# Interagency

# Helicopter Pilot

# Practical Test Standards

## 2013

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# INTRODUCTION

## Practical Test Standards Concept

A Federal Aviation Administration (FAA) commercial pilot certificate or airline transport pilot-helicopter certificate has been identified as the minimum pilot performance standard for interagency Government pilots and interagency vendor pilots. The standards required to obtain an FAA pilot certificate are outlined in the FAA's *Practical Test Standards* (FAA PTS).

Some flight missions called for by interagency pilot mission statements, interagency contracts, and/or aircraft rental agreements call for pilot skills and proficiency not covered by the FAA PTS.

The *Interagency Practical Test Standards* (IPTS) is a supplement to the FAA PTS. This standard identifies and establishes the additional pilot knowledge and skills that are expected for each specific interagency helicopter pilot qualification for day, night, and night vision goggle (NVG) operations.

The content of this IPTS includes a combination of requirements for interagency helicopter pilot qualification, a matrix of interagency mission titles, and a set of definitions for the terms that are unique to interagency operations. Any task not included in this package will be found in the FAA PTS. All applicable FAA practical test standards are incorporated by reference into this IPTS.

The IPTS is a dynamic document to be reviewed annually and updated as needed. Please forward suggested changes to IPTS@nbc.gov. When changes occur, the document's revision history log will reflect an updated version number, date, and change description.

Publication on the following website is authorized: http://oas.doi.gov. Only the current version of the IPTS will be available online. In addition, bound format is authorized.

### Notice to the Applicant

The tasks in the IPTS require knowledge and skills beyond FAA certification. It is expected that applicants procure training for any desired pilot authorization listed in the IPTS prior to attempting an evaluation by an interagency-approved pilot inspector. Training shall be furnished by company training personnel or in the case of Government personnel may be obtained by finding a mentor for these tasks. The applicant is expected to demonstrate the appropriate pilot operations, including day, night and NVG operations based on the following:

1. Executing procedures and maneuvers within the aircraft's performance capabilities and limitations, including the use of the aircraft's equipment and systems.
2. Executing emergency procedures and maneuvers appropriate to the aircraft.
3. Piloting the aircraft with smoothness and accuracy.
4. Exercising good judgment.
5. Applying aeronautical knowledge.
6. Showing that the pilot is master of the aircraft, with the successful outcome of a procedure or maneuver never seriously in doubt.

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# REVISION LOG

| Date | Version | Summary of Changes |
|---|---|---|
| January 2013 | 1.0 | Initial Release |

# USE OF THE WORDS SHALL, MUST, SHOULD, MAY, AND WILL

| *Word* | *Use* |
|---|---|
| | Action is |
| Shall | Mandatory/required |
| Shall Not | Prohibited |
| Should | Desirable or preferred but not mandatory |
| May | Permissive |
| Must | Mandatory/required |
| Must Not | Prohibited |
| Will | In the future |

# INSTRUCTIONS

Agency/Bureau requirements or the procurement document will determine what tasks need to be evaluated. Each required task must be completed fully. The inspector pilot may combine tasks when appropriate. During the flight evaluation, the pilot is expected to perform all maneuvers to the minimum standards established by the FAA PTS and/or the IPTS, even if a particular maneuver was not specifically requested by the inspector pilot.

Example: During the evaluation, while flying to a location to do a special use operation, the pilot is expected to meet the tolerances identified in the FAA PTS for straight and level flight, climbs, turns, and descents.

The IPTS is not meant to duplicate the FAA 14 CFR Parts 135.293 and 135.297 evaluations for contract or aircraft rental agreement applicants. The pilot inspector is not expected to accept that a pilot is proficient simply based on a paperwork presentation. The pilot inspector shall ask the pilot to demonstrate those tasks, whether found in the IPTS or the FAA PTS to the extent necessary to determine the proper level of proficiency for the interagency pilot authorization sought.

Note: If the inspector pilot identifies deficiencies in airmanship or operational knowledge areas (not directly addressed in the mission evaluation) that could adversely affect contract performance, it will be at the inspector's discretion to further explore those areas and/or terminate the evaluation.

Each pilot, whether contract or Government pilot, shall be approved for Government use by an appropriate helicopter inspector pilot. The following section lists the administrative procedures to be evaluated:

## I. Records and Documents

A. The applicant is required to produce records and documents to show that he or she meets the requirements under which he or she will be approved. These will include but not be limited to:

1. Valid commercial or airline transport pilot certificate with appropriate ratings.
2. Current Class I or Class II medical certificate, as required.
3. Current pilot logbook, military flight records, and/or other acceptable documentation of pilot experience.

B. The following documents will be provided for the approving agency's files:

1. Completed Pilot Qualifications and Approval Record as required.
2. Current copy of the pilot certificate (initial approval or when a pilot certificate has been upgraded).
3. Copy of the current medical certificate.
4. Copy of the following, whichever is applicable:

   a. Current 14 CFR Part 135, Airman Competency/Proficiency Check (FAA 8410-3), or FAA-approved equivalent form. Required for all vendor pilots except restricted category helicopters.
   b. Completes additional training required for NVG operations per 14 CFR Part 61.31 and meets night vision operating experience and proficiency check per 14 CFR Part 61.57.
   c. Current 14 CFR Part 61.58, Proficiency Check. For pilots of aircraft requiring more than one pilot flight crewmember. Not applicable to pilots approved under 14 CFR 121, 133, 135, or 137.
   d. Current 14 CFR 133, Competency Endorsement. If applicable. FAA Advisory Circular (AC) 133-1a.
   e. Current 14 CFR 137, Competency Endorsement. If applicable. (Initial carding only).
   f. Current 14 CFR 61.56, Flight Review. Proof of compliance.
   g. Completed agency load calculation form (when applicable).
   h. Vertical reference flight training endorsement.
   i. Snorkel training endorsement.
   j. Camera-aided synthetic vision.
   k. Contractor's verification of pilot experience for initial carding.

C. The flight check recipient must demonstrate or exhibit knowledge of abilities to perform the appropriate pilot operations based on the following:

1. Executing procedures and maneuvers within the aircraft's performance capabilities and limitations including the use of the aircraft's equipment and systems.
2. Executing emergency procedures and maneuvers appropriate to the aircraft.
3. Exercising good judgment.

4. Applying aeronautical knowledge and demonstrating that the pilot is the master of the aircraft with the successful outcome of a procedure or maneuver never seriously in doubt.

**Note:** 1. Additional instructions, tasks, and pilot skill and knowledge requirements are listed for several interagency pilot qualifications.
2. The focus of this list is to supplement the contents of the applicable FAA Helicopter PTS with interagency requirements.

## II. Special Emphasis Areas

A. Inspectors shall place special emphasis upon areas of aircraft operations considered critical to flight safety for day, night, and night vision goggle operations. These are:

1. Cooperation, professionalism, and positive attitude toward aviation safety.
2. Risk assessment and risk management.
3. Crew resource management.
4. Checklist usage.

B. Although these areas may not be specifically addressed under each TASK, they are essential to flight safety and will be evaluated during the practical test. In all instances, the applicant's actions will relate to the complete situation.

## III. Use of Checklists

Throughout the practical test, the applicant is evaluated on the use of an appropriate aircraft checklist. Proper use is dependent upon the specific TASK being evaluated. The situation may be such that the use of the checklist, while accomplishing elements of an Objective, would be either unsafe or impractical, especially in a single-pilot operation. In this case, a review of the checklist after the elements have been accomplished would be appropriate. Division of attention and proper visual scanning should be considered when using a checklist.

## IV. Night and Night Vision Goggle (NVG) Considerations

A. The tasks within Chapter XIII are required to be conducted during actual NVG use. These tasks cannot be simulated during day operations.

B. Additional night and NVG considerations are annotated throughout the document for applicable special use mission tasks during which night and/or NVG operations are authorized. Reference those particular tasks for additional night and NVG considerations.

## V. Satisfactory Performance

A. Satisfactory performance to meet the requirements for authorization is based on the applicant's ability to safely:

1. Perform the TASKS specified in the AREAS OF OPERATION for the authorization(s) sought.
2. Meet the specifications within the contract or policy as appropriate.

B. A pilot qualification card will be issued after satisfactory performance has been demonstrated.

## VI. Unsatisfactory Performance

When in the judgment of a qualified helicopter inspector pilot, the applicant does not meet the standard, the practical test is failed. The applicant will not receive a pilot qualification card. The company, bureau, or agency the pilot is employed by will be notified of the unsatisfactory performance. If a retest is administered, at a minimum those tasks that were determined to be unsatisfactory will be reevaluated. Additional tasks may be retested at the discretion of the inspector.

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# AREAS OF OPERATION

## I. PREFLIGHT PREPARATION

### A. TASK: RECORDS, CERTIFICATES, AND DOCUMENTS

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by explaining:

      (1) Pilot privileges and limitations applicable to Government flights.
      (2) Personal pilot logbook or flight record.
      (3) Contract requirements including special equipment, if applicable.
      (4) Flight Use Report recordkeeping requirements (familiarization with agency-specific payments and protocol).
      (5) Flight and duty limitations.

   b. Exhibits knowledge by locating and explaining the significance and importance of the:

      (1) Aircraft Data Card and Helicopter Pilot Qualification Card.
      (2) Operating limitations, handbooks, and manuals.
      (3) Equipment list/minimum equipment list (as appropriate).
      (4) Weight and balance data.
      (5) Maintenance requirements, tests, and appropriate records applicable to contract flights, including preventative maintenance.
      (6) Contract or rental agreement and any special equipment requirements or additional pilot requirements.

2. **Action.** The inspector will ask the applicant to:

   a. Explain the appropriate pilot and medical certificates and personal flight records applicable to contract flights.

   b. Locate and explain helicopter documents, lists, and other required data including helicopter maintenance records, contract requirements, and the *Interagency Aviation Transport of Hazardous Materials Handbook and Guide* (http://oas.doi.gov).

### B. TASK: OPERATION OF HELICOPTER SYSTEMS

1. **Objective**. To determine that the applicant:

   a. Exhibits knowledge of the helicopter's special use equipment required for contract compliance or mission specifications, which may include:

      (1) Portable Automated Flight Following (AFF)/satellite tracking equipment.
      (2) Cargo containers: pods, racks, or tanks.
      (3) Telemetry antennas and receivers.
      (4) Camera mounts, computer mounts, and auxiliary power requirements.

2. **Action.** The inspector will ask the applicant to:

   a. Explain normal operating procedures and limitations of the helicopter special use systems using correct terminology in identifying components.
   b. Explain how special use equipment could adversely affect the performance characteristics of the aircraft or the pilot's workload in flight.

### C. TASK: FM RADIO EQUIPMENT BRIEFING

1. **Objective.** To determine that the applicant:

   a. Exhibits the knowledge of and the ability to operate the required radio equipment installed in the aircraft used in the evaluation.
   b. Exhibits a complete understanding of FM operational procedures including frequency programming, transmit selection, and possible interferences.
   c. Exhibits a complete understanding of interagency communication procedures including dispatch, flight following, fire tactical, and guard as applicable.
   d. Demonstrates, without tutoring, programming complete, appropriate frequency couplings.
   e. Demonstrates the actual use of the transceiver.

2. **Action.** The inspector will ask the applicant to:

   a. Describe wideband versus narrowband and explain:

      (1) What is meant by kHz spacing.
      (2) How mixed use of both causes frequency overlap and incomplete transmission and reception quality.
      (3) How mixed use of both causes repeater disruption.
      (4) How mixed use of both causes problems with volume control in the field.

   b. Demonstrate how to program transmit (Tx) and receive (Rx) tones and explain what function they perform.
   c. Demonstrate how to program duplex frequencies and explain what they are.
   d. Demonstrate how to program Guard frequency and be able to use it wideband or narrowband.
   e. Explain the applicable interagency communications matrix including:

      (1) Local and central dispatch: whom to call, on what frequency, and how often.
      (2) Use of AFF and radio communications, using Safety Alert IA-06-05 as a guide (http://oas.doi.gov).
      (3) National flight following.
      (4) Fire tactical.
      (5) Guard and its intended uses:

         (a) Aircraft emergency.
         (b) Initial contact/lost communications.
         (c) Aircraft recall.

   f. Explain and demonstrate the onboard avionics communications system including:

      (1) Switching the audio panels between the FM transceiver and other transceivers located on board the aircraft.
      (2) Setting up and switching between the auxiliary FM transmit locations in the aircraft.
      (3) Operating the aircraft intercom system and isolating pilot and crew.

# II. PREFLIGHT PROCEDURES

## A. TASK: INITIAL DISPATCH

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by explaining and demonstrating the appropriate:

      (1) Aircraft security procedures and the associated cockpit checklist.
      (2) Availability, standby, and readiness status.
      (3) Method for collecting dispatch information applicable to Government flight operations, including:

         (a) Appropriate phone numbers and frequencies for contact personnel.
         (b) Arrangement of logistical support prior to departure.

(4) Procedures for flight following.
(5) Procedures for radio communication and lost communication when utilizing the Government dispatch system.
(6) Use of a hazard map if low level operations are to be conducted.

2. **Action.** The inspector will ask the applicant to:

a. Perform a passenger briefing to include interagency items:

(1) Emergency locator transmitter (ELT) and remote activation switch operation (if installed).
(2) Aviation life support equipment.
(3) First aid kit.
(4) Contract-specific items.

b. Perform a crew briefing to include interagency/mission equipment items when applicable.

## B. TASK: GLOBAL POSITIONING SYSTEM (GPS) EQUIPMENT OPERATION

1. **Objective.** To determine that the applicant:

a. Exhibits the knowledge and the ability to operate the required GPS equipment installed in the aircraft used in the evaluation.
b. Exhibits complete understanding of the aircraft GPS system, its uses, limitations, and possible technical problems.
c. Exhibits knowledge and ability to use the aircraft GPS interchangeably with other navigation or charting formats.
d. Demonstrates ability to initially program, reprogram in flight, and use the aircraft GPS system as the primary navigation tool.

2. **Action.** The inspector will ask the applicant to:

a. Explain the general use of GPS and possible equipment limitations.

b. Demonstrate the ability to extrapolate position information (latitude and longitude coordinates) from various sources and program them in the aircraft GPS. These sources may include:

(1) Pilot guides, supplements, airport facility directory, or general wall charts.
(2) Voice-relayed information from dispatch, agency personnel, etc.

c. Demonstrate the ability to convert coordinate information between "degrees, minutes, seconds" and "degrees, minutes, decimal seconds."
d. Demonstrate the ability to plot GPS-derived information position on a chart (sectional, topographical, etc.).
e. Demonstrate the ability to program and use the aircraft's GPS unit for:

(1) Primary navigation, including diversions to alternate destinations.
(2) Locating present position.
(3) Navigation for survey work (transect lines).
(4) Finding and navigating to the nearest airport.

## C. TASK: PERSONAL PROTECTIVE EQUIPMENT (PPE)

1. **Objective.** To determine that the applicant:

a. Exhibits knowledge of the required PPE.
b. Exhibits knowledge of inspection requirements, proper use and care of PPE.

2. **Action.** The inspector will ask the applicant to:

a. Identify PPE required for the mission.
b. Inspect required PPE and determine serviceability.
c. Demonstrate the proper use of PPE throughout the flight.
d. Explain how to clean and service PPE as required.

### D. TASK: DETERMINING PERFORMANCE AND LIMITATIONS

1. **Objective.** To determine that the applicant:

   a. Demonstrates proficient use of the appropriate performance, charts, tables, and data.
   b. Demonstrates proficient use of helicopter load calculations including use of downloading procedures (as appropriate).
   c. Computes weight and balance, including adding, removing, and shifting weight, and determines if the weight and center of gravity will be within limits during all phases of flight.
   d. Determines helicopter performance in all phases of flight considering the effects of various conditions.

2. **Action.** The inspector will ask the applicant to:

   a. Explain helicopter performance and limitations, load calculations, including the adverse effects of exceeding those limits to determine that the applicant's knowledge meets the objective.
   b. Determine helicopter performance and limitations and to describe the effect of atmospheric conditions on helicopter operation to determine that the applicant's knowledge and performance meet the objective.

## III. EMERGENCY/ABNORMAL OPERATIONS

### A. TASK: EMERGENCY PROCEDURES

**Reference:** http://oas.doi.gov/safety/iamrp.html.

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by correctly explaining the applicable emergency procedures that may differ from the FAA standards due to mission procedures or required mission equipment to include:

      (1) Structural failure of auxiliary equipment (mission equipment).
      (2) Emergency exits.
      (3) Emergency locator transmitter (ELT) including remote switching and 406 MHz procedures.
      (4) Knowledge of MISHAP notification form.
      (5) Knowledge of MISHAP reporting requirements and procedures.
      (6) Knowledge of emergency procedures in the event of a two-way radio communications failure including nonstandard communication procedures in remote areas.
      (7) Delegation of duties to noncrewmembers.
      (8) Aviation life support equipment (ALSE) use.

2. **Action.** The inspector will ask the applicant to:

   a. Explain selected emergency procedures.

### B. TASK: SAFECOM PROCEDURES

**Reference:** https://www.safecom.gov.

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge of the SAFECOM system.
   b. Understands the purpose of the SAFECOM.

2. **Action.** The inspector will ask the applicant to:

a. Demonstrate how to file a SAFECOM.
b. Explain when a SAFECOM should be filed.
c. Explain who to involve when filing a SAFECOM.

## C. TASK: INADVERTENT INSTRUMENT METEOROLOGICAL CONDITIONS (IMC)

**Note**: Inadvertent IMC procedures shall be briefed prior to flight.

1. **Objectives.** To determine that the applicant(s):

   a. Announces "IMC," maintains proper aircraft control, immediately transitions to flight instruments, and initiates an immediate climb.
   b. Initiate inadvertent IMC procedures.

      (1) Attitude: level the wings on the attitude indicator.
      (2) Heading: maintain heading; turn only to avoid known obstacles.
      (3) Torque: adjust torque as necessary.
      (4) Trim: trim aircraft as necessary.
      (5) Airspeed: adjust airspeed as necessary.

   c. Contact air traffic control (ATC),] as required. Comply with ATC instructions and company operating procedures.

2. **Action.** The inspector will ask the applicant to:

   a. Recognize and announce IMC.
   b. The pilot-in-command (PIC) announces the minimum altitude to which the crew will climb as the procedure is initiated.
   c. The pilot-on-the-controls (P*) announces initiation of inadvertent IMC procedures. The P* announces if he or she is disoriented and unable to recover.
   d. The pilot-not-on-controls (P), if applicable, monitors the cockpit instruments to assist in recovery, sets the transponder to emergency, makes the appropriate radio calls, and performs any other crew tasks as directed by the P*. It may be necessary for the P to take the controls and implement recovery procedures.
   e. The nonrated crewmember (NCM) will focus primarily outside the aircraft to provide adequate warning for avoiding terrain or obstacles. The P and NCM will perform any other crew tasks as directed by the PIC.

**Night or NVG Considerations**

1. When using NVGs, it may be possible to see through thin obscuration such as fog, smoke, and drizzle with little or no degradation.
2. The NVGs may be removed or flipped up once stable flight is established. It may be beneficial for the P not to completely remove his NVGs.
3. The NVGs may assist in recovery by allowing the P to see through thin obscuration that would otherwise prevent him from seeing the landing environment.
4. If IMC conditions are entered with the searchlight or landing light on, spatial disorientation may occur.
5. Once committed to IMC, do not attempt to regain VMC until the aircraft is under control. Rapid changes in attitude and bank angle can induce spatial disorientation causing loss of aircraft control.

# IV. TAKEOFF AND LANDING

**Note:** Inspectors must evaluate TASKS A through C. TASKS D through F as required.

## A. TASK: HOVER-OUT-OF-GROUND-EFFECT (HOGE) POWER CHECK

**OGE POWER CHECK: TAKEOFF**

1. Do not allow drift to exceed 10 feet during the ascent or while at a hover.
2. Maintain heading ±10 degrees.
3. Establish an OGE hover or above surrounding obstacles, whichever is higher, ±10 feet.
4. Determine if the aircraft power and controllability are sufficient.

**If OGE power is available:**

1. Perform a proper takeoff, safely clear obstructions.
2. Maintains aircraft power within operating limits.

**If OGE power is NOT available:**

1. Do not allow drift to exceed 10 feet during the descent.
2. Do not exceed 300 feet per minute during the vertical descent.
3. Reduce payload prior to next attempted takeoff.

A new OGE power check is required when operating conditions change (± 1000 feet in altitude or ±5 °C in temperature or when performance is questionable) or when the helicopter operating weight changes (such as changes to the equipped weight, a change in the flight crew, or a change in the fuel load).

The OGE power check will be performed for either the takeoff or landing, whichever is most restrictive.

1. **Objective.** To determine that the applicant:

   a. Checks the load calculation to ensure environmental conditions are accurate.
   b. Positions the helicopter in the vicinity of the takeoff point and in the direction of takeoff.
   c. Conducts an in-ground power check. Determines available power margin.
   d. Maintains within normal operating limits.

2. **Action.** The inspector will ask the applicant to:

   a. Demonstrate knowledge of the HOGE power check operations to determine that the applicant's knowledge meets the objectives.
   b. Perform the HOGE power check operation to determine that the applicant's performance meets the objectives.

**OGE POWER CHECK: ARRIVAL**

1. **Objective.** Determine that the applicant exhibits knowledge of current conditions, load calculation, and aircraft performance.

2. **Action.** The inspector will ask the applicant to establish an OGE hover to the following standards:

   a. Zero ground speed into the wind.
   b. Stable hover, verifies 10% power margin available.
   c. Greater than 200 feet of obstacle clearance for escape.
   d. At or above the elevation in conditions similar to the site where OGE maneuvers are to be performed.
   e. Establish a positive rate of climb without transitioning to directional flight.

**Night or NVG Considerations**

1. Select an area with good ground contrast and several reference points that are of the same height or higher than the OGE hover. Under NVGs, this procedure helps in maintaining a constant altitude and position over the ground.
2. Maintain proper scanning techniques to avoid becoming spatially disoriented.

## B. TASK: CONFINED AREA OPERATIONS

**Note:** Aircraft confined area operations will be limited to no less than 1½ times the main rotor diameter and the applicant ensures the power management and performance criteria for HOGE power check are met.

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge of confined area operations.
   b. Performs a high reconnaissance to:

      (1) Evaluate wind, terrain, and obstructions.
      (2) Select a proper approach path, touchdown point, and departure path.

   c. Tracks the selected approach path toward the touchdown point at an acceptable approach angle.
   d. Performs a low reconnaissance during the approach to verify findings on the high reconnaissance.
   e. Terminates the approach, either to a hover or to the surface, as appropriate, at the selected touchdown point.
   f. Performs a ground reconnaissance to:

      (1) Evaluate wind and obstructions.
      (2) Select a proper takeoff point.
      (3) Plan a safe hover taxi.
      (4) Select ground markers, if required.

   g. Performs a proper takeoff, safely clears obstructions, and tracks the preselected departure path.
   h. Maintains aircraft power within operating limits.

2. **Action.** The inspector will ask the applicant to:

   a. Explain the principles and techniques involved in confined area operations to determine that the applicant's knowledge meets the objective.
   b. Perform a confined area operation to determine that the applicant's performance meets the objective.

**Night or NVG Considerations**

1. Use proper scanning techniques to avoid spatial disorientation.
2. For unaided night flight, the landing light and searchlight shall be operational.
3. Hovering with minimum drift is difficult and requires proper scanning techniques and CRM when NVGs are used. If possible, an area with adequate ground contrast and reference points should be used.
4. Visual obstacles (such as shadows) will be treated the same as physical obstacles.

## C. TASK: SLOPE OPERATIONS

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by explaining the elements of slope operations to include dynamic rollover and lateral center of gravity (CG) offset.
   b. Selects a suitable slope and plans the approach and landing direction considering wind effect, obstructions, and off-loading occupants.
   c. Hover taxies slowly to the selected slope and positions to perform a cross-slope landing to avoid turning the tail rotor upslope.
   d. Makes a smooth positive descent to touch the upslope skid on the sloping surface.
   e. Maintains a stabilized level attitude momentarily before lowering the downslope skid to touchdown.
   f. Recognizes when the slope is too steep and abandons the landing prior to using full-lateral upslope cyclic control.
   g. Avoids overcontrolling and abrupt, erratic cyclic, collective, or antitorque pedal technique.
   h. Makes a smooth transition from the slope to a stabilized level attitude momentarily prior to lifting off vertically to a hover.
   i. Makes a smooth transition from the slope to a stabilized hover parallel to the slope.
   j. Moves slowly away from the slope and avoids turning tail upslope.
   k. Maintains specified heading, ±5°, during slope landings and takeoffs.

l. Maintains aircraft power within operating limits.

**2. Action.** The inspector will ask the applicant to:

a. Explain the elements of slope operations to determine that the applicant's knowledge meets the objective.
b. Perform a slope landing and takeoff to determine that the applicant's performance meets the objective.

**Night or NVG Considerations**

1. Use proper scanning techniques to avoid spatial disorientation.
2. For unaided night flight, the landing light and searchlight shall be operational.
3. Hovering with minimum drift is difficult and requires proper scanning techniques and CRM when NVGs are used. If possible, an area with adequate ground contrast and reference points should be used.
4. Visual obstacles (such as shadows) will be treated the same as physical obstacles.
5. The degree of slope is difficult to determine using NVGs. Select reference points to determine slope angles. Determine the need for artificial illumination prior to commencing the landing. If successful completion of the landing is doubtful at any time, abort the landing. All crewmembers should focus outside the cockpit.

## D. TASK: SNOW OPERATIONS (Deep Snow)

**1. Objective.** To determine that the applicant:

a. Exhibits knowledge by explaining how to operate a helicopter safely in snow conditions, including required equipment.
b. Selects proper landing site considering slope, hidden obstructions, snow conditions (whiteout potential), and any other variables unique to that site.
c. Initiates approach and landing maintaining visual contact with the ground/ground reference point while limiting hover time and preferably making the approach to the ground.
d. Exhibits proper judgment that the helicopter is securely settled into the snow prior to reducing power or shutting down.
e. Exhibits proper liftoff, takeoff, and departure procedures.
f. Completes passenger safety briefing including snow shoes/ski use while operating under rotor disk.

(1) Rotors in motion: Enter and exit procedures to include access to baggage compartment.
(2) Rotors stopped: Enter and exit procedures to include access to baggage compartment.
(3) Passenger loading.
(4) Approach, arrival, seating, skid extraction, departure.
(5) Environmental, whiteout, flat light hazards, use of landing light, rotten snow, slopes, dynamic rollover, centroid adjustment, departure slope capability nose down.
(6) Equipment requirements.
(7) Departure from snow landing.

g. Demonstrates knowledge of required equipment for deep snow operations including aircraft performance and limitations; i.e., snow baffles, auto relight, tundra pads, skids.

**2. Action.** The inspector will ask the applicant to:

a. Explain the hazards of operating in snow conditions such as whiteouts, power/blowing snow, sloping terrain, hidden obstructions, crusted snow, etc.
b. Explain and demonstrate approach and landing techniques into blowing snow and conditions where depth perception is in question. Execute an approach to the ground with limited hover time.
c. Explain and demonstrate techniques for ensuring that the aircraft is securely settled into the snow and is not sitting on hidden hazards or crusted snow.
d. Explain and demonstrate liftoff, takeoff, and departure procedures to include stuck skids, dynamic rollover, and wind direction. Whenever possible, out-of-ground effect capability should be available to lift out of blowing snow conditions.

## E. TASK: VESSEL OR PLATFORM OPERATIONS: OFFSHORE

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by explaining the elements of offshore vessel and/or platform operations.
   b. Performs a thorough preflight inspection of all equipment associated with the offshore operation including fixed or popout floats, survival equipment, and personal flotation devices.
   c. Performs a thorough preflight briefing of all passengers and crew. The briefing will include sequence of events, exit procedures, and emergency procedures.
   d. Demonstrates the ability to use proper flight following and communications procedures.
   e. Demonstrates the proper procedures for safely approaching and landing on a vessel and/or platform. This will include:

      (1) The assurance that the landing deck is clear and the vessel or platform cranes are secure and present no safety hazard.
      (2) The wind evaluation.
      (3) The vessel movement.
      (4) The appropriate arming of popout floats (if installed).

   f. Demonstrates proper procedures for safely departing a vessel and/or platform. This will include wind, in- or out-of-ground effect consideration, vessel movement, and disarming of popout floats.

2. **Action.** The inspector will ask the applicant to:

   a. Demonstrate knowledge of offshore vessel and/or platform operations as appropriate to determine that the applicant's knowledge meets the objective.
   b. Perform offshore vessel and/or platform operations as appropriate to determine that the applicant's performance meets the objective.

## F. TASK: FLOAT OPERATIONS: FIXED FLOATS

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge of maintaining the helicopter under complete control while on the water with reduced surface friction.
   b. Exhibits knowledge of the effects of main rotor thrust, tail rotor thrust, and the prevailing wind on the helicopter while on the water.
   c. Understands the limitations and hazards of shutting down and starting on the water.
   d. Understands the limitations to water taxiing.
   e. Exhibits knowledge of mooring or beaching the helicopter.
   f. Is aware of the downwind hazards while conducting operations on the water surface.
   g. Demonstrates the proper procedures for safely approaching over an obstacle and landing on the surface of the water.
   h. Maintains the helicopter stationary on the surface of the water within 1 foot of the touchdown point.
   i. Is capable of conducting water taxi with left and right turns.
   j. Demonstrates the proper technique for beaching the helicopter against the shore.
   k. Demonstrates the proper procedures for safely lifting off the surface of the water and departing from a confined area.
   l. Understands the hazards and limitations of touchdown autorotations.

2. **Action.** The inspector will ask the applicant to:

   a. Identify wind direction prior to landing on the water surface.
   b. Identify obstructions and hazards prior to landing on the water surface.
   c. Demonstrate an approach to landing of the surface of the water.
   d. Water taxi.
   e. Maintain the helicopter in one spot while turning to the four cardinal points of the compass.
   f. Demonstrate a takeoff and departure from the water.

# V. IN FLIGHT

**Note:** Inspectors must evaluate TASKS A and B. Inspectors must evaluate TASK C for pilots operating on fires.

## A. TASK: FLIGHT FOLLOWING

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge of flight following requirements and procedures.

2. **Action.** The inspector will ask the applicant to:

   a. Initiate flight following at the beginning of the flight.
   b. Check in at proper intervals throughout the flight.
   c. Terminate flight following after landing.

## B. TASK: DIVERT DISPATCH (Route Change While En Route)

1. **Objective.** To determine that the applicant:

   a. Exhibits the knowledge and ability to utilize GPS equipment (if installed) for a routing change.

2. **Action.** The inspector will ask the applicant to:

   a. Program GPS in flight.
   b. Brief the passengers and/or crewmembers on the new course and estimated time of arrival.

## C. TASK: FIRE TRAFFIC AREA (FTA)

Note: Inspectors must evaluate this task for pilots operating on fires.

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge of wildland fire operations.
   b. Exhibits knowledge of communications and coordination required with other aircraft and ground forces.
   c. Exhibits knowledge of the FTA.
   d. Exhibits knowledge of FTA procedures.
   e. Exhibits knowledge of FAA temporary flight restrictions (TFR) and the fire environment.

2. **Action.** The inspector will ask the applicant to:

   a. Identify when and where an FTA is in effect.
   b. Describe the procedure for operating in and around TFRs.
   c. Establish communication with the controlling aircraft/incident commander prior to entry of the FTA.
   d. Comply with instructions while operating within an FTA.
   e. Maintain assigned altitude ±100 feet while operating within an FTA.
   f. Demonstrate the ability to clearly communicate about the fire environment.
   g. Explain the role of air-to-air communications between pilots and the Air Attack Group Supervisor (ATGS) and/or Lead Plane/Aerial Supervision Module (ASM).
   h. Explain which frequencies in the FTA pilots should be monitoring and the proper management of monitoring those frequencies.
   i. Explain hazards of operating in fire environments where smoke, terrain, and other meteorological factors compete with mission activities.

**Night or NVG Considerations**

1. Wires are difficult to detect with NVGs.

2. Using proper scanning techniques will assist in detecting traffic and obstacles and in avoiding spatial disorientation.
3. Visual obstacles (such as shadows) will be treated the same as physical obstacles.

# VI. EXTERNAL LOAD OPERATIONS

## A. TASK: SHORT-HAUL

**Reference:** *DOI Helicopter Short-Haul Handbook* (http://oas.doi.gov) or LEI?

**1. Objective.** To determine that the applicant:

a. Exhibits knowledge by explaining the elements of short-haul operations.
b. Performs a thorough preflight briefing of personnel to include hookup procedures, hand signals, and pilot and other personnel actions in the event of an emergency.
c. Visually determines that the personnel attach system(s) is attached properly and is functional.
d. **Phase 1**: Precision longline: The inspector will (1) observe and evaluate the pilot's skills and ability for vertical reference flight, (2) observe the pilot's control of the helicopter as well as the load, and (3) observe the pilot's response to variable weather conditions that may be present. With a nonhuman load (6 to 8 feet long, 150 to 200 pounds), the maximum line length appropriate for the using unit, and the helicopter rigged so the load is suspended as it would be during normal short-haul operations, the pilot must:

**Note**: Evaluation for LE/CAMP is 100-foot minimum. Evaluation for SAR is 150-foot minimum.

(1) Ascend vertically using vertical reference techniques while centered over the load until the load clears the ground, then fly a normal pattern or specified route to the designated location.
(2) Arrive at the designated location and place the load within the 10-foot diameter circle not touching the ground and not more than 6 feet from the ground.
(3) Keep the load stabilized in the circle without touching the ground or exceeding a load height of 6 feet for 2 out of 3 minutes.

**Note:** Contacting the ground causing the load to tilt or contacting to ground intentionally to stop the load from swinging is a failure of this task phase.

e. **Phase 2**: Load control and placement: With a nonhuman load (6 to 8 feet long, 150 to 200 pounds), the maximum line length appropriate for the using unit (100-foot minimum), and the helicopter rigged so the load is suspended as it would be during normal short-haul operations, the pilot must:

(1) Ascend vertically using vertical reference techniques while centered over the load until the load clears the ground.
(2) Demonstrate load control and placement by flying the load through a predetermined ground course. This will be a square course with four (4) circles (3 feet in diameter) at each of the corners. The pilot will maneuver the load at an altitude not to exceed 6 feet above the surface without touching the ground except at the targets. The pilot will maneuver the load in line with each side of the course and place the load on the ground inside each of the circles. All load placements must be done in a manner that demonstrates that the pilot has complete control of the load and the vertical rate of decent at touchdown. This course is not timed.

**Note:** Contacting the ground other than at the designated locations, tilting the load when placed in the circle, or contacting the ground to stop the load from swinging is a failure of this task phase.

f. **Phase 3**. Typical terrain: With a nonhuman load (6 to 8 feet long, 150 to 200 pounds), the maximum line length appropriate for the using unit and the helicopter rigged so the load is suspended as it would be during normal short-haul operations, the pilot must:

(1) Demonstrate the ability to operate in typical terrain and lighting conditions. Operations must include all segments of a short-haul operation: pickup, en route, and setdown.

**Note:** Typical terrain may include cliff areas, narrow or confined ridge crests, pinnacles, areas of moving water, snowfields, or glaciers. Lighting variations and background contrast is a factor; flight operations under typical conditions should be demonstrated.

(2) Demonstrate crew coordination with a spotter, if a spotter will be utilized.
(3) Demonstrate entanglement procedures by releasing the primary and secondary anchors. If a spotter is utilized, this procedure must be a coordinated crew demonstration.

**Note:** Simulated entanglement procedures will be accomplished using a nonweighted line. This exercise should be accomplished using a practice rope and/or anchor system. The rope and anchor used will not be reused for actual short-haul operations.

g. **Phase 4**. Human short-haul: Upon successful completion of the above three phases, the pilot will demonstrate the ability to work with a human on the end of the short-haul line. The pilot will:

**Note:** "Human" is a fully qualified short-haul person.

(1) Demonstrate the ability to place a human at a predetermined target with the same tolerance as outlined in Phase 2.
(2) Demonstrate total control of the load at all times.

**2. Action.** The inspector will:

a. **Phase 1** - Observe and evaluate the pilot's skills and ability for vertical reference flight. Observe the pilot's control of the helicopter as well as the load. Observe the pilot's response to variable weather conditions that may be present.
b. **Phase 2** - Observe and evaluate the pilot's ability to control, maneuver, and precisely place loads on predetermined spots. Observe the pilot's reactions to existing weather conditions and their effects on the ability of the pilot to maintain control and maneuver the helicopter and load.
c. **Phase 3** - Observe the interaction between the pilot, spotter, and ground personnel. Observe the pilot's control of loads and judgment operating in typical terrain. Emphasize the precision placement of loads on predetermined targets.
d. **Phase 4** - Observe the pilot during a human short-haul operation. Evaluate the pilot's control of the aircraft and the load during the operation.

## B. TASK: RAPPEL OPERATIONS (*USFS Rappel Operations*)

**1. Objective.** To determine that the applicant:

a. Exhibits knowledge by explaining the elements of rappel operations in accordance with the requirements of the *Interagency Helicopter Rappel Guide* (http://www.nifc.gov), *National Rappel Operation Guide (USFS).*
b. Attends crew lead CRM training.
c. Performs a thorough preflight briefing of rappel personnel to include a briefing on model-specific procedures, exit procedures, sequences, and emergency procedures using error-free mockups
d. Visually determines that the rappel anchor and associated hardware are properly installed and serviceable.
e. Demonstrates the ability to properly communicate and respond with the rappel spotter.
f. Completes OGE power check, verifies continuous power available for rappel.
g. Demonstrates the ability to maintain a stable hover during rappel and cargo letdown operations. The pilot's focus will be on spotter direction and aircraft health and stability, not on vertical reference placement of the rappellers. (Initial carding will include a minimum of three rappels and one cargo letdown. Recurring carding will include a minimum of one rappel and one cargo letdown.)
h. Maintains a 50-foot obstacle clearance.

**2. Action.** The inspector will ask the applicant to:

a. Explain the elements of rappel operations, including associated emergency procedures to determine that the applicant's knowledge meets the objective.
b. Perform rappel operations to determine that the applicant's performance meets the objective.

## C. TASK: RAPPEL OPERATIONS (*DOI Rappel Operations*)

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by explaining the elements of rappel operations in accordance with the requirements of the *Interagency Helicopter Rappel Guide* (http://www.nifc.gov).
   b. Performs a thorough preflight briefing of rappel personnel to include a briefing on model specific procedures, exit procedures, sequences, and emergency procedures.
   c. Visually determines that the rappel anchor and associated hardware are properly installed and serviceable.
   d. Demonstrates ability to properly communicate with the rappel spotter.
   e. Maintains positive control of the aircraft while demonstrating proper power management techniques at 150 feet AGL ±10 feet, heading ±10°, and a horizontal drift less than 10 feet. The applicant will hold this position for a minimum of 3 minutes.

2. **Action.** The inspector will ask the applicant to:

   a. Explain the elements of rappel operations, including associated emergency procedures to determine that the applicant's knowledge meets the objective.
   b. Perform a rappel operation at a minimum altitude of 150 feet AGL to determine that the applicant's performance meets the objective.

## D. TASK: CARGO LETDOWN

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by explaining the elements of cargo letdown operations in accordance with the requirements of the *Interagency Helicopter Rappel Guide* (http://www.nifc.gov).
   b. Performs a thorough preflight briefing of cargo letdown personnel to include briefing on model specific procedures, cargo letdown procedures, sequences, and emergency procedures.
   c. Visually determines that the cargo letdown anchor and associated hardware are properly installed and serviceable.
   d. Demonstrates the ability to properly communicate with the cargo letdown spotter.
   e. Maintains positive control of the aircraft while demonstrating proper power management techniques at 150 feet AGL ±10 feet, heading ±10□, and a horizontal drift less than 10 feet. The applicant will hold this position for a minimum of 3 minutes.

2. **Action.** The inspector will ask the applicant to:

   a. Explain the elements of cargo letdown operations, including associated emergency procedures to determine that the applicant's knowledge meets the objective.
   b. Perform a cargo letdown operation at a minimum altitude of 150 feet AGL to determine that the applicant's performance meets the objective.

## E. TASK: WATER/RETARDANT DELIVERY (Bucket-Belly and/or Longline)

1. **Objective.** To determine that the applicant:

   a. Exhibits a basic knowledge of wildland fire operations.
   b. Exhibits knowledge of communications and coordination required with other aircraft and ground forces.
   c. Exhibits knowledge of aircraft modifications (switch placement/operations, wiring/plugs, mirror) and equipment (bucket).
   d. Explains the relationship between airspeed and altitude and its effect on coverage level.
   e. Maintains adequate obstacle clearance and appropriate flight paths and speeds with bucket.
   f. Selects suitable fill site(s) including hazard recon and recognizing hazards of moving water.
   g. Stabilizes in hover prior to submerging the bucket.
   h. With bucket submerged, maintains hover altitude (±1 foot), keeping cables clear.
   i. Does not allow drift to exceed 5 feet in any direction.

j. Clears bucket from water and checks power prior to transition to forward flight.
k. Makes a smooth transition to forward flight, maintaining a positive rate of climb and heading (±10°).
l. Uses smooth control inputs to avoid bucket oscillation, keeps aircraft in trim, and maintains appropriate en route airspeed.
m. Determines target/hazard/wind prior to descending/slowing.
n. Maintains reserve power/airspeed in event of a go-around.
o. Maintains an escape route.
p. Maintains an approach angle that ensures obstacle clearance.
q. Maintains heading (±10°) and ground track.
r. Releases the water on desired target with desired dispersal (spot or trail drop).
s. Exhibits a thorough knowledge of emergency procedures as related to the bucket or tank.

2. **Action.** The inspector will ask the applicant to:

a. Discuss fire operations with a bucket. Points to be included should be basic fire behavior, effects of rotor wash, safety of ground personnel, communications, and knowledge of incident command organization.
b. Demonstrate (on the ground) knowledge of switch placement and actuation, circuit breaker(s) location, bucket wiring and hookup, and preflight of the bucket.
c. Perform a minimum of three water drops (one spot and two connecting trail) to determine that the applicant's performance meets the objective.

## F. TASK: WATER/ RETARDANT DELIVERY (Snorkel/Fixed Tank)

**Note:** Use of mirror or vertical reference as applicable.

1. **Objective.** To determine that the applicant:

a. Exhibits a basic knowledge of wildland fire operations.
b. Exhibits knowledge of communications and coordination required with other aircraft and ground forces.
c. Exhibits knowledge of aircraft modifications (switch placement/operations, wiring/plugs, mirror) and equipment (tank and snorkel).
d. Exhibits a thorough knowledge of emergency procedures as related to the tank and snorkel.
e. Explains the relationship between airspeed and altitude and its effect on coverage level.
f. Establishes a takeoff hover by ascending using vertical reference techniques and without dragging the snorkel.
g. Maintains adequate obstacle clearance and appropriate flight paths and speeds with snorkel.
h. Selects suitable fill site(s) including hazard recon and recognizing the hazards of moving water.
i. Stabilizes in a 5-foot snorkel height hover prior to placing/submerging the snorkel.
j. With the snorkel submerged, maintains hover altitude (±1 foot) and does not drift more than 5 feet in any direction for 30 seconds.
k. Clears the snorkel from the water or ground to 5-foot snorkel height and checks the power prior to transition to forward flight.
l. Makes a smooth transition to forward flight, maintaining positive rate of climb and heading (±10°).
m. Determines target/hazard/wind prior to descending/slowing.
n. Maintains reserve power/airspeed in event of a go-around.
o. Maintains escape route.
p. Maintains approach angle that ensures obstacle clearance (minimum 50 feet).
q. Maintains heading (±10°) and ground track.
r. Releases the water on the desired target with desired dispersal (spot or trail drop).
s. Performs a landing while placing the snorkel in a 6-foot diameter circle.

2. **Action.** The inspector will ask the applicant to:

a. Discuss fire operations with a fixed tank. Points to be included should be basic fire behavior, effects of rotor wash, safety of ground personnel, communications, and fire traffic area.
b. Demonstrate (on the ground) knowledge of switch placement and actuation, circuit breaker(s) location, tank wiring and snorkel, and preflight of the tank and snorkel.

## G. TASK: LONGLINE, VERTICAL REFERENCE (VTR)

**Note:** This task applies to external loads >50 feet.

1. **Objective.** To determine that the applicant:

   a. Performs a thorough preflight briefing of ground personnel to include hookup procedures, hand signals, and pilot and ground personnel actions in the event of an emergency or hook malfunction.
   b. Visually determines that the cargo hook(s) and cables are installed properly and both electrical and manual releases are functioning properly.
   c. Ascends vertically using vertical reference techniques while centered over the load until the load clears the ground, then maintains a stable hover with a load 10 feet (±5 feet) above the ground for 30 seconds. The applicant should ensure that the longline does not become tangled on external parts of the helicopter.
   d. Can control the hook movement and stop load oscillations while in a hover.
   e. Maintains positive control of the load throughout the flight while maintaining specified altitude within 50 feet, airspeed within 10 knots, and heading within 10 degrees.
   f. Maintains the proper approach angle and rate of closure to establish an out-of-ground effect hover with the load 10 feet above the ground (±5 feet) for 30 seconds. The load will then be placed within a 10-foot radius for the specified release/touchdown point.
   g. Maintains the proper approach angle and rate of closure to establish an out-of-ground effect hover within a confined area with the load 10 feet above the ground (±5 feet) for 30 seconds. The load will then be placed within a 10-foot radius of the specified release/touchdown point.

2. **Action.** The inspector will ask the applicant to:

   a. Demonstrate knowledge of vertical reference operations to determine that the applicant's knowledge meets the objective.
   b. Perform a vertical reference operation with a 150-foot longline to determine that the applicant's performance meets the objective.
   c. Regain control of the longline after inducing a sizeable oscillation in the longline to test the applicant's ability to regain control.

## H. TASK: EXTERNAL LOAD (Belly Hook)

**Note:** This task applies to sling loads ≤50 feet.

1. **Objective.** To determine that the applicant:

   a. Performs a thorough preflight briefing of ground personnel to include hookup procedures, hand signals, and pilot and ground personnel actions in the event of an emergency or hook malfunction.
   b. Visually determines that the cargo hook is installed properly and both electrical and manual releases are functioning properly.
   c. Ascends vertically while centered over the load until the load clears the ground.
   d. Maintains positive control of the load throughout the flight while maintaining specified altitude within 50 feet, airspeed within 10 knots, and heading within 10 degrees.
   e. Maintains the proper approach angle and rate of closure to establish an out-of-ground effect hover with the load 5 feet above the ground and within 10 feet of the specified release/touchdown point.
   f. Demonstrates proper adjustment and use of the mirror.
   g. Understands hover hookup procedures in accordance with the *Interagency Helicopter Operations Guide* (IHOG) (http://www.nifc.gov).

2. **Action.** The inspector will ask the applicant to:

   a. Demonstrate knowledge of external load operations to determine that the applicant's knowledge meets the objective.
   b. Perform an external load operation to determine that the applicant's performance meets the objective.

## I. RADS: RESERVED

## J. TASK: HOIST OPERATIONS

**Warning:** Ensure that crewmembers in the cabin area are wearing safety harnesses secured to tiedown rings anytime the cabin doors are open.

1. **Objective.** To determine that the pilot applicant:

   a. Performs hoist procedures per the appropriate aircraft flight manual and applicable regulatory documents.
   b. Maintains appropriate hover altitude ±5 feet.
   c. Does not allow drift to exceed ±5 feet.
   d. Performs postflight procedures per the appropriate aircraft flight manual/checklist (CL).

2. **Objective.** To determine that the hoist operator applicant:

   a. Prepares the appropriate hoisting equipment for the required mission.
   b. Operates the hoist pendant per the appropriate flight manual.
   c. Ensures security of the cabin area.
   d. Performs postflight procedures per the appropriate aircraft flight manual/CL.

3. **Action.** The inspector will ask the applicant(s) to:

   a. Conduct a thorough crew briefing and ensure all crewmembers are familiar with hoist operations, emergency procedures, and communication procedures. The PIC will also ensure that all crewmembers understand CUT CABLE procedures.
   b. Demonstrate that the pilot-on-the-controls (P*) remains focused primarily outside the aircraft throughout the maneuver for aircraft control and obstacle avoidance. The P* announces the intended point of hover and remains centered over the target with corrections from the hoist operator.
   c. Demonstrate that the pilot-not-on-the-controls (P) and hoist operator assist in clearing the aircraft, provide adequate warning of obstacles, and assist the P* in maintaining a stable hover by providing the P* with information regarding the aircraft drift. The P also monitors cockpit indications. The P will be able to operate the control panel for the rescue hoist (if applicable).
   d. Demonstrate that the hoist operator ensures that the hoist is configured and that hoist devices are secured.
   e. Demonstrate that the hoist operator conducts hoist operations per the appropriate aircraft flight manual/CL and regulatory documents.

**Night or NVG Considerations**

1. Use proper scanning techniques to avoid spatial disorientation.
2. For unaided night flight, the landing light and searchlight shall be operational.
3. Hovering with minimum drift is difficult and requires proper scanning techniques and CRM when NVGs are used. If possible, an area with adequate ground contrast and reference points should be used.
4. Visual obstacles (such as shadows) will be treated the same as physical obstacles.

# VII. AERIAL IGNITION

## A. TASK: TORCH

**Note:** Ensure the power management and performance criteria for the HOGE power check are accomplished.

1. **Objective.** To determine that the applicant: (Reference *Aerial Ignition Guide*, http://www.nwcg.gov.)

   a. Is qualified for basic helicopter fire operations including:

      (1) Recon surveillance.
      (2) Bucket operations.

   b. Has completed helitorch ground training including:

      (1) Basic helitorch operations and maintenance.

(2) Installation and hookup procedures.
(3) Emergency procedures for the helitorch.
(4) Required safety equipment.
(5) Required support personnel.
(6) Communications.
(7) Transportation of hazardous materials.
(8) Proper mixing of gel and loading of torch.
(9) Fire behavior.
(10) Fuel types and burn prescription requirements.
(11) Incident command structure.

c. Was trained by one of the following:

(1) Agency training specialist.
(2) Qualified torch instructor.
(3) Qualified torch manager (2-year minimum).

d. Has a letter of training that:

(1) Confirms training to the above standards.
(2) Is signed by the instructor.

**2. Action.** The inspector will:

a. Ask the applicant to explain the elements of helitorch operations and determine that the applicant's knowledge meets the objective.
b. Primary means of evaluation: Ask the applicant to dispense a minimum of one barrel of gel at an actual burn site in accordance with a burn plan and under the direction of a burn boss or qualified aerial ignition instructor. The applicant will comply with the burn boss's directions or the qualified aerial ignition instructor's directions and maintain the burn within the block.
c. Alternate means of evaluation: When actual wildland burn sites are not available, sites such as gravel pits, dirt tracks of land, or areas where the spread of fire and containment are easily controlled and extinguished are acceptable with minimum personnel. (An appropriate burn site location can be determined by the burn boss or aerial ignition instructor to aid in the evaluation process and an appropriate Project Aviation Safety Plan (PASP) has been completed.)

Helitorch site location considerations:

(1) The helitorch site should be large enough to accommodate and provide a safe working distance between all the required pieces of equipment.
(2) The site should have established a takeoff and landing corridor that has no equipment placed within that zone.
(3) A safety circle shall be maintained around the landing pad.
(4) The site should be located in close proximity to the burn site to minimize turnaround times.
(5) Choose a site that will not be impacted by the smoke column or embers from the burn. Consider the prevailing and forecasted wind direction. Keep the location upwind of the burn.
(6) Helicopter flight paths must not pass over any personnel, structures, and areas of human occupancy. When overflights of traveled roads occur, traffic control must be established.
(7) The helitorch operation site should be reserved for authorized personnel only.
(8) Establish alternate landing areas.
(9) During wildland incidents, helitorch base operations shall be separated from the primary helibase.
(10) Establish an escape route for all personnel in the event of an emergency at the worksite if threatened by an escaped fire.
(11) Try to choose a site that has no, or a minimum, need for dust abatement.

d. Verify that the training was conducted by a qualified instructor.
e. Secure a copy of the training letter to be placed in the pilot record folder.

## B. TASK: PLASTIC SPHERE DISPENSER (PSD)

**Note:** Ensure the power management and performance criteria for the HOGE power check are accomplished.

1. **Objective.** To determine that the applicant: (Reference: *Aerial Ignition Guide*, http://www.nwcg.gov.)

   a. Is qualified for basic helicopter fire operations including:

      (1) Reconnaissance and surveillance.
      (2) Helitack passenger transport.
      (3) Bucket operations.

   b. Has completed PSD ground training including:

      (1) PSD operations and maintenance.
      (2) Installation and hookup procedures.
      (3) Emergency procedures for the PSD.
      (4) Required safety equipment.
      (5) Required support personnel.
      (6) Communications.
      (7) Transportation of hazardous materials.

   c. Was trained by one of the following:

      (1) PSD-qualified interagency inspector pilot.
      (2) Agency training specialist.
      (3) Qualified agency PSD instructor.
      (4) Experienced PSD operator (2-year minimum).

   d. Has a letter of training that:

      (1) Confirms training to the above standards.
      (2) Is signed by the instructor.

2. **Action.** The inspector will:

   a. Ask the applicant to explain the elements of PSD operations to determine that the applicant's knowledge meets the objective.
   b. Secure a copy of the training letter to be placed in the pilot record folder.
   c. Verify that the training was given by a qualified instructor.

**Night or NVG Considerations**

1. Wires are difficult to detect with NVGs.
2. Use proper scanning techniques to ensure obstacle avoidance.
3. Visual obstacles (such as shadows) will be treated the same as physical obstacles.
4. Conducting PSD operations in reduced visibility or at night requires more detailed and extensive flight planning and map preparation. NVG navigation using standard maps can be difficult to see because map colors, symbology, and colored markers used for map preparation may be difficult to discern.

# VIII. AERIAL CAPTURE ERADICATION AND TAGGING OF ANIMALS (ACETA)

**Note:** Priority of flight evaluation:

1. Use a live animal (primary selection).
2. Use a live animal (secondary) with characteristics similar to the primary.
3. Use a simulated primary (moving).
4. Use a simulated primary (static).

5. Discussion and oral test.

## A. TASK: ANIMAL GATHERING AND CAPTURE (HERDING)

**1. Objective.** To determine that the applicant:

a. Exhibits the knowledge by explaining the elements of animal herding in accordance with the *DOI ACETA Handbook* (http://oas.doi.gov) and capture techniques for selected animals to include animal behavior and last capture date.
b. Understands the aircraft equipment requirements to include shoulder harness.
c. Understands the aircraft weight and balance data to include center-of-gravity limits, HOGE/HIGE, elevation, and terrain considerations.
d. Performs a thorough preflight briefing with all capture personnel. This briefing will include the sequence of events and emergency procedures.
e. Visually determines that personnel and equipment are secured in the aircraft.
f. Demonstrates ability to properly communicate with capture personnel.
g. Maintains positive control of the aircraft while demonstrating proper power management during herding operations.
h. Is knowledgeable of the flight following requirements.
i. Demonstrates awareness of animal behavior in relation to the helicopter during herding operations.
j. Is consistently successful in moving animals to the capture site.

**2. Action.** The inspector will ask the applicant to:

a. Explain the elements of animal herding operations to determine that the applicant's knowledge meets the objective.
b. Perform animal herding operations to determine that the applicant's performance meets the objective.

## B. TASK: ERADICATION

**1. Objective.** To determine that the applicant:

a. Exhibits the knowledge by explaining the elements of animal eradication in accordance with the *DOI ACETA Handbook* and the animal eradication techniques for selected animals to include animal behavior and last operation date.
b. Understands the aircraft equipment requirements to include shooting door, shoulder harness, shooting harness with appropriate anchor point, hot mic between the gunner and pilot, and personal ELT.
c. Understands the aircraft weight and balance data to include center-of-gravity limits, HOGE/HIGE, elevations, and terrain considerations
d. Performs a thorough preflight briefing with all personnel to establish communication protocols between the gunner and the pilot to include preshot maneuvers, commands for firing, and emergency procedures.
e. Visually determines that personnel and equipment are secured in the aircraft.
f. Demonstrates ability to properly communicate with bureau personnel.
g. Maintains positive control of the aircraft while demonstrating proper power management during shooting operations.
h. Is knowledgeable of flight following requirements.
i. Demonstrates awareness of animal behavior in relation to the helicopter during eradication operations.
j. Is consistently successful placing the gunner in a position to shoot the target animal.
k. Demonstrates a thorough understanding of emergency procedures including aircraft mechanical problems, weapon safety considerations, and shooting harness failure.
l. Exhibits knowledge of loss of tail rotor effectiveness (LTE), settling with power, controlled flight into terrain (CFIT) hazards associated with this task.
m. Exhibits knowledge of cabin/cockpit unsecured items, hazards/mitigations.

**2. Action.** The inspector will ask the applicant to:

a. Explain the elements of animal eradication operations to determine that the applicant's knowledge meets the objective.

b. Perform animal eradication operations to determine that the applicant's performance meets the objective.

## C. TASK: DARTING/PAINTBALL

**1. Objective.** To determine that the applicant:

a. Exhibits the knowledge by explaining the elements of animal marking/darting in accordance with the *DOI ACETA Handbook* (http://oas.doi.gov) and animal marking and/or darting techniques for selected animals to include animal behavior and last operation date.
b. Understands the aircraft equipment requirements to include shooting door, shoulder harness, shooting harness with appropriate anchor point, hot mic between the gunner and the pilot, and personal ELT.
c. Understands the aircraft weight and balance data to include center-of-gravity limits, HOGE/HIGE, elevations, and terrain considerations.
d. Performs a thorough preflight briefing with all personnel to establish communication protocols between the gunner and the pilot to include preshot maneuvers, commands for firing, and emergency procedures.
e. Visually determines that personnel and equipment are secured in the aircraft.
f. Demonstrates ability to properly communicate with bureau personnel.
g. Maintains positive control of the aircraft while demonstrating proper power management during shooting operations.
h. Is knowledgeable of flight following requirements.
i. Demonstrates awareness of animal behavior in relation to the helicopter during marking and darting operations.
j. Is consistently successful placing the gunner in a position to shoot the target animal.
k. Demonstrates a thorough understanding of emergency procedures including aircraft mechanical problems, weapons safety considerations, and shooting harness failure.
l. Demonstrates knowledge of drug exposure to include antagonist.
m. Demonstrates knowledge of "Sharps" containment.

**2. Action.** The inspector will ask the applicant to:

a. Explain the elements of animal marking and/or darting operations to determine that the applicant's knowledge meets the objective.
b. Perform animal marking and/or darting operations to determine that the applicant's performance meets the objective.

## D. TASK: NET GUN

**1. Objective.** To determine that the applicant:

a. Exhibits the knowledge by explaining the elements of handheld net gun operations in accordance with the *DOI ACETA Handbook* and handheld net gun techniques for selected animals to include animal behavior and last operation date.
b. Understands the aircraft equipment requirements to include shooting door, shoulder harness, shooting harness with appropriate anchor point, hot mic between the gunner and the pilot, and personal ELT.
c. Performs a thorough preflight briefing with all personnel to establish communication protocols between the gunner and the pilot to include preshot maneuvers, commands for firing, and emergency procedures.
d. Understands the aircraft weight and balance data to include center-of-gravity limits, HOGE/HIGE, elevations, and terrain considerations.
e. Visually determines that personnel and equipment are secured in the aircraft.
f. Demonstrates ability to properly communicate with bureau personnel.
g. Maintains positive control of the aircraft while demonstrating proper power management during shooting operations.
h. Is knowledgeable of flight following requirements.
i. Demonstrates awareness of animal behavior in relation to the helicopter during net gun operations.
j. Is consistently successful placing the gunner in a position to net the target animal.
k. Demonstrates a thorough understanding of emergency procedures including aircraft mechanical problems, weapon safety considerations, net gun malfunctions, and shooting harness failure.

2. **Action.** The inspector will ask the applicant to:

a. Explain the elements of handheld net gun operations to determine that the applicant's knowledge meets the objective.
b. Perform handheld net gun operations to determine that the applicant's performance meets the objective.

# IX. HELITACK/PASSENGER TRANSPORT

## A. TASK: HELITACK/PASSENGER TRANSPORT (Qualified Noncrewmember)

1. **Objective.** To determine that the applicant:

a. Exhibits knowledge by explaining the elements of takeoffs from and approaches to confined area, pinnacle, or platform operations.

(1) For multiengine- and transport-certificated helicopters, exhibits knowledge of Category A and Category B flight operations.
(2) For standard- and transport-certificated helicopters, exhibits knowledge of hover-out-of-ground-effect (HOGE) power check procedures to determine if sufficient power is available for takeoff and landing.

b. Computes weight and balance including adding, removing, and shifting weight and determines if the weight and center of gravity will be within limits during all phases of flight.
c. Demonstrates use of load calculations for the mission locations with reference to the correct performance charts and current weight and balance information.
d. Describes the effects of atmospheric conditions on helicopter performance.
e. Exhibits knowledge of a thorough preflight briefing of firefighter passenger personnel to include:

(1) Approach and departure paths.

(a) Always approach and depart from the downslope (lower) side as directed by pilot/helitack.
(b) Approach and depart helicopter in a crouch position; do not run.
(c) Keep in pilot's field of vision at all times.
(d) Stay clear of landing area when helicopters land or depart.
(e) Stay away from the main and tail rotors especially on a sloping terrain.
(f) Do not chase any item that has become unsecured.
(g) Never go near the tail of single-main-rotor helicopters.
(h) How to determine the lowest portion of any operating rotor system.

(2) Helicopter doors and emergency exits.

(a) Location, emergency and normal operation.
(b) Normally do not open; wait for helitack personnel or instructions to open.

(3) Use of seatbelts and shoulder harnesses.
(4) Emergency seating position and emergency egress procedures.

(a) Move clear of the helicopter only after the rotor blades stop or when instructed.
(b) Assist injured personnel with egress.
(c) Assess the situation; follow the pilot/helitack instructions; render first aid; remove first aid kit, survival kit, radio, ELT, and fire extinguisher.

(5) Location of first aid kit, survival kit, fire extinguisher, ELT, fuel and battery shutoff switch location and operation, radio operation, oxygen use (if available).

(6) Nonsmoking rules in and around the aircraft.

(7) Tools and equipment.

(a) Securing of handtools and equipment being transported.
(b) Carry tools/long objects parallel to the ground, never on a shoulder, when approaching and departing the helicopter.
(c) Portable radios and cell phones turned off.

2. **Action.** The inspector will ask the applicant to:

a. Explain the elements of firefighter passenger transport operations to determine that the applicant's knowledge meets the objective.
b. Perform a simulated firefighter passenger transport operation to determine that the applicant's performance meets the objective.

## X. SINGLE-SKID, TOE-IN AND HOVER EXIT/ENTRY PROCEDURES (STEP)

### A. TASK: STEP

1. **Objective.** To determine that the applicant:

a. Exhibits knowledge by explaining the elements of power on single-skid, toe-in, and hover exit/entry operations.
b. Performs a thorough preflight briefing with all participants in the single-skid, toe-in, and hover exit/entry operations. This briefing will include, as a minimum, the sequence of events, communications procedures, hand signals, and emergency procedures.
c. Demonstrates ability to maintain positive control of the aircraft including power management during passenger boarding and debarking from the helicopter:

(1) With only the skid toes (or front wheel[s] for wheeled helicopters) in contact with the ground.
(2) With only one skid (or side wheel[s] for wheeled helicopters) in contact with the ground.
(3) From a hover.

d. Demonstrates awareness of settling with power and dynamic rollover, and the corrective actions for each.

2. **Action.** The inspector will ask the applicant to:

a. Explain the elements of single-skid, toe-in, and hover exit/entry helicopter operations to determine that the applicant's knowledge meets the objective.
b. Perform single-skid, toe-in, and hover exit/entry helicopter operations to determine that the applicant's performance meets the objective.

## XI. LOW LEVEL (RECONNAISSANCE AND SURVEILLANCE)

### A. TASK: LOW LEVEL (RECONNAISSANCE AND SURVEILLANCE)

1. **Objective.** To determine that the applicant:

a. Exhibits a thorough knowledge of helicopter flight in the low level environment.
b. Exhibits a thorough knowledge of the effects of temperatures and pressure altitudes (density altitude) on the performance of helicopters in low level environment.
c. Exhibits a thorough knowledge of helicopter performance planning using the appropriate performance charts and helicopter load calculation form.
d. Exhibits a thorough knowledge of aerodynamic considerations of low level flight including hover-in-ground effect versus hover-out-of-ground effect, loss of effective translational lift, loss of tail rotor effectiveness, settling with power height velocity diagram, and loss of lift due to density altitude conditions.
e. Demonstrates proper reconnaissance techniques in determining winds, obstacles, wire avoidance techniques, forced landing areas, escape routes, and helicopter performance.
f. Demonstrates proper judgment and understands the importance of evaluating risks in relation to the mission being performed.

2. **Action.** The inspector will ask the applicant to:

   a. Discuss helicopter flight in a low level environment. Points to be included should be winds, turbulence, temperatures, density altitude, geography, performance planning and limitations, proper reconnaissance, aerodynamic considerations, emergency procedures, and risk analysis.
   b. Demonstrate proper performance planning to include:

      (1) Accurate completion of load calculation forms.
      (2) Determining whether the mission flight profile will be in-ground or out-of-ground effect.

   c. Demonstrate proper low level reconnaissance and wind finding techniques to determine the applicant's performance meets the objective.

**Night or NVG Considerations**

1. Wires are difficult to detect with NVGs.
2. Use proper scanning techniques to ensure obstacle avoidance.
3. Visual obstacles (such as shadows) will be treated the same as physical obstacles.
4. Conducting tank operations in reduced visibility or at night requires more detailed and extensive flight planning and map preparation. NVG navigation using standard maps can be difficult to see because map colors, symbology, and colored markers used for map preparation may be difficult to discern.

# XII. MOUNTAINOUS TERRAIN FLIGHT

## A. TASK: MOUNTAIN FLYING

**Note 1:** The applicant ensures the power management and performance criterion for the HOGE power check is accomplished.

**Note 2:** Reference: Mountain Flying Refresher computer-based training (CBT).

1. **Objective.** To determine that the applicant exhibits knowledge of:

   a. High reconnaissance.
   b. Low reconnaissance.
   c. Pinnacle operations.
   d. Ridgeline operations.
   e. Saddle operations.
   f. Conducting a go-around (wave off).
   g. Selecting proper takeoff procedure.

2. **Common Standards.**

   a. Briefed airspeed ±10 knots
   b. Briefed altitude ±100 feet.
   c. Maintain aircraft within trim.
   d. Establishing a proper attitude, altitude, airspeed, and flight path for conducting a recon commensurate with terrain and environmental conditions.
   e. Stabilized approach with a loaded rotor system.

3. **Action.** The inspector will use the common standards plus:

   a. High reconnaissance.

      (1) Accurately determine wind direction.
      (2) Accurately assess the landing zone (LZ) size, axis, surface conditions, and obstacles.
      (3) Precisely plan routes in and out for maneuver to include any and all escape routes required above and below effective translational lift (ETL).
      (4) Determine elevation at the LZ.

(5) Briefed airspeed (generally flown between 50 and 60 knots).
(6) Briefed altitude (generally flown 100 to 200 feet above intended landing site).

b. Low reconnaissance.

(1) Evaluate the pilot on the ability to confirm the winds and tentative plan formulated in the high reconnaissance by performing a thorough low reconnaissance.
(2) Briefed airspeed generally flown 35 to 40 knots (no slower than 30 knots).
(3) Briefed altitude generally flown within close proximity to the intended site.
(4) Maintain the appropriate rate of closure.

c. Pinnacle operations.

(1) Properly assesses suitability of landing area.
(2) Uses proper takeoff technique without exceeding limitations.

d. Ridgeline operations.

(1) Properly assesses suitability of landing area.
(2) Uses proper takeoff technique without exceeding limitations.

e. Saddle operations.

(1) Properly assesses suitability of landing area.
(2) Uses proper takeoff technique without exceeding limitations.

f. Go-Around operations.

(1) Selects appropriate escape route without exceeding aircraft limitations.

g. Takeoff procedures.

(1) Selects appropriate takeoff procedure that does not commit aircraft without confirming HOGE capabilities.

**Night or NVG Considerations:**

1. Wires are difficult to detect with NVGs.
2. Use proper scanning techniques to ensure obstacle avoidance.
3. Visual obstacles (such as shadows) will be treated the same as physical obstacles.
4. Conducting tank operations in reduced visibility or at night requires more detailed and extensive flight planning and map preparation. NVG navigation using standard maps can be difficult to see because map colors, symbology, and colored markers used for map preparation may be difficult to discern.

# XIII. SPECIFIC NIGHT VISION GOGGLE (NVG) TASKS

## A. TASK: OPERATE NIGHT VISION GOGGLES

**Note:** Inadvertent IMC procedures shall be briefed prior to flight.

**1. Objective**. To determine that the applicant:

a. Exhibits knowledge of NVG limitations and flight operations using NVGs.
b. Exhibits knowledge of aeromedical factors related to the use of NVGs.
c. Exhibits knowledge of normal, abnormal, and emergency operations using night vision goggle equipment.
d. Exhibits knowledge of NVG performance and scene interpretation.
e. Exhibits knowledge of flight planning including night terrain interpretation and factors affecting terrain interpretation.
f. Exhibits an understanding of night vision operations while operating within the fire environment.

2. **Action**. The inspector will ask the applicant to:

   a. Perform and/or describe NVG preflight procedures, use of supplemental lighting, aircraft internal and external lighting, and proper pilot flight techniques (takeoff and landing, climb and descent, and en route).
   b. Describe how to protect night vision, night adaptation, self-imposed stresses that affect night vision, effects of lighting on night vision, cues to estimate distance and depth perception, and visual illusions.
   c. Perform and/or describe how to respond to normal, abnormal, and emergency operations of night vision goggle equipment. Identify or describe indications of impending NVG failure.
   d. Describe NVG characteristics (visual acuity, light cycles meteorological conditions, cues for visual recognition) and techniques for discerning scene interpretation.
   e. Describe techniques for terrain interpretation and navigation cues.
   f. Describe the impact of operations within the fire environment and the effects on NVGs to include methods for detection and mitigation of associated hazards as well as CRM actions.

### B. TASK: NVG WATER/ RETARDANT DELIVERY (GROUND-FILLABLE FIXED TANK--SNORKEL REMOVED)

1. **Objective.** To determine that the applicant:

   a. Exhibits a basic knowledge of wildland fire operations.
   b. Exhibits knowledge of communications and coordination required with other aircraft and ground forces.
   c. Exhibits knowledge of aircraft modifications (switch placement/operations, wiring/plugs) and equipment (tank).
   d. Exhibits a thorough knowledge of emergency procedures as related to the tank.
   e. Explains the relationship between airspeed and altitude and its effect on coverage level.
   f. Maintains adequate obstacle clearance and appropriate flight paths and speeds.
   g. Makes a smooth transition to forward flight, maintaining positive rate of climb and heading (±10°).
   h. Determines target/hazard/wind prior to descending/slowing.
   i. Maintains reserve power/airspeed in event of a go-around.
   j. Maintains escape route.
   k. Maintains approach angle that ensures obstacle clearance (minimum 50 feet).
   l. Maintains heading (±10°) and ground track during delivery.
   m. Releases the water on the desired target with desired dispersal (concentrated or trail drop).

2. **Action.** The inspector will ask the applicant to:

   a. Discuss fire operations with a fixed tank. Points to be included should be basic fire behavior, effects of rotor wash, safety of ground personnel, communications, and fire traffic area.
   b. Demonstrate (on the ground) knowledge of switch placement and actuation, circuit breaker(s) location, tank wiring, and preflight of the tank.

**Night or NVG Considerations**

1. Wires are difficult to detect with NVGs.
2. Use proper scanning techniques to ensure obstacle avoidance.
3. Visual obstacles (such as shadows) will be treated the same as physical obstacles.
4. Conducting tank operations in reduced visibility or at night requires more detailed and extensive flight planning and map preparation. NVG navigation using standard maps can be difficult to see because map colors, symbology, and colored markers used for map preparation may be difficult to discern.

## XIV. AERIAL APPLICATION

### A. TASK: AERIAL APPLICATION

1. **Objective:** To determine that the applicant:

a. Exhibits knowledge of agency aerial application procedures.

2. **Action**. The inspector will ask the applicant to describe:

a. Agricultural Federal and State regulations that are applicable for application.
b. Spray and spreader bucket components and installations.
c. Care and maintenance of application equipment.
d. Or demonstrate use and care of personal protective equipment.
e. Or demonstrate use of helicopter loading equipment.
f. Application equipment calibration procedures.
g. Weight and balance procedures and limitations.
h. Mixing procedures.
i. Or demonstrate ground loading procedures.
j. Or demonstrate as appropriate the aerial applications procedures.

(1) Flight patterns.
(2) Spray turns.
(3) Navigating a spray line visually.
(4) Navigating a spray line with the use of GPS.
(5) Procedure for minimize of spray drift.
(6) Low level flying hazards and risk management.
(7) Emergency procedures.
(8) Spray block layout and marking.
(9) Emergency dump.
(10) No hover takeoffs and landings.
(11) Elevated pads.
(12) Sidehill spray operations.
(13) Upslope and downslope spraying procedures.

## XV. POSTFLIGHT PROCEDURES

### A. TASK: AGENCY RAMP (HELIBASE)

1. **Objective.** To determine that the applicant:

a. Exhibits knowledge of agency ramp/helibase procedures.

2. **Action.** The inspector will ask the applicant to:

a. Establish communication with appropriate agency personnel prior to ramp entry.
b. Demonstrate knowledge of hand signals from ramp/helibase personnel.

### B. TASK: AIRCRAFT SECURITY

1. **Objective.** To determine that the applicant:

a. Exhibits knowledge of required aircraft security measures.

2. **Action.** The inspector will ask the applicant to:

a. Demonstrate how to secure aircraft via two acceptable methods.
b. Follow the checklist for applying security measures.

### C. TASK: MAINTENANCE

1. **Objective.** To determine that the applicant:

a. Exhibits knowledge of determining when maintenance or required inspections are required.

b. Exhibits knowledge of how to obtain maintenance or required inspections.
c. Exhibits knowledge of who can perform maintenance and required inspections.

2. **Action.** The inspector will ask the applicant to:

a. Identify inoperative equipment and determine if it can be deferred in accordance with a minimum equipment list (MEL).
b. Demonstrate knowledge of deferring inoperative equipment.
c. Demonstrate knowledge of determining when required inspections are due.
d. Identify what maintenance or required inspections a pilot or pilot/mechanic may perform.
e. Explain privileges and limitations the pilot or pilot/mechanic has regarding performing maintenance or required inspections.

## D. TASK: POSTACTION DEBRIEF

1. **Objective.** To determine that the applicant:

a. Exhibits knowledge of post-action debriefs.

2. **Action.** The inspector will ask the applicant to:

a. Identify when a postaction debrief is required.
b. Identify who to involve in a postaction debrief.