hours (Monday through Friday, 0700-1730 LT) for arriving and departing aircraft whenever weather conditions descend below VFR minimums and during the hours of darkness by pilot request.

2. Rotating Beacon

There is a rotating beacon in operation at the Wallops Airport. This beacon emits a green and white light and is located on the upper portion of D-1 hangar, which is located 300 yards west of the Control Tower. Periods of operation for this beacon are directly related to scheduled arrivals and departures at the WFF Airport during nighttime hours, or when the weather descends below VFR minimums.

3. Obstruction Lights

There are numerous towers, antennae, and various other obstructions within the ATA of the WFF Airport that are clearly marked with red obstruction lights.

4. Taxiway Lights Description

The parallel taxiways, including all runway turn-off exits for runways 10-28 and 04-22, are equipped with blue taxiway lights. Taxiway 17-35 is permanently inactive.

5. Runway Lights Description

All WFF runways, 10-28, 17-35 and 04-22 are lighted. These runways are equipped with variable high-intensity white runway lights installed approximately 200 feet apart from the full length of the runways except for FAA-required amber colored lights installed along the final 2000 feet. Green threshold lights are installed at each end of the runways. Runways have Runway End Identification Lights (REIL) and Precision Approach Path Indicator (PAPI) lights on all approaches.

107. INSTRUMENT APPROACH

The WFF Airport has two approved FAA instrument approaches. One is a VOR or TACAN or GPS RWY 17 approach, using the Snow Hill, Maryland VORTAC. The other is a VOR/DME or TACAN or GPS RWY 10 approach using the Salisbury, Maryland VORTAC. These instrument approaches are carried in all FAA-approved approach procedure publications; i.e., DOD, Jeppesen, Coast & Geodetic, etc. They are listed alphabetically in DOD Low Altitude Instrument Approach Procedures as Wallops Flight Facility (WAL), Wallops Island, VA. Associated standard airport information is also listed alphabetically as Wallops Flight Facility in the corresponding DOD (ENROUTE) IFR Supplement, United States.

108. CONTROL TOWER/UNICOM

1. Manned Control Tower

The WFF Control Tower is operated by FAA-certified Control Tower operators and is routinely manned from 0700-1730 LT, daily, Monday through Friday, federal holidays excluded. In order to enhance airport safety beyond the above routine times, the Airport Manager may extend tower operation whenever research activity is in progress or when multiple aircraft operations are scheduled in proximity to each other. Any adjustment to tower hours will be published/disseminated via NOTAM.

2. Unmanned Control Tower

During periods when the Control Tower is unmanned Wallops UNICOM provides wind, altimeter, reported traffic, and NOTAM information as well as airport lighting upon pilot request. For pilots, it is important to adhere to the following procedure when operating at the WFF Airport when the Control Tower is unmanned:

"Traffic Advisory Practices at Airports without Operating Control Towers, FAA AC No. 90-42", is in effect during non-tower operating hours. In addition to FAA AC No. 90-42, WFF policy requires that at all times when the Control Tower is unmanned, PILOTS MUST ADVISE "WALLOPS UNICOM" PRIOR TO ENGINE START, TAXI, TAKEOFF, APPROACH, OR LANDING.

For information to pilots, it should be noted that Wallops UNICOM is a function provided by the airport CFR personnel located in Building B-129 (Fire Station #1). These personnel, in addition to other duties, monitor the assigned tower frequencies to provide pilots with essential ground and flight information. As a word of caution, this service is provided from a remote site whereby the runways and taxiways are not visible to the personnel transmitting this advisory information. Therefore, pilots operating on the ground and in the air shall exercise vigilance in preventing a collision with other aircraft or ground vehicles. The responsibility for the avoidance of collision rests with individual pilots, and is especially critical during those hours of operation when the Control Tower is unmanned.

3. Tower/UNICOM Handoff

During Tower-to-UNICOM and UNICOM-to-Tower handoff and CTO-to-CTO handoff, a complete update pertaining to the status of the airfield is required and will be initiated by the closing duty station/person. This update shall include runway, taxiway and/or ramp closures, rehabilitation activities and/or areas, project activities and/or equipment locations and any other pertinent information relating to airport safety.

4. NOTAM Issuance

NOTAMs normally will be issued by the duty CTO, after conferring with the Airport Manager. During periods when the Control Tower is unmanned, NOTAMs will be filed directly with Leesburg FSS by the CFR Duty Captain and conveyed to the Airport Manager and duty CTO when the Control Tower is reactivated. The CTOs and UNICOM personnel shall maintain a current log of all NOTAMs related to the WFF airport.

Also, the CTOs shall document on Form No. NASA WI-1539, NOTAMs, WFF Airport, all NOTAMs initiated by WFF/FAA personnel that relate to the WFF Airport. Additionally, these completed forms shall be disseminated within 24 hours to the following personnel: CFR Duty Captain/UNICOM, Airport Manager, WFF Aviation Safety Officer, DynCorp Aviation Safety Officer, Aircraft Operations Schedule Office, and DynCorp Contract Maintenance Supervisor.

Authority to issue NOTAMs relating to the WFF Airport is limited to the following WFF personnel: CTOs, CFR Duty Captains, and Airport Manager.

109. METEOROLOGICAL SERVICES

Meteorological services are available in Building E-106. Weather briefings and consultations are routinely available from 0500 LT through 1630 LT daily, Monday through Friday, legal holidays excluded. Services include monitoring and augmenting the continuously operating National Weather Service (NWS) Automated Service Observing System (ASOS), which provides weather observation reports of WFF meteorological conditions for worldwide dissemination. Meteorologist augmentation of ASOS data takes

place from 0700 LT through 1630 LT daily, Monday through Friday, legal holidays excluded. Weather data, including satellite, radar and regional NWS warning and advisory data, is transmitted to the Meteorological Office via satellite downlink to the Automated Weather Interactive Processing System (AWIPS), providing continuous, real-time, worldwide weather information. Other services include pilot weather reports, surface map and upper air analyses, terminal weather forecasts, local weather warnings and advisories, plus numerous other related services. Climatological data is available upon request.

Weather information on the WFF closed circuit television system is as follows:

- Channel 5 - Daily live weather briefing starting at 0815 LT.
  Routine display of weather radar and satellite information.
- Channel 8 - Observed weather data from Wallops Island and the Main Base with scrolling abbreviated weather forecast, range schedule, and upper level winds.
- Channel 15 - National Lightning Detection Network display.

A recorded telephone weather forecast, which is updated at 0800 LT and 1300 LT daily on normal workdays, is available at Extension 2291 or at (757) 824-2291. Real-time ASOS weather observation data is available by dialing (757) 824-0820. Pilots may access this same recording via VHF radio on 119.175 MHz.

Additionally, the Meteorological Office offers printed 12-hour and 36-hour forecasts at 0800 LT and 1300 LT, respectively. After normal working hours, or at any other time, aviation weather and forecast information may be obtained by calling the Eastern Region Flight Service Station at 1-800-992-7433.

110. FLIGHT PLANNING SERVICES

A flight planning room is located on the first floor of hangar N-159. A wall flight planning chart, computer, high- and low-altitude en route charts, FAA flight plans, en route flight information supplements, Airman's Information Manual and selected other items of pilot information are available. Flight plans are filed by phone to Eastern Region Flight Service Station (1-800-992-7433). Also, a conference room with telephone is available for flight briefing/planning at the lower level of the Control Tower building (A-1).

A Visiting Pilot Information Sheet is available at the Airport Manager's office. This handout is a summary of key information pertinent to aircraft operations in the WFF Airport air traffic area and vicinity. Included are important telephone numbers and available services.

111. CAFETERIA SERVICE

Cafeteria service is available in Building E-2, Monday through Friday, legal holidays excluded. Breakfast is available 0700-0800 LT and lunch is available 1100-1300 LT. There is no dinner service.

112. MEDICAL FACILITIES

A fully equipped first aid and emergency treatment facility is located in Building F-160. Two nurses are on duty during normal working hours (0800-1630 LT). A medical doctor is on duty as required. Additionally, a WFF CFR duty crew, located at Building B-129, is staffed with EMT qualified personnel and is available when needed. The nearest fully equipped hospitals to WFF are located in Salisbury, Maryland, and Nassawadox, Virginia.

SECTION TWO:

AIRCRAFT CLEARANCE PROCEDURES AND POLICY

201. AIRCRAFT CLEARANCE, DEFINITION

An aircraft clearance is defined as authorization by competent authority for an aircraft to proceed under certain specified conditions to a specified point or place. Aircraft clearances at the WFF Airport include applicable FAA rules and regulations as well as certain locally imposed rules and restrictions described in this handbook.

202. IFR CLEARANCE REQUIREMENTS

Pilots departing the WFF Airport when the official reported weather is less than 1,000 feet AGL ceiling and/or visibility less than 3 statute miles must file an IFR flight plan with an appropriate FAA facility. The flight plan should normally be filed with the Eastern Region Flight Service Station by telephone at 1-800-992-7433 or by way of the Patuxent River clearance delivery frequency, 121.7 MHz. If Patuxent River is unavailable on 121.7 MHz, IFR filing may be coordinated through the duty WFF CTO during hours when the Control Tower is manned.

203. SPECIAL VFR OPERATIONS

Special VFR operations may be conducted under specific conditions in the WFF air traffic area when the ceiling is less than 1,000 feet or visibility is less than 3 miles. These operations must be performed clear of clouds with weather at or above a 500-foot ceiling and 1-mile visibility (helicopter operations excluded). The WFF CTO must obtain an appropriate clearance from Patuxent Approach Control.

204. AIRCRAFT OPERATING PROCEDURES

Aircraft arriving, departing, or otherwise conducting operations in the vicinity of the WFF Airport air traffic area shall maintain a current crew and passenger list with the duty WFF CTO. This list may be provided by the pilot, the Range Support Manager for research flights, or the recipient of the initial PPR request.

205. WEATHER MINIMUMS

1. VFR Operations

The ceiling and visibility minimums are 1,000 feet and 3 miles, respectively, for operations under VFR within the Wallops air traffic area.

2. IFR Landing

Instrument approach minimums are published in current editions of the flight information publications (DOD, Jeppeson, Coast & Geodetic) and shall be adhered to in all respects for all aircraft landing at the WFF Airport under less than VFR minimums.

3. IFR Take-Off

Take-offs will not be permitted at the WFF Airport when the prevailing visibility for the take-off runway is less than 1/4 statute mile or the ceiling is less than 100 feet.

206. CIVIL AIRCRAFT OPERATIONS

The WFF Airport is a government-owned facility, which is normally operated in direct support of government-sponsored research projects and programs. Research support for military and commercial entities may be provided on a cost reimbursable basis after legal requirements have been satisfied and appropriate test documents have been approved. These projects have priority. Other civil aircraft operations are permitted at the WFF Airport on a limited, non-interference, prior permission request basis and within the discretion of the approving authority (Director of Suborbital and Special Orbital Projects). The procedures for processing and controlling civilian aircraft use of the WFF Airport are described in GPG 7900.1, Use of the Wallops Flight Facility Airport (in review).

SECTION THREE: COURSE RULES

301. TRAFFIC PATTERNS

The standard VFR traffic patterns for all runways at the WFF Airport are as depicted in Figure 3-1, Traffic Patterns Chart.

1. Initial Pattern Entry

For aircraft separation, bird avoidance, and noise abatement purposes, pilots shall normally enter the VFR traffic patterns at 1,500 AGL for large or heavy aircraft, 1,000 feet AGL for light aircraft, and 500 feet AGL for helicopters. Pilots requiring traffic pattern altitudes other than these shall request those patterns from the CTO.

2. Pilot Requests for Off-Duty Runway

In the event that a landing is requested for an off-duty runway, the traffic pattern shall be a standard left-hand pattern as depicted in the WFF Airport Traffic Patterns (see Figure 3-1) for that runway, unless modified by the CTO.

3. Wave-Offs

In the event of a wave-off where a pilot desires to remain in the landing pattern, pilots shall normally fly aircraft straight out to an altitude of at least 500 feet above the airport on the assigned runway heading and turn downwind when traffic permits. For an aircraft waving off and departing the airport traffic area, the wave-off and departure pattern is depicted in Figure 3-1 or as directed by the CTO.

4. R-6604 Flight Restrictions

The Wallops Flight Facility is the user agency of this restricted area through agreement with the Federal Aviation Administration. The northwestern portion of restricted area R-6604 presents some ambiguity since this portion overlies, approximately, the southeast portion of the WFF Airport air traffic area. The WFF Control Tower, when manned, is normally the focal point of control for all air traffic transiting that portion of R-6604 extending into the airport air traffic area. The point of control for this northwest portion is relinquished to the WFF Range Test Director by the CTO on certain occasions when test range operations dictate a need. During unmanned tower operating hours when R-6604 is active, either the Using Agency (WFF Range Control Center, call sign: “Wallops Plot”) or the FAA, as the Controlling Agency, shall be contacted for clearance through any portion of this restricted area.

As an added word of caution, it should be emphasized that numerous rocket firings, and similar hazardous operations, are conducted from Wallops Island Complex in an off-shore direction at various hours during the day and night within R-6604. Thus, pilots should give proper attention to the clearance requirements involved for flights operating in this area. As a further safeguard during hours of normal tower operations, aircraft operating in the airport traffic area shall remain north and west of the Wallops Island shoreline.

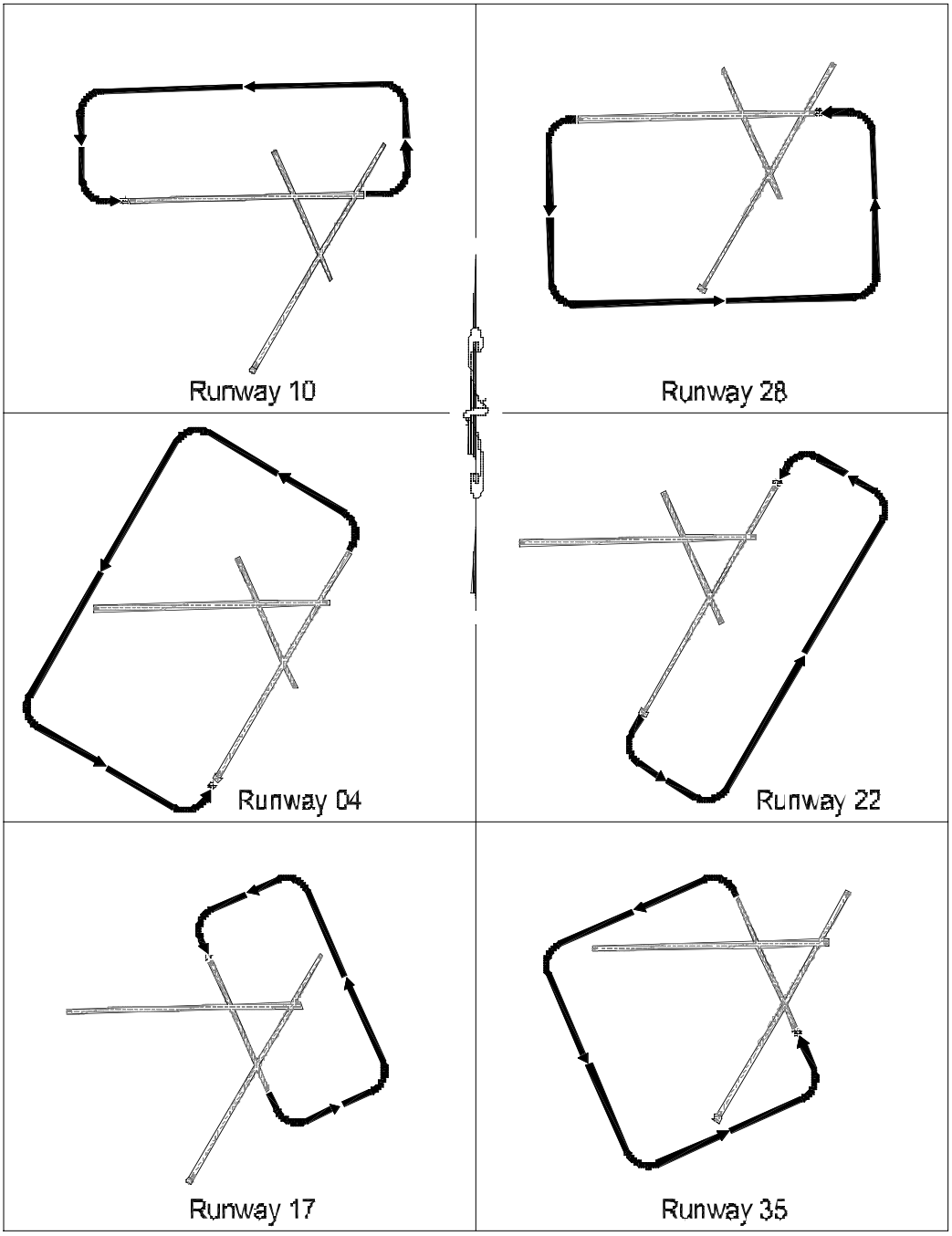

Figure 3-1. Traffic Patterns, NASA Wallops Flight Facility Airport

5. Research Aircraft Patterns

Aircraft at the Wallops Flight Facility engaged in research, systems checkout and evaluation, or other mission-specific activities, shall be flown at altitudes, patterns, and speeds according to an approved OSD and as coordinated with the CTO. Even though research operations shall normally have priority over other traffic, research pilots are required to maintain a continuous communication link with the WFF Control Tower.

6. Practice Landing Pattern

Pilot training in the form of practice landings and approaches must be pre-coordinated with the tower and will be approved on a non-interference basis with project operations. Traffic patterns shall be as described in this chapter unless modified by the CTO. Also, R-6604 activity may require pattern modifications.

Unless otherwise directed all aircraft shall maintain runway heading to an altitude of not less than 500 feet before commencing turn to pattern altitude.

7. Helicopter Operations and Maneuvers in the Airport Traffic Area

Research projects involving helicopter flights shall be conducted in accordance with approved OSDs. All routine helicopter flight operations, including take-offs, landings, hovering, air taxiing and ground taxiing, shall normally be conducted over hard-surfaced areas. Touch-and-go practice landings will be dictated by other air traffic activity and as approved by the CTO. Landing practice may be approved on an off-duty runway whenever the wind velocity is less than 5 knots. Helicopters, other than those on floats and skids, shall ground taxi in and out of congested line areas instead of air taxiing. While air taxiing, helicopters shall avoid other aircraft, vehicles, and obstructions laterally by 200 feet, and when airborne, shall avoid flying over parked aircraft and vehicles, or passing within 200 feet of buildings or fixed obstacles. Helicopters shall avoid overflight of other airborne aircraft, and avoid take-offs and landings through the same airspace below and behind other airborne traffic for 1 to 2 minutes.

8. Practice Autorotations

Practice autorotations must be approved via the duty CTO and/or PPR approval. Also, practice autorotations shall be subject to the following restrictions:

a. Practice autorotations shall be made over hard surface areas and where specified.

b. Procedures shall be performed according to procedures outlined in the appropriate flight manual.

c. A CFR vehicle must be on standby during practice autorotations.

d. Practice autorotations shall not be allowed during periods when turbulent and variable wind conditions prevail, or when the pilot is aware that the reported wind creates a hazardous situation for this type of operation.

302. TAXI INSTRUCTIONS

1. Taxi Procedures During Control Tower Operating Hours

All aircraft shall obtain taxi clearance from the WFF CTO for taxiing during normal Control Tower operating hours. Taxi patterns at WFF shall be according to patterns outlined in Figures 3-2 through 3-7.

2. Taxi Procedures When Control Tower Is Unmanned

After normal tower operating hours, pilots shall contact Wallops UNICOM on the local Control Tower frequencies for wind, altimeter setting, preferred runway, reported traffic, NOTAMs, and lightning, prior to engine start. (See 107, subsection 2, concerning WFF Airport policy relative to required pilot procedures during periods when Wallops UNICOM is active.)

303. TAKE-OFF AND DEPARTURE INSTRUCTIONS

Departure patterns are established in Figure 3-1.

a. Normally, take-offs shall not be permitted at the WFF Airport unless the aircraft has a functioning two-way radio. Any deviation from this requirement shall require prior arrangement between the pilot and the CTO or Airport Manager. A take-off without two-way radio communications may be authorized to permit the pilot of a visiting aircraft to proceed to a home base or other base for corrective maintenance.

b. Take-offs that adversely affect active research projects shall generally be denied to any aircraft other than official NASA-owned aircraft engaged in project support or other similar flights.

c. High performance climbs and dives are not authorized unless previously scheduled or included in the operational phase of a research project operating under an approved OSD.

d. Mid-field or intersection take-offs may be permitted upon pilot's request.

e. Take-offs when the Control Tower is unmanned shall be coordinated through Wallops UNICOM as previously explained. (See 107, subsection 2, concerning WFF Airport policy relative to required pilot procedures during periods when Wallops UNICOM is active.)

f. Helicopter take-offs shall be controlled as directed by the CTO during hours of normal tower operations and coordinated with Wallops UNICOM during all other hours for scheduled flights. The normal helicopter departure pattern will be conducted so as not to affect or interfere with fixed-wing aircraft. Also, helicopters will not normally cross the runway in use. Unless otherwise specified, helicopters will depart the WFF airport traffic area at an altitude of no less than 300 and no more than 500 feet. Additionally, helicopters shall maneuver to bypass the housing area in the southwest quadrant of the Wallops Facility.

g. It is recommended that all aircraft, but mandatory for heavy multi-engine aircraft, depart on runway headings at a minimum of 500 feet before commencing a turn. An exception will apply when an aircraft is engaged in research and operating under an approved OSD. Also, high-powered, steeply banked, low-altitude turns shall not be permitted unless included in an OSD or under emergency conditions.

304. LANDING INSTRUCTIONS

1. Initial Radio Contact

Pilots shall call the WFF CTO (Wallops Tower) for landing instructions before entering the airport traffic area during the hours when the Control Tower is manned. During periods when the Control Tower is unmanned, pilots shall contact Wallops UNICOM for landing information. (See 107, subsection 2.)

2. Traffic Pattern Air Speed

Maximum air speed within the airport traffic area is 200 knots for turbine-powered and reciprocating engine aircraft, except as provided in TITLE 14 CFR 91.117 and as pertains to the minimum safe air speed for particular aircraft operations. Maximum air speeds for research aircraft shall be as established and published in individual OSDs, if greater than the above listed air speeds.

3. Aircraft Emergencies

Aircraft with declared emergencies shall take priority over any other aircraft operation at the WFF Airport.

4. Formation Landings

Formation landings are prohibited except in the case of chase aircraft engaged in research operations and documented in applicable OSDs.

305. TRAINING

1. Approval

Touch and go landing practice may be granted to military aircraft by PPR approval on a day-to-day non-interference basis during normal Control Tower operating hours. NASA-owned or –operated aircraft may be cleared for landing practice by the CTO as conditions permit. Landing practice will not normally be authorized while a research project operation is in progress at either the airport or within the airport traffic area. An appropriate CFR vehicle shall be on standby at the appropriate location during practice landing activities.

2. Instrument Approaches

During normal tower operating hours, aircraft may be cleared for practice instrument approaches, including low passes over the airport, and simulated missed approaches, through clearance from the CTO when traffic conditions permit.

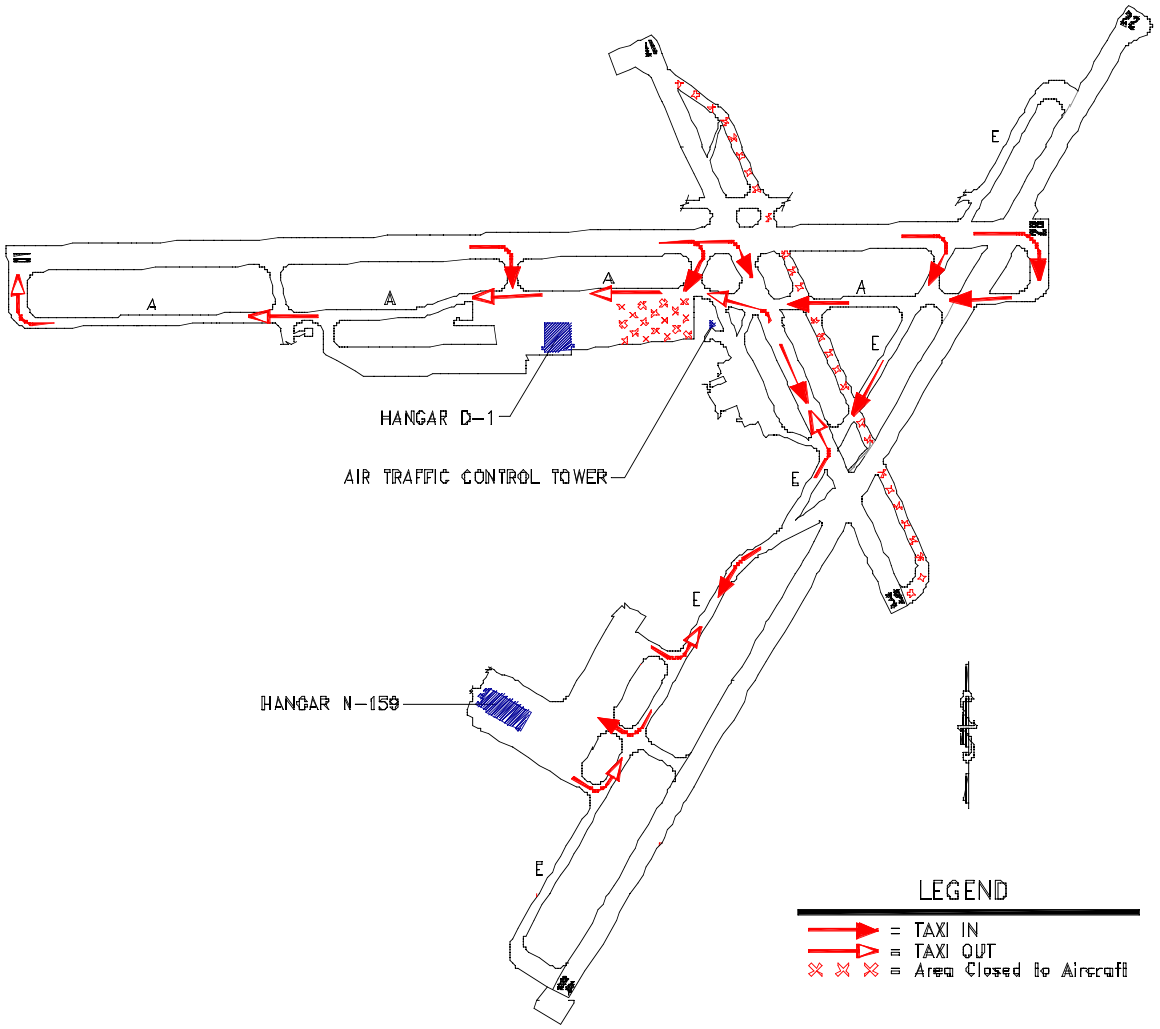

Figure 3-2. Taxi Pattern Runway 10

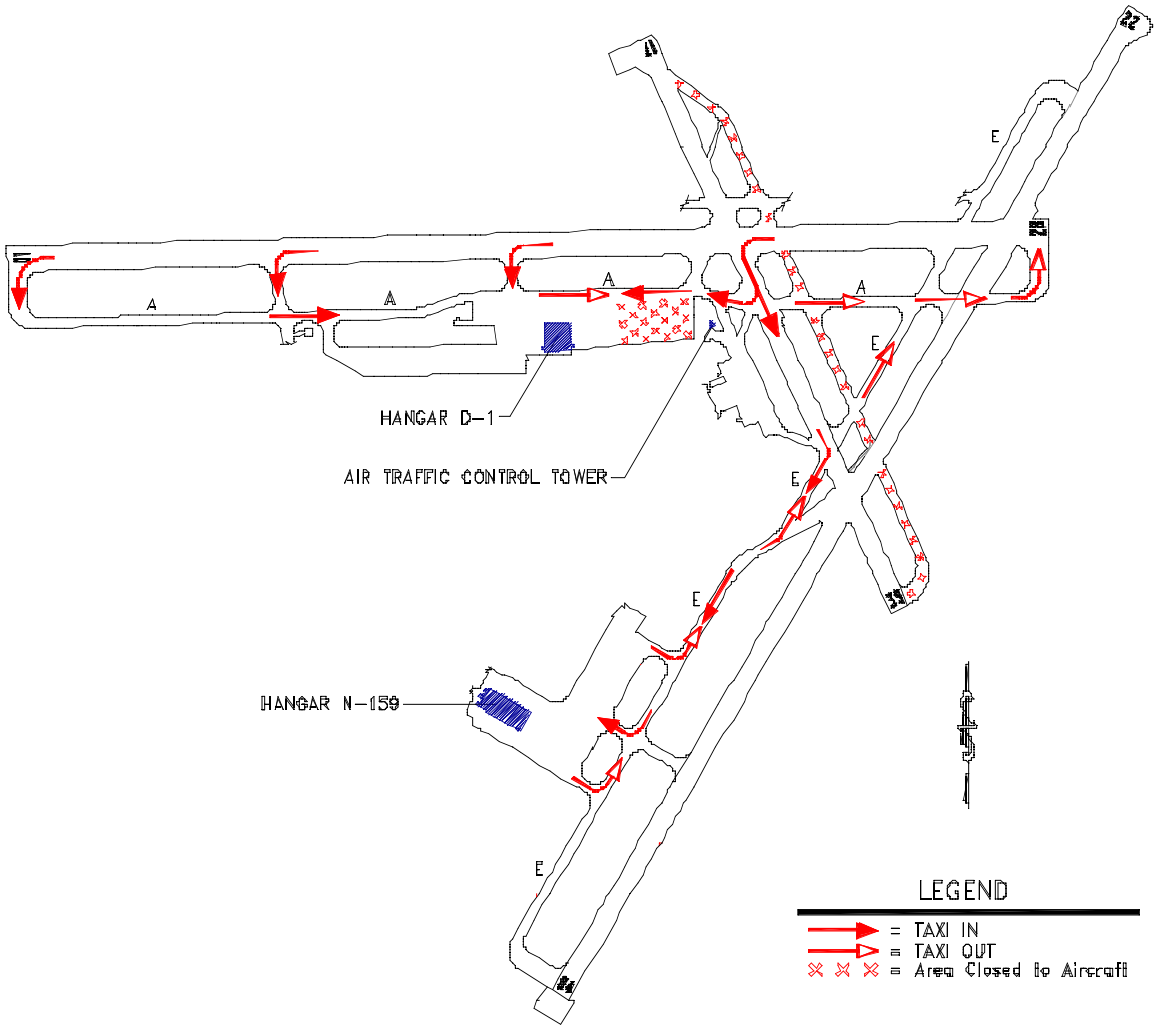

Figure 3-3. Taxi Pattern Runway 28

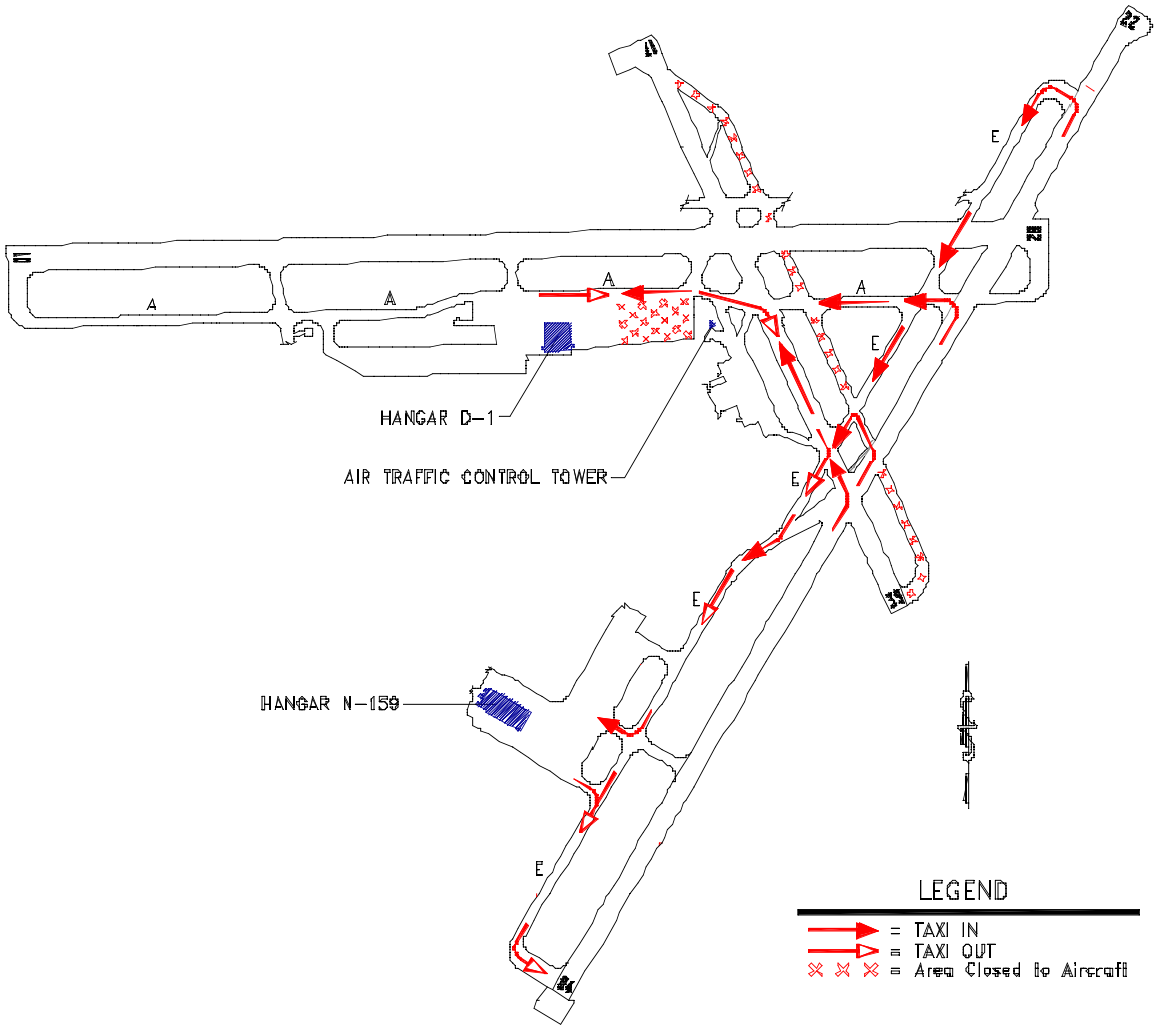

Figure 3-4. Taxi Pattern Runway 04

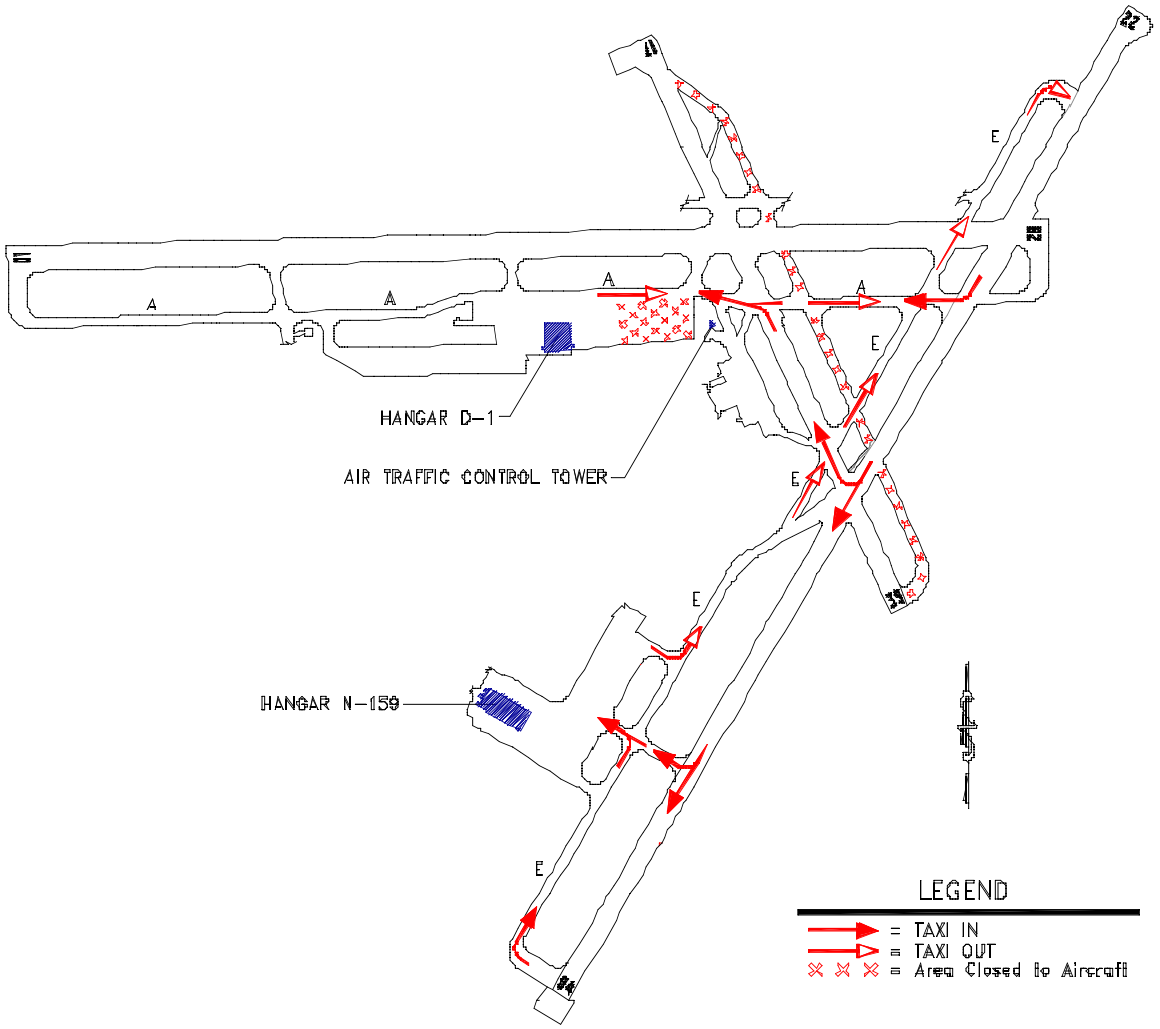

Figure 3-5. Taxi Pattern Runway 22

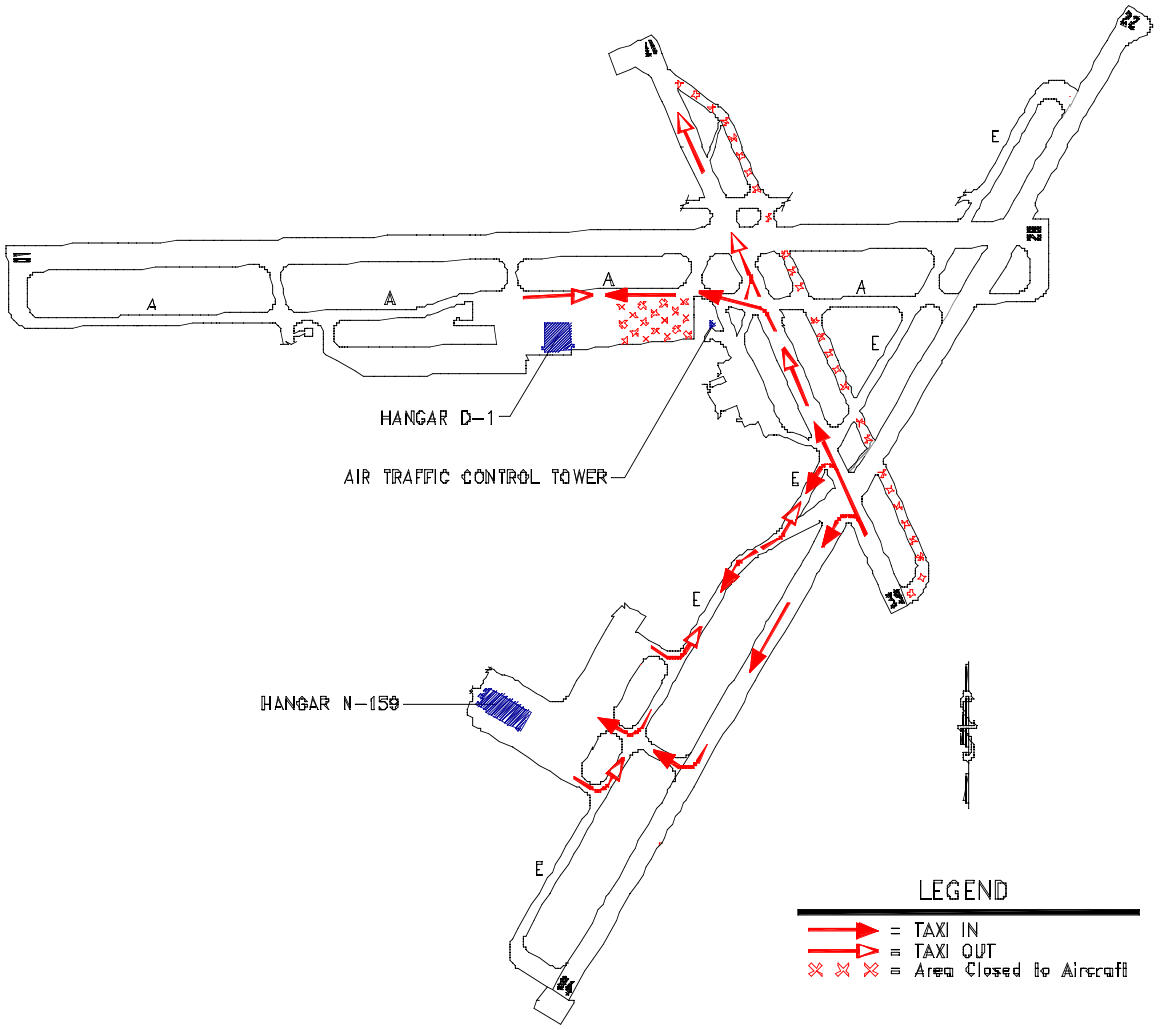

Figure 3-6. Taxi Pattern Runway 17

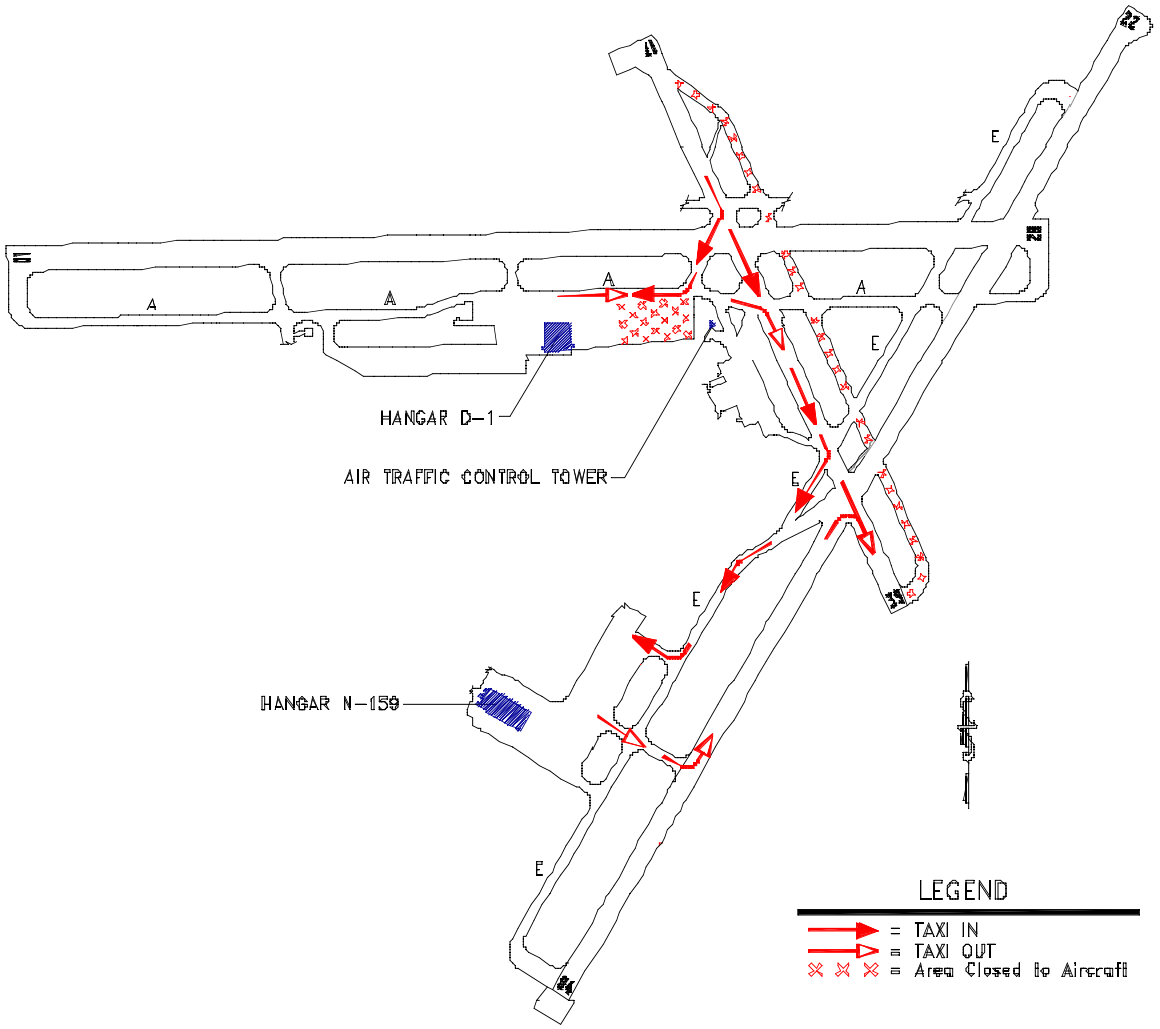

Figure 3-7. Taxi Pattern Runway 35

3. Simulated Emergencies

Training or practice involving simulated engine failures during take-offs and landings, shall be conducted with a qualified aircraft commander, instructor pilot, or proficiency flight examiner occupying one of the pilots' seats and actively supervising the operation. Additionally, all practice and training shall be coordinated and cleared with the CTO before engaging in this type of training.

306. WHEELS DOWN REPORT

A wheels down report shall be given as an aircraft turns on base leg, or as directed by the CTO. This is a mandatory call for all pilots operating aircraft with retractable landing gear. Final clearance to land may not be granted, at the CTO's discretion, until the wheel report is received.

307. SIMULTANEOUS RUNWAY USE

Under certain conditions and when requested by a pilot and cleared by the CTO, aircraft operations may be performed on two different runways simultaneously. During periods of simultaneous operations, pilots shall be especially alert to the CTO's instructions concerning other traffic. With respect to off-duty runway use, no pilot shall use an off-duty runway when the crosswind component exceeds the maximum allowable component for the type aircraft involved, or when there is a tailwind that exceeds 10 knots. As usual an aircraft operating under an approved OSD would be allowed an exception.

308. NIGHT OPERATIONS

Both the Wallops CTO and UNICOM locations are equipped with airport lighting controls. Airport lighting may be provided upon pilot request for other than nighttime operations.

With certain requested exceptions, appropriate lighting is routinely provided for all nighttime operations. Exceptions would be conducted in accordance with an appropriately documented OSD directly related to a research operation and would require the Control Tower to be manned.

Because of inherent wildlife hazards nighttime touch-and-go training is not normally permitted at the WFF Airport. Exceptions must be via special approval after an appropriate safety review or documented in an approved OSD, and with the Control Tower manned.

309. ACROBATIC FLIGHT

Acrobatic flying is not normally authorized within the WFF airport traffic area. Any " G " factor that exceeds 2 Gs, angle of bank in excess of 60 degrees, or pitch angle greater than 30 degrees is considered acrobatic flight. This restriction does not apply to research type flights whereby specified maneuvers are documented in an approved OSD, or to an officially approved flight demonstration.

310. FUEL DUMPING

Fuel dumping shall not be conducted in the Wallops airport traffic area.

311. TOWING

Tow drops will not be permitted except as documented under an approved OSD.

SECTION FOUR:

FLIGHT LINE OPERATIONS — SAFETY PROCEDURES

401. GENERAL INFORMATION

The following subsections contain procedures and guidelines that apply to the overall WFF Airport. However, for specific circumstances, when operating at the Building N-159 ramp or hangar, it is advisable to consult Section Three of 830-AMPM-0001, Aircraft Maintenance Program Manual, which may contain minor variations specific to the Building N-159 area.

402. HAZARDOUS CARGO

Hazardous cargo such as rockets and their components, and other dangerous cargo, must be loaded and off-loaded in the designated Hazardous Cargo Loading Area and handled in accordance with existing WFF instructions and regulations. Under certain conditions when approved by appropriate WFF safety officials, loading and off-loading of rocket components may be allowed in certain other specified areas. Only personnel qualified and authorized to handle dangerous materials shall engage in any part or phase of transporting, loading, unloading, or handling hazardous cargo.

This Hazardous Cargo Loading Area is located on the concrete area immediately adjacent to the West side of the Runway 17 approach (see Figure 1-1.)

403. RADIATION HAZARDS FOR PYROTECHNICS

The Wallops Frequency Utilization Management Working Group (WFUMWG) must approve all RF emitters prior to activation. The WFUMWG is responsible for reviewing all transmitting systems relative to interference to existing systems at WFF. Also, the WFUMWG routes all pertinent data to the Safety Office, Code 803, whose personnel evaluate the potential hazards and impose restrictions to protect personnel, ordnance, and Wallops facilities.

404. HYDRAZINE FUEL

Certain military aircraft use hydrazine to drive their emergency power units (EPUs). Occasionally these aircraft visit the Wallops airport for project work or emergency landings than can require the response of trained CFR personnel. Wallops CFR personnel are trained in procedures for responding to the presence of hypergolic chemicals, such as hydrazine. Procedures include the use of detection equipment for determining the presence of hydrazine, area security, containment, and arrangement for proper disposition of spills.

405. AIRCRAFT CARRYING COMBAT TYPE ORDNANCE

Aircraft carrying combat ordnance will be permitted to land at WFF under two conditions: (1) if the operation is covered by an approved OSD; or (2) if the pilot has declared an in-flight emergency. In either case, the safety procedures as outlined in 803-WI-8072.1.9, Aircraft Operations with Live Ordnance at Wallops Flight Facility Airport, shall be fully implemented .

406. AIRCRAFT PARKING AREAS

1. Building N-159 Ramp

Generally, all WFF-owned or –operated aircraft, visiting research aircraft, rocket range support aircraft, and military aircraft shall be marshaled into position when parking on the Building N-159 ramp during the regular workday. Beyond the regular workday, or when a marshaler is not available, all visiting aircraft are required to remain East of the double red line for any engine operation and refueling. The double red line is located approximately 150 feet East of the Building N-159 hangar and spans the full North-South length of the ramp.

2. D-1 Ramp

When it is convenient for the crew and/or passengers, the ramp immediately East of D-1 hangar may be used for parking. A marshaler will normally not be available at this location. Additionally, the eastern most portion of this ramp is closed to all aircraft.

3. B-129 Ramp

Visiting civilian aircraft parking shall be confined to the Building B-129 parking area (see Figure 4-1.)

407. FOREIGN OBJECT DAMAGE PREVENTION

The WFF Airport foreign object damage (FOD) prevention policy encompasses three specific categories for FOD control. The first category involves ensuring that the airport operating area pavement surfaces are clear of debris that could damage aircraft. This is accomplished by mandatory vacuum-sweeping pavement surfaces on a 30-day cycle and more frequently when debris is reported through daily safety inspections, or by reports from CTOs, aircraft pilots, and others. Also, special vacuum sweeping is routinely called for by the duty CTO(s) whenever high performance jet operations, that are normally vulnerable to FOD, are scheduled at the WFF Airport. The second category is implemented to protect aircraft against wildlife damage through the airport Wildlife Management Plan (830-PLAN-0001). The third category involves hangar FOD safety programs, including tool control, that are managed by aircraft maintenance organizations and overseen by industrial and aviation safety officials. Transient aircraft maintenance personnel are responsible for ensuring that they present no FOD hazards to their aircraft and surrounding work areas.

408. AIRPORT SNOW REMOVAL

Snow removal operations will be implemented by request through the Airport Manager. The requester must provide an active WFF funding account number before a removal operation may begin. The requester must designate the specific runways, taxiways, and/or ramps that are to be cleared. Figures 4-2 through 4-5 depict the most likely scenarios that will be used for opening the airport after closure as a result of snow accumulation. Variations of these scenarios may be implemented in order to respond to special requests.

Because of the detrimental effect to aircraft components, under no circumstances shall sand, dirt, or non-FAA approved chemicals be used for enhancing traction or for accelerating the melting of ice or snow from any of the airport operational surfaces.

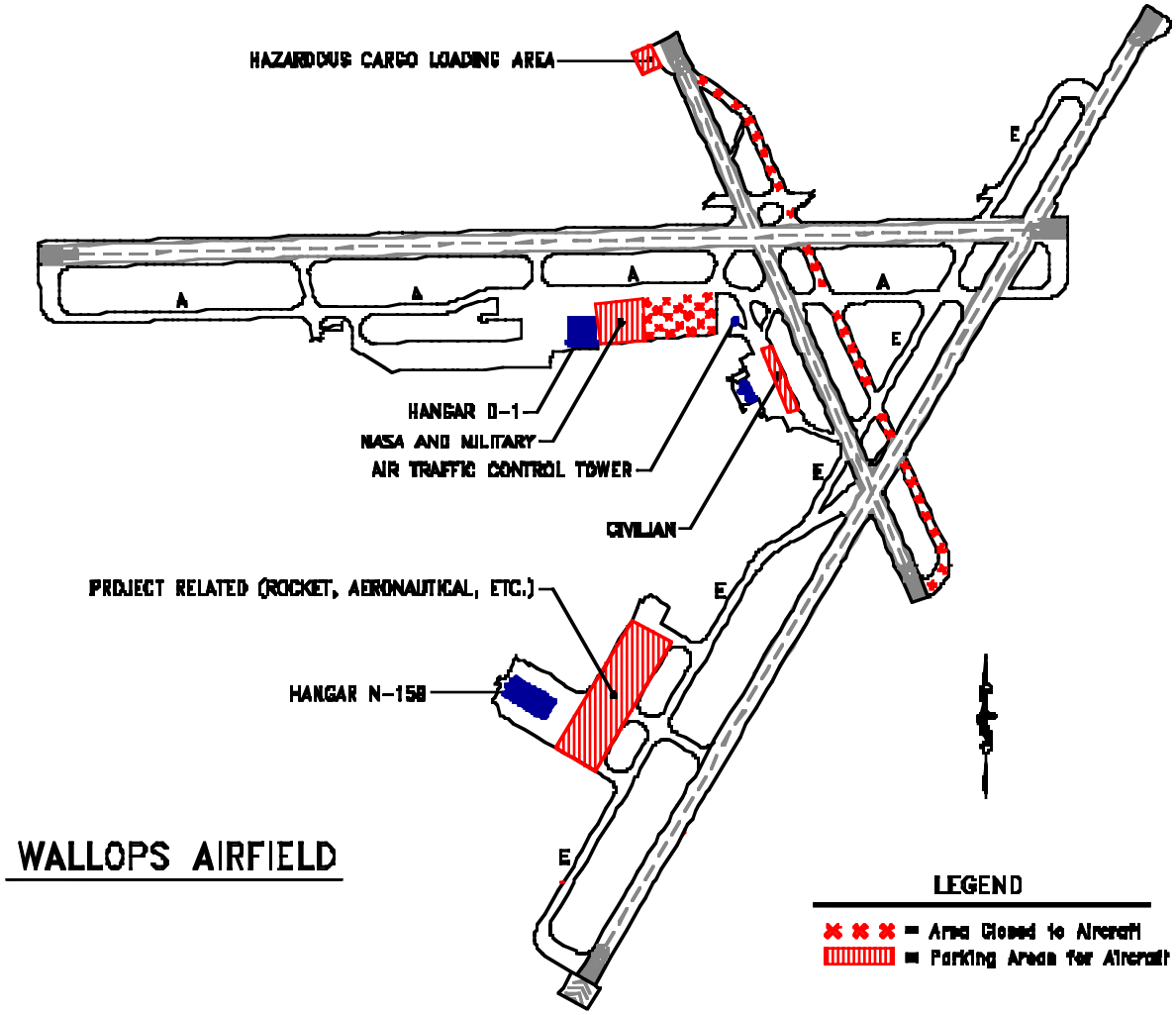

Figure 4-1. Aircraft Parking Areas

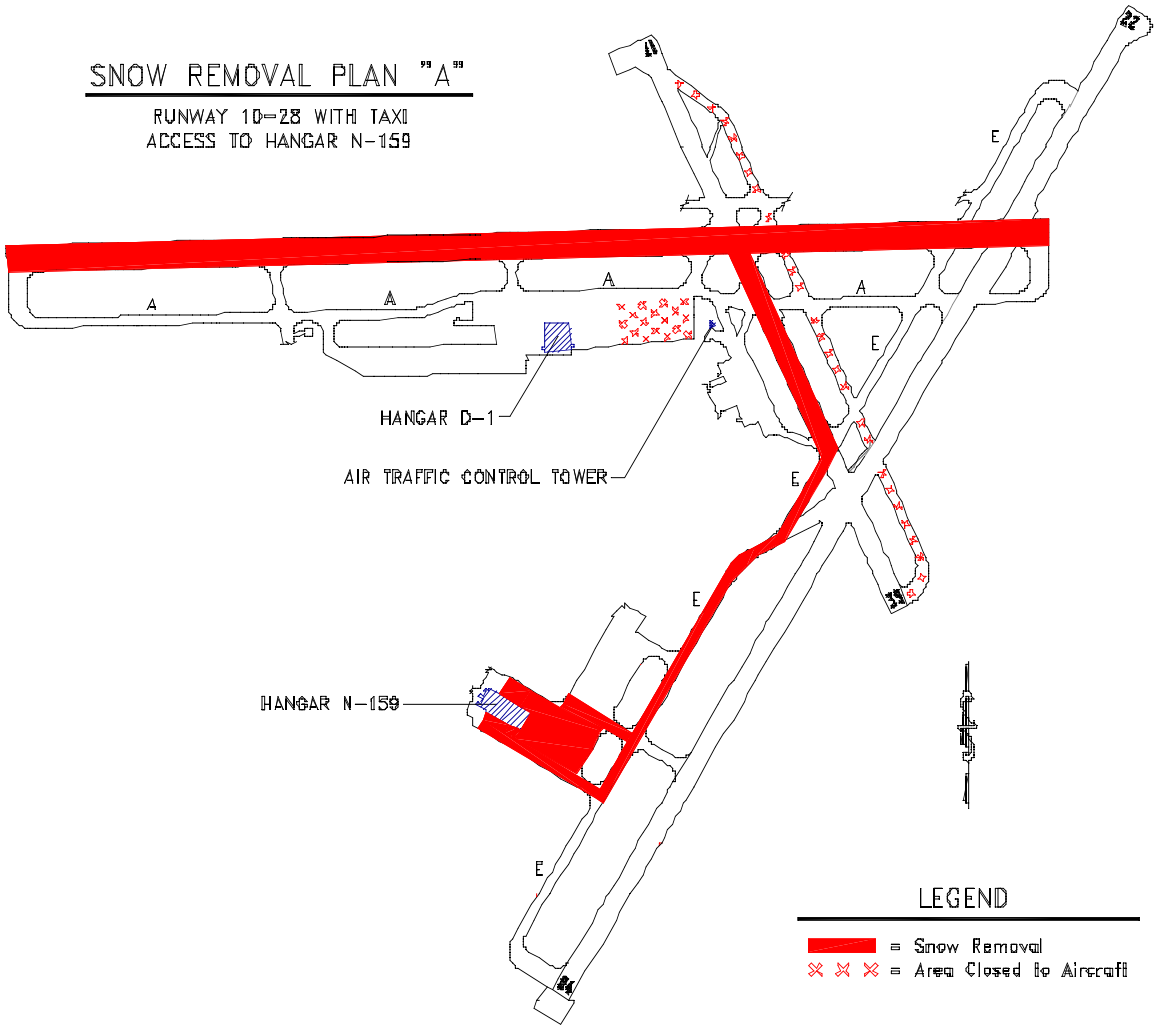

Figure 4-2. Snow Removal Plan A

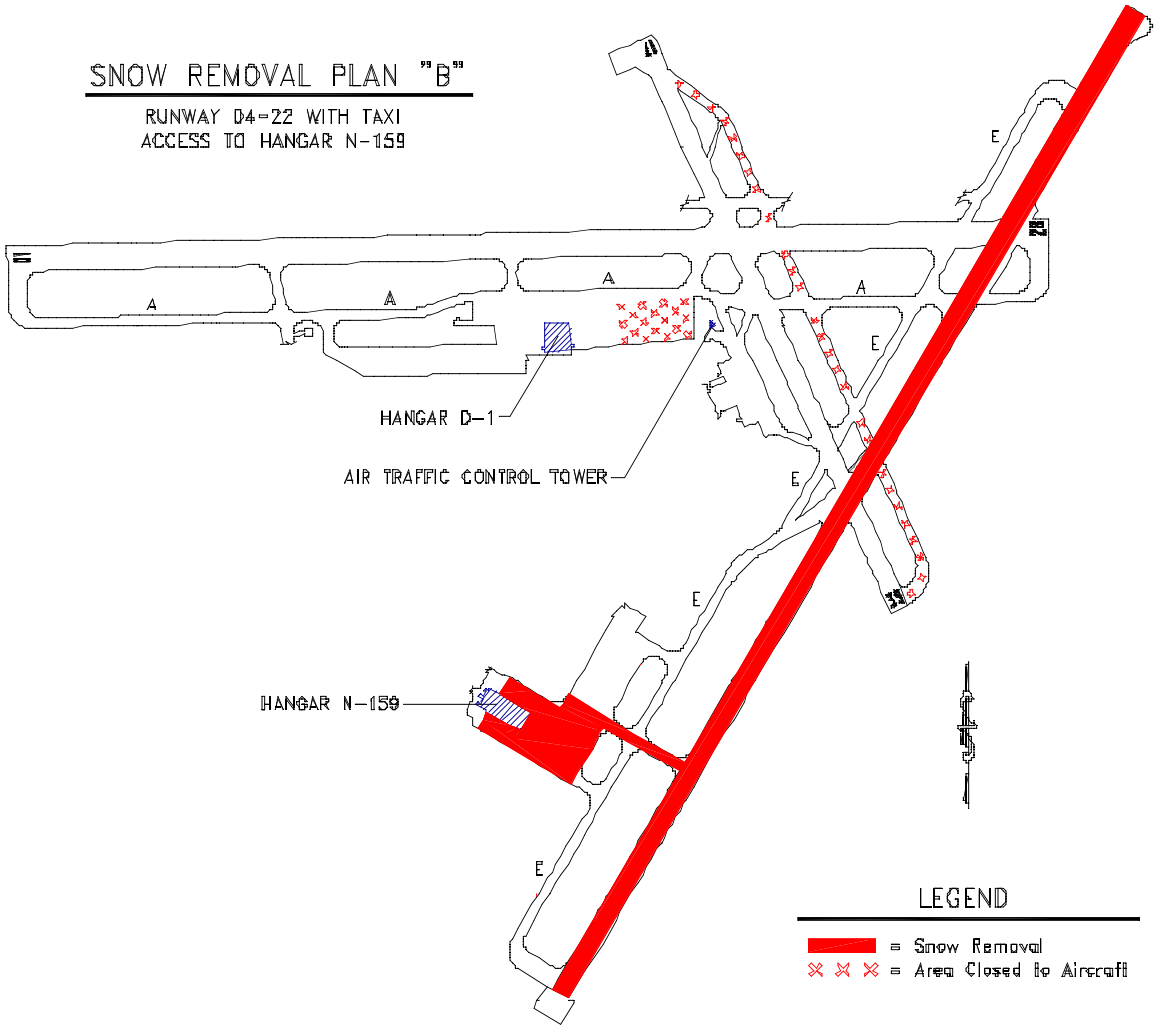

Figure 4-3. Snow Removal Plan B

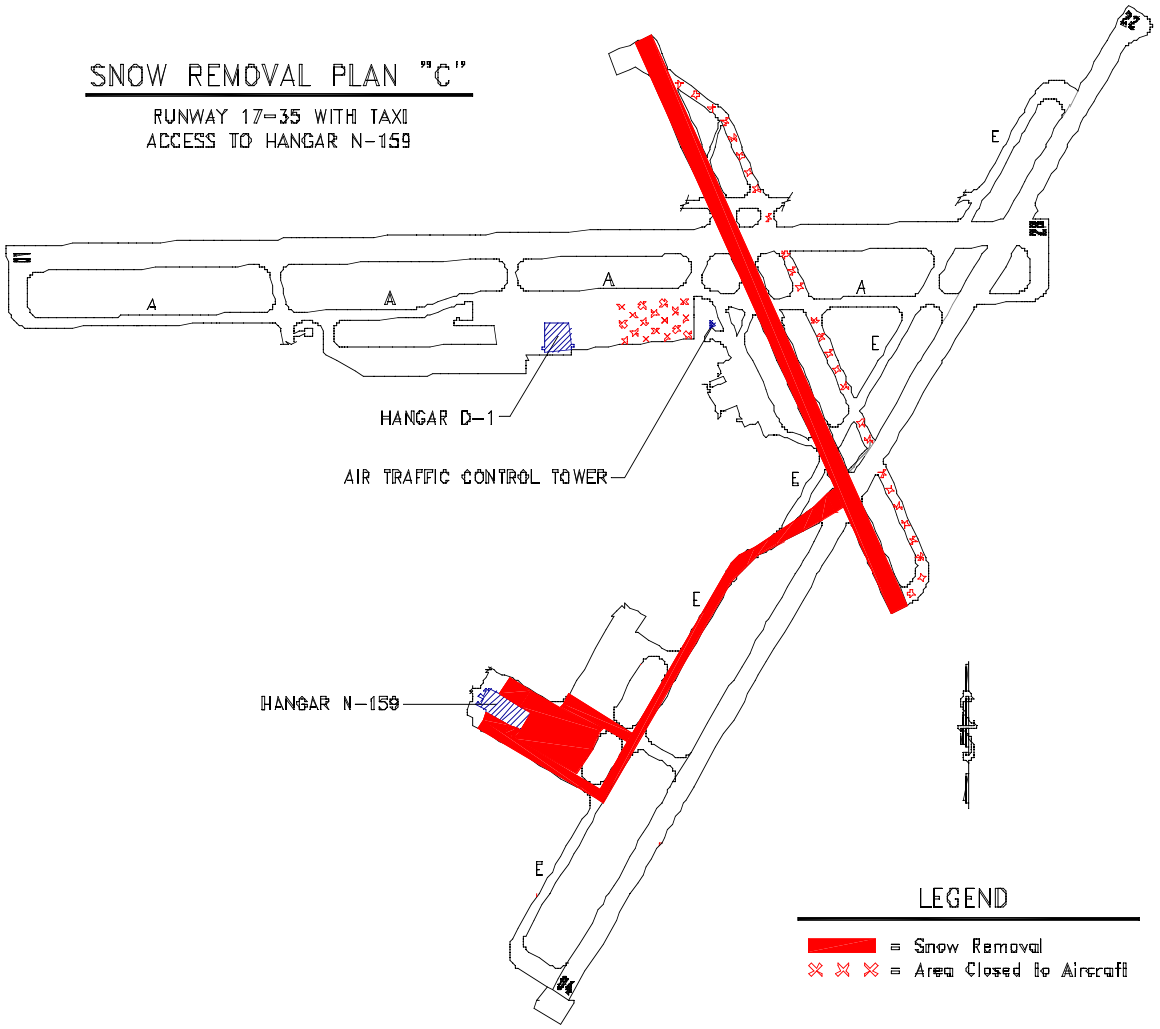

Figure 4-4. Snow Removal Plan C

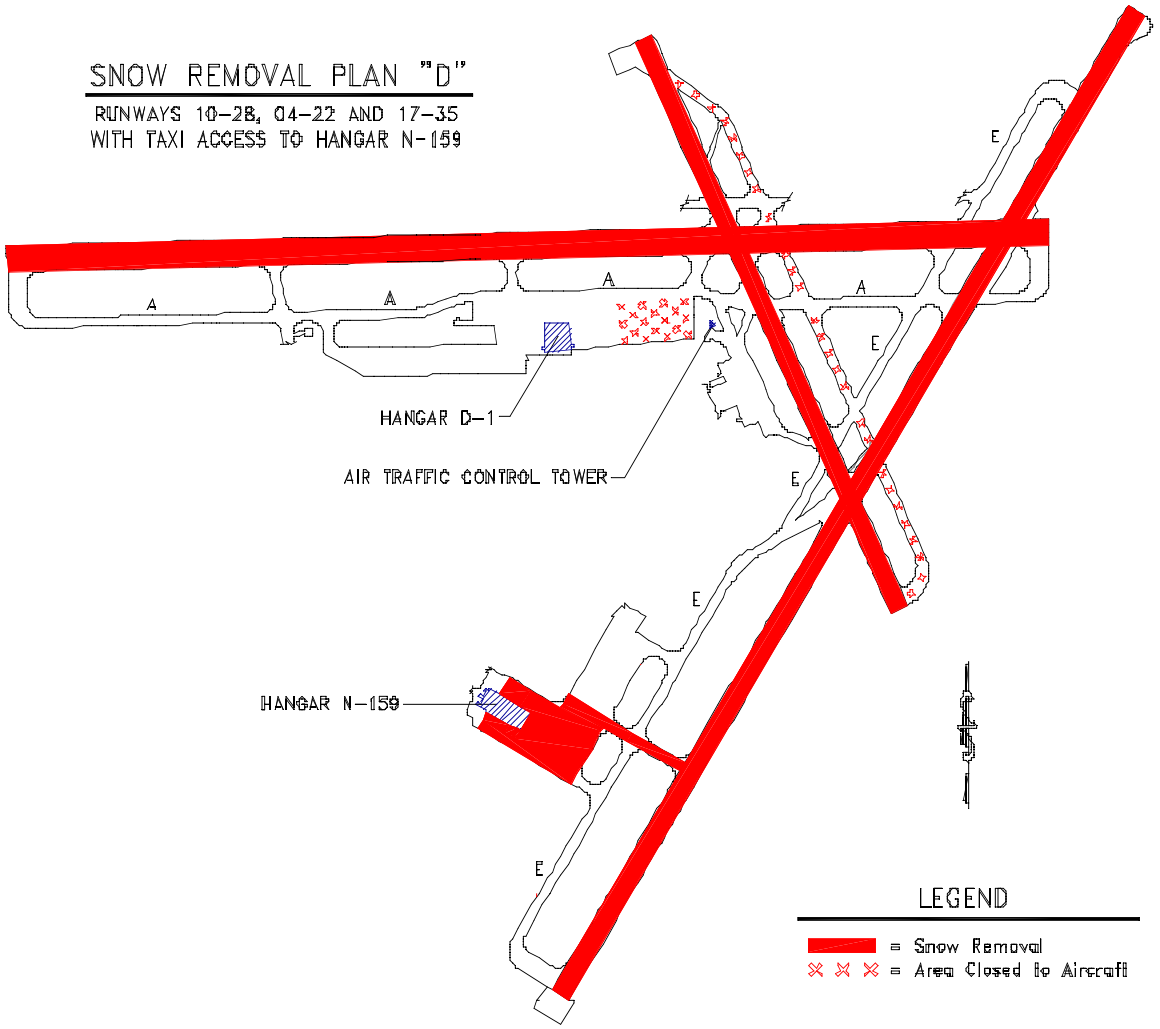

Figure 4-5. Snow Removal Plan D

409. WILDLIFE MANAGEMENT PLAN

The importance of providing a safe environment for aircraft operations is readily recognized. Wildlife is one of the more serious threats to the safety of aircraft when various species periodically occupy the same airspace and pavement areas as aircraft. In an effort to remedy this problem, WFF has entered into an interagency agreement with the U.S. Department of Agriculture (USDA) to develop a Wildlife Management Plan (830-PLAN-0001). The plan incorporates WFF's previous Wildlife Hazard Control Program and the implementation of a more focused effort provided by the USDA.

410. AIRPORT INSPECTIONS

CFR personnel inspect the WFF runway pavement surfaces twice daily to detect surface abnormalities such as debris from pavement deterioration and breakup, FOD as a result of maintenance or project activity, dead animals and birds, inoperative vehicular traffic lights, or downed signs, or other abnormalities. Airport inspection reports are submitted to the Airport Manager, CTO Chief, and FMB immediately after completion of each inspection. The Airport Manager and CTOs also conduct periodic airport inspections.

CFR personnel visually inspect airport lighting on a weekly basis, including the local area obstruction lights (on towers, antennas, buildings, etc.). An airport lighting report is submitted to the Airport Manager, CTO Chief, and FMB for each inspection. Additionally, light outages that are published on the standard approach plates are reported directly to the Eastern Region Flight Service Station via NOTAM.

411. HAZARD, ACCIDENT, INCIDENT, MISHAP REPORTING

Pilots, crewmembers, ground support personnel, CFR and CTOs are encouraged to submit an Operational Hazard Report on any unsafe flight-related condition or practice noted within the WFF Airport vicinity (see Figure 4-6). These reports should be made in writing to the Airport Manager and Aviation Safety Officer for investigation and follow-up action as necessary.

412. PERSONNEL AUTHORIZED TO TAXI AIRCRAFT

Only qualified personnel in type (or those under the supervision of an instructor pilot in type) shall be authorized to taxi aircraft. All taxiing shall be done according to the approved taxi checklist and taxi procedures contained in the appropriate Pilot’s Handbook of Operating Instruction or flight manuals. Wing walkers shall be used during taxi operations when in proximity to other parked aircraft, vehicles, buildings, or other obstructions. Taxi speeds shall be maintained within safe operating limits.

OPERATIONAL HAZARD REPORT

If you have encountered an aviation situation you deem hazardous, please describe it below. Your information will be investigated and addressed at a future safety meeting for corrective action. Your name is optional but useful to the safety officer if there are any questions.

☐ WFF AIRPORT

☐ OTHER: _____

ASSETS INVOLVED, etc.

☐ Aircraft: _____

☐ Vehicle: _____

☐ Pedestrian, etc.: _____

☐ Other: _____

HAZARD:

Time and Date: _____ ; Weather: _____

Description: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Issued By: _____ ; Position: _____
(print)

Telephone: _____ ; Date: _____

cc: Control Tower, CFR, Safety Office, Aviation Safety Office and Airport Management Office

Figure 4-6. Operational Hazard Report

413. AIRCRAFT TOWING

Aircraft towing shall follow the guidelines and procedures established in the appropriate flight manual, pilot's handbook, or technical orders for the particular type of aircraft concerned. The following general standards should be applied:

a. A qualified supervisor shall be in charge of each towing operation. Aircraft will not be moved unless a qualified pilot or qualified maintenance person is in the cockpit for the specific purpose of operating the wheel brakes and any other controls necessary for ground operations. Aircraft will not be towed without landing gear pins installed, as applicable.

b. An aircraft window shall be open if available on the pilot's side during the period of the towing operation to allow for conveying instructions, etc., between the cockpit operator and the supervisor.

c. The person in the cockpit shall not release or set the aircraft brakes until instructed by the towing supervisor.

d. Wing walkers shall be employed when towing in proximity to other aircraft or obstructions.

e. When backing an aircraft in congested or confined areas, the supervisor will be positioned in view of the tug operator and cockpit operator.

f. Standard international aircraft marshaling signals shall be applied for towing operations. The maximum allowable towing speed is five miles per hour.

414. GSE AND SERVICE VEHICLES / FLIGHT LINES AND PARKING RAMPS

Ground support equipment and service vehicles are a necessary and integral part of all aircraft servicing operations. Since these vehicles are required to work in the proximity of parked aircraft and confined spaces, each person must exercise caution when operating this equipment. The following requirements are listed to emphasize the responsibility of the individual operators who are related to the operation, care, supervision, or servicing of this equipment:

a. Only qualified personnel shall operate ground support equipment.

b. Operators of aircraft support vehicles will routinely perform vehicle inspections for defects that could affect safety. Defects should be immediately reported for correction. Crew leaders will not assign nor require personnel to operate any vehicle that has an unsafe condition.

c. Operators will not leave a vehicle with the engine running unless necessary to maintain power for communications equipment, etc. Proper parking procedures will be used such as parking brakes engaged and gear selectors placed in the "park" position.

d. Only qualified flight line equipment operators possessing a valid state vehicle operator's permits are authorized to operate government self-propelled vehicles within the flight line area.

e. When emergency vehicles are observed approaching from any direction, it is required that other vehicles cautiously stop and avoid obstructing the path of the emergency vehicles, and remain clear of the emergency area.

f. Vehicle operators shall drive at speeds that are reasonable and proper and not exceed the established flight line speed limit of 20 mph.

g. Operators of vehicles shall not operate a vehicle in the reverse direction while in the immediate vicinity of an aircraft unless for the specific purpose of loading or unloading cargo or attaching a tow bar to a vehicle. When backing large vehicles in the direction of an aircraft, the driver shall not begin a backing motion without the help of an assistant for signaling the closing distance between the vehicle and the aircraft.

h. Operators will not park vehicles in front of aircraft prior to engine start-up or leave vehicles in a location where damage might result from jet engine blast effects.

i. Proper and adequate headlights, taillights, and stoplights will be used on all vehicles during the hours of darkness. Vehicle operators will be especially alert for personnel on foot throughout the flight line area.

j. Personnel will not ride on top of any loads of material being transported by vehicles, nor will any person board or exit a vehicle while it is in motion.

k. Equipment, including cranes, forklifts, power units, servicing equipment, etc., will be positioned to ensure that accidental contact with aircraft is avoided. Equipment in the proximity of aircraft will be chocked to prevent inadvertent movement.

l. Power units shall be disconnected from aircraft and the cables properly stowed before movement of either the aircraft or power unit. When the need for a power unit has been satisfied, it shall be returned immediately to the designated parking area.

415. GROUND VEHICULAR TRAFFIC/AIRPORT OPERATIONAL AREAS

Ground vehicles using the designated roadway-runway crossing point at Runway 17-35 must comply with roadway signs, the associated traffic control lights, and otherwise remain clear of the airport operating area.

Ground vehicles are permitted within the designated airport operating area for official purposes, but must first establish radio contact with Wallops Tower, or with Wallops UNICOM when the tower is unmanned. Clearance from the tower or UNICOM is required to access the airport, move about the airport, and to depart the airport. Also, while personnel and/or vehicles are within the airport operating area, personnel are required to maintain proximity to the vehicular or handheld radio at all times. When stopped on any runway the vehicle engine "should remain running", if possible, to ensure an immediate exit from the runway and/or airport in the event of an emergency.

Numerous WFF vehicles are equipped with radios, which facilitates a more expedient access to the airport via Wallops Tower/Wallops UNICOM. For personnel using vehicles without radios and who need access to the airport, handheld radios may be borrowed from

the duty ”Desk Watch” at building B-129. The issuer will provide appropriate instructions for operating radios and moving about the airport operating area. Operators of ground vehicles and personnel on foot have the direct responsibility to remain vigilant and clear of research vehicles and aircraft operations.

Personnel who are on foot or riding bicycles, and have no official purpose for accessing the airport, must remain clear of the airport operating area at all times.

416. SMOKING ON FLIGHT LINES, PARKING RAMPS, OR HANGAR AREAS

Smoking or open flames are not permitted in hangar bays, within 50 feet of any parked aircraft, or in shops or any other structures at the WFF Airport.

417. OXYGEN SERVICE (LIQUID AND GASEOUS)

Only trained and qualified personnel who have been certified shall be authorized to handle or transfer liquid or gaseous oxygen. The following precautions shall be implemented during servicing activities with oxygen:

a. Aircraft shall not be serviced with oxygen within 50 feet of hangars, structures, or any source of ignition such as hot exhausts, sparks, flames, lighted cigarettes, or ground support equipment operations.

b. The aircraft and oxygen cart must be connected to a certified common ground.

c. Check that external electrical power is disconnected and the battery switch is in the “OFF” position on the aircraft.

d. Aircraft shall not be serviced with fuel or oil during an oxygen servicing operation.

e. Other maintenance shall not be performed on the aircraft during oxygen servicing operations.

f. Personnel shall wear a face shield, full-length apron, hat, and leather or insulated gloves when handling liquid oxygen. If boots are worn, pants legs should be worn outside of the boots. Drip pans or other suitable containers will be positioned under the overflow vents to prevent liquid oxygen from contacting the pavement.

g. Personnel should not handle tubes, fittings, or overflow containers carrying liquid oxygen with bare hands. If skin should freeze to liquid oxygen equipment, separate hand or other body part from oxygen carrying element immediately.

h. Prevent all petroleum products (oil, grease, fuel, etc.) from contacting oxygen equipment.

418. FIRE PRECAUTIONS FOR FLIGHT LINES AND HANGAR AREAS

The following guidelines apply for fire protection on flight lines and hangar areas:

a. The fire department will be notified by the most expeditious means available for all fires occurring on the flight lines or in hangar areas, regardless of size of fire.

b. Before starting engines pilots shall notify Wallops Tower/Wallops UNICOM on VHF/UHF tower frequency so as to facilitate a call for assistance should an aircraft fire occur during the engine starting procedure. In the event of an engine fire aircraft radios shall not be turned off until after the engine(s) are shut down.

c. Flight line crew and maintenance personnel shall have, as a minimum, a 50-pound fire extinguisher bottle readily available for immediate use during engine starts. In addition, the services of a firefighting vehicle shall be used for maintenance and operational conditions when additional protection is advisable.

d. Areas providing access to fire extinguishers and fire equipment will be kept clear of other equipment, material, or obstructions.

e. Fuel spills shall be immediately reported to the CFR, who will take immediate action to collect or neutralize the spills. If a spill does occur, maintenance operations will cease and the area will be cleared of personnel.

f. An adequate number of fire extinguishers will be located throughout the flight line area. Extinguishers will be sealed and routinely inspected. Primary inspection responsibility lies with the CFR organization. Personnel will not break fire extinguisher seals unless there is a need to use the extinguisher for fire extinguishing purposes. In the event a fire extinguisher is partially or completely discharged or damaged, the CFR department will be notified immediately and the extinguisher will be recharged, repaired, or replaced. Under no circumstances will the contents of an extinguisher be partially used and put back in service.

g. Drip pans or other approved means to catch oil or fuel spillage will be used in the hangar.

h. Proper and expeditious removal of trash, debris, contaminated oils, fuel, and other fluids from the hangar is required.

i. Proper bonding of aircraft and fuel trucks is required to ensure safe dissipation of electrostatic potential prior to and during fueling and defueling operations. Proper grounding is also required for aircraft parked inside the hangar.

j. Proper placement of power units (maximum distance from aircraft consistent with cable length) and fire extinguishers relative to aircraft location is required.

k. A “Hot Work Permit” is required for welding torch or arc cutting operations in or around the flight lines, hangar, and on aircraft.

l. Aircraft fueling will not normally be conducted within 50 feet of hangars and other buildings. Aircraft will not be fueled, defueled, serviced with oxygen, or undergo fuel transfer inside hangars. If it becomes necessary to conduct any of the above mentioned activities in a hangar, the activity shall not begin until specific approval is obtained from both the WFF Aviation Officer and Chief, Safety Office through which safety procedures will be established to cover the specific activity. The movement of fuel by the internal aircraft fuel system is not considered a fueling operation.

419. CFR STANDBY FOR RUNWAY AND FLIGHT LINE OPERATIONS

In addition to the criteria established in the 803-PLAN-0001, Aircraft Mishap Response Plan, the following guidelines regarding CFR standby shall apply at the Wallops Airport:

1. CFR Standby for Flight Operations

A CFR vehicle of sufficient size to comply with the National Fire Protection Association recommendations for the particular aircraft involved shall be positioned on "standby" adjacent to the runway in use for aircraft operations at the WFF Airport.

2. Line Service Standby for Flight Line Operations

When standby is required, line crew personnel shall have, as a minimum, a 50-pound halon fire extinguisher readily available for immediate use for engine starts. Additionally, the services of a CFR vehicle will be provided when requested by the aircraft commander, crewman, or other responsible personnel for engine starts, fueling/defueling operations, etc.

420. JACKING OF AIRCRAFT

Crew chiefs will brief jacking crews before commencing jacking operations. All instructions pertaining to proper and safe procedures will be fully explained and appropriate aircraft handbooks will be referred to for the type aircraft to be jacked. In addition, the following guidelines shall be applied:

a. Jacks and other equipment must be serviceable and available in proper numbers. Faulty equipment will be "red tagged" and removed from service.

b. Ramp or hangar area must be cleared of equipment and material not needed in the jacking operations, and vehicular traffic will be restricted. For emergency reasons aircraft shall not be jacked in a location whereby an obstruction is created between other aircraft and hangar doors.

c. For aircraft jacking and heavy equipment using outriggers, pads will be appropriately used to protect painted hangar floor surfaces.

d. The supervisor/crew chief will ensure that each member of the jacking crew is qualified and that he is assigned his specific locations and duties.

e. Jacking crews will always include a responsible supervisor/crew chief and a sufficient number of qualified crewmembers to perform the operation safely.

f. The supervisor/crew chief will ensure that the area around the aircraft is cordoned off and appropriate warning signs posted, that adequate safe procedures exist, and that proper checklists are used for all specific jacking activities.

g. Jacking of aircraft is permitted outside the hangar when necessary, e.g., deflated or blown tires, or under certain conditions whereby hangar space is not readily available. Under these conditions, the same procedures as indicated in f. above shall apply, but only if the wind conditions are less than 10 mph.

421. FUELING / DEFUELING, SAFETY PRECAUTIONS AND PROCEDURES

During aircraft fueling and defueling at the WFF Airport, the following guidelines shall apply:

a. Prior to fueling or defueling, aircraft shall be bonded with the servicing vehicle. Three-way grounding is not required at the WFF Airport but may be used when requested.

b. Refueling supervisors, ground power unit operators, and other equipment specialists will be qualified and meet requirements outlined in applicable regulations.

c. Ground power units and other special equipment from which any type of spark, heat, or flame may be emitted will be positioned with consideration for direction of wind, slope of ramp, and location of fuel vents on aircraft. GPUs will be placed at the maximum distance permitted by the length of their power cables and at an angle providing the greatest distance from the aircraft. Only approved power cables with adequate length will be used during fueling and defueling operations.

d. Fueling or defueling operations will not be conducted within a radius of 100 feet of operating aircraft.

e. Aircraft will not be fueled or defueled inside hangars or within 50 feet of hangars, measured from the fueling/defueling point and/or vents. Under certain conditions, the Aviation Safety Officer or his designated representative may approve a lesser distance.

f. Fueling or defueling operations will be immediately discontinued upon detection of any fuel leakage or seepage of fuel from equipment until necessary repairs are made and fuel spills collected. In the event of a major fuel spill all personnel will depart the area. A guard shall be posted in the vicinity of any major spill to prevent personnel from entering the area until cleanup has been completed. Operations will not be resumed until approved by the WFF Fire Chief. In no instance will any electrical or automotive equipment at the scene resume operations until it has been determined that no further hazard from such spillage exists.

g. Fuel hoses will be periodically inspected and must be in acceptable condition for fueling aircraft.

h. Aircraft will be properly chocked according to applicable directives.

i. Fueling operations shall be suspended and fuel hoses disconnected whenever an electrical storm is within 10 miles of the airport, during a fire in the vicinity of a nearby aircraft mishap, or aircraft emergency. Additionally, fuel trucks will depart the ramp area.

j. A certified 50-pound halon fire extinguisher (minimum size) will be strategically located near aircraft being serviced.

k. Maintenance will not be performed on an aircraft while the aircraft is being fueled or defueled, nor will any servicing be performed concurrently, e.g., alcohol, antidetonation injection, oxygen, or hydraulic fluid.

l. Personnel in the area of aircraft being fueled shall adhere to the "No Smoking" rule and shall not carry matches or mechanical lighters near the operation. Personnel shall exercise care not to create any friction or static sparks when handling tools and metal equipment or by wearing metal shoe taps or nylon clothing that produce charges of static electricity.

m. Fuel trucks shall be kept as far from the aircraft as fuel hose length permits. Trucks should be parked in the best position to be driven or towed away from the aircraft vicinity in case of an emergency.

n. Fuel nozzles will always be manually controlled and never locked or chocked in an open position.

o. Caution will be exercised when topping off fuel tanks to prevent overflow.

422. HANGAR DECK OPERATIONS AND RESPONSIBILITIES

1. Requests for Hangar Space

Visiting experimenters with research or special project aircraft shall request hangar or office/shop space via their respective RSMs or other assigned points of contact. Special requests for using D-1 hangar will be considered, however, negotiations of availability, reimbursable cost, etc., are required before occupancy can take place.

2. Hangar and Flight Line Upkeep and Cleanliness

Normal hangar deck cleanliness, i.e., dust, dirt, litter, and other ordinary accumulation of trash of this type, shall be cleaned and disposed of daily by WFF contractual personnel. Accumulation of oil, grease, liquids, oily rags, mechanical parts or material, etc., shall be disposed of before the end of each workday or before close of business. Drip pans shall be used and kept clean, and excess oil and grease on the flight line shall be cleaned up and disposed of in the appropriate manner according to 5. below. Equipment, tools, parts, work stands, and benches shall not be left unattended on the flight line nor stowed in a disorderly, unsightly, or unsecured condition.

3. Disposal or Storage of Flammables

Highly flammable materials will not be stored inside the hangar or shop space, but shall be stored only in a designated storage area. This includes such items as oils, cleaning solvents, paint remover or thinner, water/methanol, aviation fuel, or any other highly flammable or dangerous material. For disposal of these items see 5. below.

4. Use of Grease Solvents or Liquid Sprays Inside Hangar

Under certain conditions limited use of Varsol or similar fluids for engine cleaning purposes may be used inside the hangar. As a general rule, however, this type of aircraft and engine maintenance is normally performed outside the hangar area in a predesignated location, and only under exceptional cases will it be permitted within the hangar deck area (see 5. below). Spray painting of aircraft in hangars shall be generally limited to minor touchup jobs, as approved by the FOMs.

5. Storage, Handling, Preservation, and Disposal of Hazardous Materials

The Environmental Office manages any hazardous wastes and used oils generated at the Wallops Flight Facility. To discuss proper waste disposal procedures or arrange for a waste pickup, contact the hazardous waste line at extension 1718. For emergencies, call the Fire Department at extension 1333 (see Figure 4-7). For other environmental issues, call extension 1885, and an environmental representative will direct your call. Some guidelines for proper waste disposal are listed below.

Containers. Generating activities must ensure that wastes are properly contained. Containers must be in good condition, suitable for the waste type, closed tightly, upright, and sturdy. The original container should be used if possible. Three inches of headspace should be left in each container.

Labels. Each waste container must be labeled with the identity or name of the chemical, including contaminants, the generator, and the building number where the waste was generated. If the container holds a hazardous waste, the words "Hazardous Waste" should also be included on the label. A full hazardous waste container must be dated and picked up by the Environmental Office within 3 days. Used oil containers must be labeled with the word "used" rather than “waste.”

Inventory Form. A completed Hazardous Waste Disposal Inventory form (NASA WI-1550) must accompany each properly containerized and labeled container. These forms are available from the Environmental Office or at http://www.wff.nasa.gov/~code205/formspage.htm. All containers awaiting disposal should be under the control of the generator, stored away from flame or other incompatible chemicals, and within secondary containment.

6. APU or GPU Operation Inside Hangar

Aircraft or internal combustion ground power units shall not be operated inside the hangar except under unusual or demanding conditions, and then only by the specific approval of the Aviation Safety Officer.

423. CHOCKS, TIE DOWNS, AND FLIGHT LINE SECURITY

Aircraft parked on ramps and flight lines shall be chocked when unattended. Mooring and tie down of aircraft will be performed in accordance with the instructions and guidelines set forth in the applicable flight manual or technical order pertaining to individual types of aircraft. During periods of high winds or when high winds are forecast, crew leaders will ensure that their respective aircraft are properly tied down. Crew leaders shall remain cognizant of the forecasted meteorological conditions to determine the need for any additional flight line precautions or added measures that might be required. In addition to appropriately securing aircraft during adverse meteorological conditions, crew leaders shall further ensure the secure status of all special equipment, material, work stands, etc. located on the flight line.

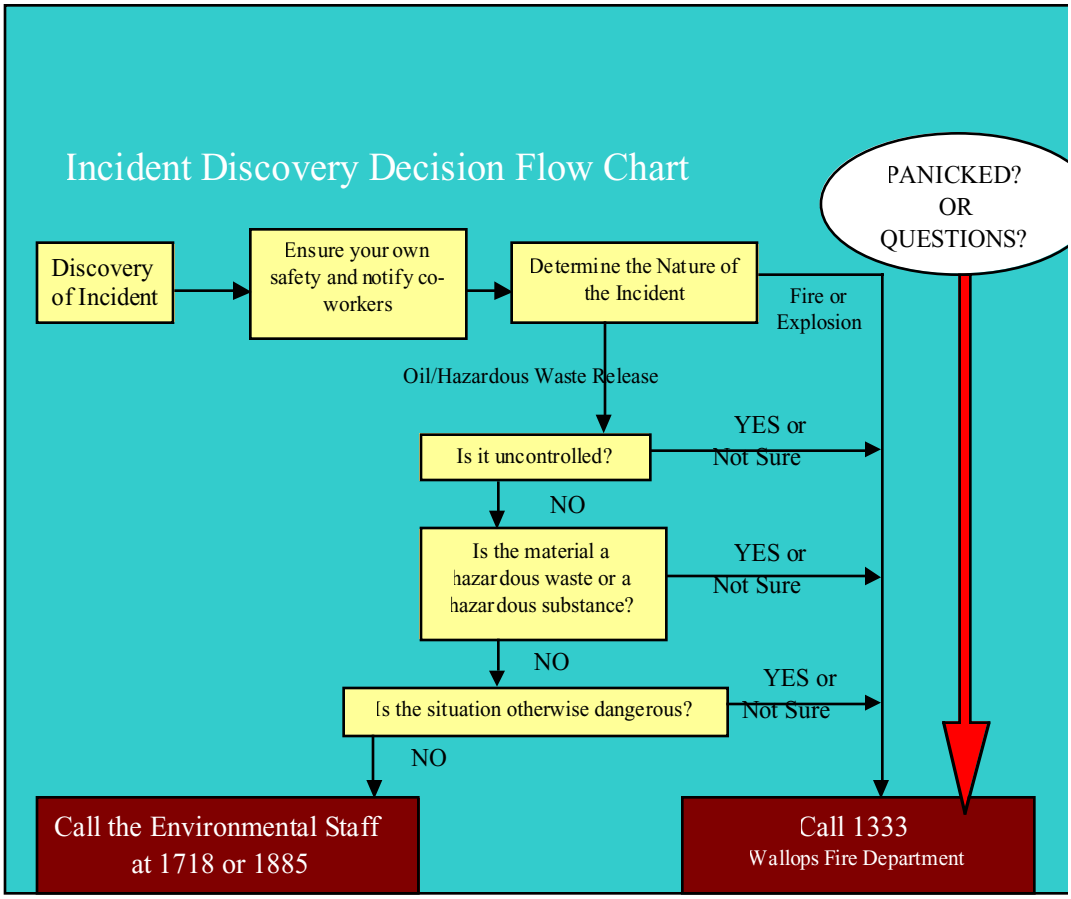

Figure 4-7. WFF Environmental Contingency Plan

424. AIRCRAFT WASHING AND CLEANING

Aircraft rinsing or washing must be performed only at the Airport Environmental Isolation Pit located immediately West of D-1 hangar. Before beginning aircraft washing and cleaning operations, the valve at the oil/water separator system must be positioned for directing the runoff flow to the sewage treatment plant. In this position all wash water will flow via the oil/water separator system. Cleaning agents must meet standards of WFF's Virginia Pollutant Discharge Elimination Systems (VPDES) permit and be approved by the Facilities Management Branch. When aircraft washing and cleaning operations are completed, the valve at the oil/water separator system must be returned to the normal rainwater drain position.

425. DESIGN SPECIFICATIONS FOR GROUND SUPPORT EQUIPMENT

Generally, all ground support equipment will be used according to design for the particular aircraft or system and will not be modified for other purposes.

426. ENGINE OPERATIONS ON FLIGHT LINES AND RAMPS

In addition to precautions and guidelines as may be already established in aircraft flight manuals or technical orders for individual aircraft types, the following precautions are reemphasized and shall be observed for all engine operations at the WFF Airport:

a. Engine runup operations are not permitted in proximity to buildings. However, with clearance from the Control Tower, engine runup operations may be conducted on remote taxiways or inactive runways. When selecting a runup area, consideration must be given to the effects of exhaust fumes, exhaust blast, and noise on other aircraft, personnel, buildings, vehicles, and equipment.

b. A qualified person who is authorized to start and operate engines must occupy the pilot's seat and maintain radio communications with the Control Tower/Wallops UNICOM during runups.

c. Radio communications between a ground crew observer and the person occupying the pilot's seat is recommended during engine runups. If radio communication is not available, a ground observer shall be appropriately located to provide conventional hand signals to the person operating the engine(s).

d. The person who starts, operates, and tests aircraft engines will occupy the cockpit throughout the runup period to engine shut down.

e. Persons, vehicles, and other aircraft will be prohibited from passing immediately behind or in front of a jet engine in operation.

f. Access doors and cowling subject to damage from jet blasts will be secured or removed before ground testing engines.

g. Maintenance will not be performed at the inlet ducts of operating jet engines.

h. Approved noise suppression devices to protect hearing shall be used by personnel working in areas where noise hazards exist such as engine runups.

427. EJECTION SEATS AND CANOPIES

Canopies and ejection seats can be accidentally discharged by heat from fire or movement of the actuating mechanism. Caution will be exercised when performing maintenance on or near this equipment. To prevent accidental ejection of seats or canopies during ground support work, the following safety precautions will be observed:

a. Safety pins will be installed following flight after the aircraft is parked and engine shut down, or immediately after completing any maintenance that requires removal of the safety pins.

b. When any activity is performed near the ejection seat catapult or canopy controls, care must be taken to prevent accidental arming and firing.

c. Only certified personnel will remove and install a canopy ejection discharge mechanism.

d. Before a required disassembly, ensure that all safety pins are in place and that all electrical connectors have been disconnected from power sources.

e. In addition to the above safety items, appropriate technical orders or manuals on the specific type of ejection seat system will be consulted before making any adjustment, assembly, disassembly, or removal.

428. LAMP SIGNALS TO AIRCRAFT

As a backup to normal communications to compensate for a malfunction of radio equipment, the WFF Control Tower is equipped with standard FAA air traffic control directional lights for signaling pilots, when necessary.

429. FACILITY DESIGN AND MODIFICATION

It is important to coordinate new construction, rehabilitation, or modification of airport related facilities (i.e., runways, taxiways, ramps, hangars, project rooms or Control Tower building) with the Airport Manager. Additionally, the Airport Manager and Aviation Safety Officer will review design specifications and plans. These reviews will ensure proper integration of long-range facility and operational schedules to minimize conflicts that would adversely affect the plans and productivity of the different organizations at WFF.