

# **SDG&E HELICOPTER AVIATION OPERATIONS MANUAL**



Revision 7

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AVIATION SERVICES DEPARTMENT  
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## Abbreviations & Terms

▪ AGL	Above Ground Level
▪ AIR	Accident Incident Response
▪ ASB	Alert Service Bulletin
▪ ASD	Aviation Services Department
▪ AOM	Aviation Operations Manual
▪ AOO	Area of Operation
▪ ATGS	Air Tactical Group Supervisor
▪ AOA	Aviation Operations Advisor
▪ CAP	Congested Area Plan
▪ Contractor	Any Vendor, Contractor or Subcontractor engaged in flight operations in support of SDG&E
▪ CFR	Code of Federal Regulations
▪ DOO	Director of Operations
▪ EOC	Emergency Operations Center
▪ EMI	Electromagnetic Interference
▪ ERO	Electric Region Operations
▪ ETA	Estimated Time of Arrival
▪ FAA	Federal Aviation Administration
▪ FOB	Flight Operations Base
▪ FSDO	Flight Standards District Office
▪ FSS	Flight Service Station
▪ FTA	Fire Traffic Area
▪ GOM	General Operations Manual
▪ HEC	Human External Cargo
▪ IC	Incident Commander
▪ AOM	Aviation Operations Manual
▪ IIMC	Inadvertent Instrument Meteorological Conditions
▪ LAT	Local Area Training
▪ LZ	Landing Zone
▪ MEL	Minimum Equipment List
▪ MOU	Memoranda of Understanding
▪ MSA	Minimum Safe Altitude

## Abbreviations & Terms (cont.)

- NOTAM        Notices To Airmen
- PAR         Precision Approach Radar
- PIC         Pilot In Command
- PPE         Personal Protective Equipment
- RAM         Risk Assessment Matrix
- RFI         Radio Frequency Interference
- RFM         Rotorcraft Flight Manual
- ROW         Right of Way
- SB         Service Bulletin
- SDG&E       San Diego Gas & Electric
- SMS         Safety Management System
- TCM         Transmission Construction Maintenance
- TFR         Temporary Flight Restriction
- TSAP        Temporary Structure Access Pad
- VMC         Visual Meteorological Conditions

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## Aviation Safety Management System Statement of Commitment

### **“SAFETY FIRST”**

SDGE's Aviation Services Department (ASD) is committed to upholding the highest safety practices and procedures for each mission type as assigned. On a regular basis, ASD completes missions including passenger movements, powerline patrols, pole setting and other construction related activities. Our safety-first attitude is integral in every operation and every flight. This uncompromising approach to safety starts with commitment from top management and is present at every level of the organization.

Implementing a Safety Management System (SMS) supports the mission of ASD and aligns with the core values of San Diego Gas and Electric and its parent company, Sempra Energy. For this reason, management is fully committed to providing the necessary tools and support for successful SMS implementation and growth, and is prepared and committed to defining the safety policy and conveying safety expectations and objectives to our employees on a continual basis. Safety is the top priority of the company, and as such, implementing a robust SMS is the top priority of ASD.

The identification and reduction of risk is the job of every employee and contractor of SDG&E. Each employee/contractor is held accountable and responsible for identifying potential risks and bringing them to the attention of management for analysis. A culture of open reporting of all safety hazards or occurrences is essential to our success. Therefore, I charge all employees to identify and report hazards that are observed in the workplace, no matter how small or seemingly inconsequential, using the Hazard Reporting Forms. Submissions may be anonymous. To encourage open reporting, we have implemented a “Just Culture” – the disclosure of hazards/occurrences due to unintentional conduct or genuine mistakes will be handled in a non-punitive way. Disciplinary actions will not apply. However, behaviors involving gross negligence or serious offenses such as criminal acts, sabotage, and willful violations to standards or regulations remain unacceptable and may involve punitive action.

ASD is committed to a process of continual improvement in the safety and quality of our ground, maintenance, flight and support activities. This includes periodic review of both safety policies and safety objectives, to ensure our policies remain relevant and appropriate. Safety and quality excellence will always be essential components of our mission, and your continued active participation in the company's Safety Management System will allow us to provide high quality products and services, while achieving the highest level of safety possible.

Signed: Kathernie M. Speirs

Date: 10/31/2017

Katie Speirs, VP Electric Systems Operations, Accountable Executive

Signed: Hector Ubiñas

Date: 10/31/17

Hector Ubiñas, Aviation Services Manager

# 1 Introduction

## 1.1 Purpose

This SDG&E Aviation Services Department (ASD) Aviation Operations Manual (hereinafter referred to as the AOM) provides procedures regarding the performance of flight operations conducted on SDG&E's behalf. It provides specific procedures to enable all aviation contractor personnel to carry out their assigned duties and responsibilities in accordance with SDG&E ASD policies, applicable laws and FAA regulations.

All Pilots-in-Command (PICs) flying in support of SDG&E retain full operational control over their aircraft, though there may be instances when operating procedures allow any crew member to halt an operation in the interest of safety. All aviation operators are required to perform their flight operations in a safe and professional manner in accordance with all applicable SDG&E safety policies and procedures and shall comply with this AOM, ASD's SMS Manual, and all relevant FAA regulations. SDG&E ASD reserves the right to exclude any aviation provider from operating on any SDG&E project, work or property.

## 1.2 Objectives

The objectives of the AOM are to:

- Ensure safe, cost-efficient and effective aviation services in support of SDG&E and ASD's goals and objectives.
- Standardize helicopter management and operational controls for operators providing aviation services.
- Through standardization, facilitate the ability of personnel from different operators to work cooperatively.
- Provide a common approach in ASD's relationship with helicopter operators.
- Provide a framework within which local management and operational groups can provide supplemental, site-specific guidance.

## 1.3 Authority

All flight operations conducted either by ASD employees or by Aviation Contractor(s) in support of ASD are subject to the policies and procedures included in this AOM. Should the contractor's own policies and procedures conflict with, or differ from those included in this manual, ASD shall be notified immediately for resolution. Deviations from the AOM in such cases may be granted by ASD on a case by case basis. All requested deviations shall be documented in writing to ASD.



Any conflict between this manual and applicable Federal Regulations and Operations Specifications is unintentional. Should a conflict be discovered, the regulation or operations specifications will take precedence and ASD shall be notified immediately in writing.

Although many of the requirements articulated in 14 C.F.R. Part 135 do not specifically apply to SDG&E's operations, all ASD passenger flights are required to follow the rules prescribed in Part 135 unless specific permission to deviate from Part 135 is granted from ASD in writing, or such rules are wholly inapplicable. 14 C.F.R. Part 91 guidance should only be used in the absence of any corresponding guidance in Part 135 or 133.

All aircraft flown in support of SDG&E ASD will be operated in accordance with the Manufacturer's Rotorcraft Flight Manual (RFM). If a conflict occurs between the RFM and the AOM, the RFM will take precedence and ASD shall be notified of the conflict in writing.

#### **1.4 Distribution & Revision**

The AOM will be made available to all appropriate personnel and pilots flying in support of SDG&E, at all bases of operation. The original AOM copy will be kept and maintained by ASD. This manual, and all other safety and operating manuals, can be requested by emailing [AviationServices@semprautilities.com](mailto:AviationServices@semprautilities.com).

ASD will revise the AOM as needed, and will notify employees and contractors when changes have been made. For changes of a more immediate nature, particularly those involving safety, ASD will use Operations Memos to supplement, but not change, the guidance contained in the AOM. Operations Memos will be issued with an expiration date and will periodically be reviewed for validity and pertinence, potential incorporation into the AOM, or cancellation. All significant revisions will be documented and maintained in the revision section of the AOM.

#### **1.5 Mission-Specific Guidance**

Other manuals may be created as needed for specialized missions not otherwise addressed by this Manual.

#### **1.6 Integrity**

The success of our aviation program relies upon the professionalism and integrity of the pilots, ground crew, and other personnel who are involved with aviation operations. Safety is our top priority and will never be compromised. The policies and procedures in this AOM, the SMS Manual, and its companion regulatory documents, are primarily designed to enhance safety. Deviations from these policies and procedures should only be made in exigent circumstances and when prior approval, when possible, is obtained from ASD. Other violations of these policies and procedures may result in permanent removal from SDG&E ASD worksites, and for contractors, contractual termination and possible financial penalties.

## 2 Safety

### 2.1 Safety Commitment

SDG&E is committed to providing a safe, accident-free and healthy workplace. To this end ASD has implemented a Safety Management System (SMS) that all ASD employees and contractors shall become familiar with. The SMS Manual should be referenced for safety policy and procedures for ASD. This chapter of the AOM supports ASD's SMS Manual and details specific guidance in support of our SMS and ASD's objectives of:

- The continuous pursuit of the goal of no harm to people or property.
- Promoting a culture of open reporting of all safety risks.
- Developing effective safety, environmental, and health management policies and systems.
- Conducting regular audits of safety objectives, policies, practices and procedures.
- Ensuring compliance with all Federal, State, and Local regulations.
- Providing the necessary resources to support this policy.

All ASD employees and contractors are expected to make safety as their first priority for all operations and to maintain a safe work environment through adherence to approved procedures, training and communications. They should, therefore, familiarize themselves and comply with all relevant safety, health and environmental policies and regulations and should also work in a manner that safeguards themselves, their coworkers and other persons with whom they are working.

The mechanisms through which ASD will accomplish its safety goals, and effect the empowerment of all personnel to become actively involved in the safety culture, are detailed in ASD's Aviation Safety Management System Manual (SMS).

### 2.2 Risk

Risk is inherent in all aviation operations and must be effectively managed. All employees and contractors must be cognizant of the risks associated with their work environment and understand how those risks can be mitigated.

Operational tempo, financial and contractual obligations, or non-safety managerial concerns which may negatively impact ASD's Safety Culture will not be tolerated. Likewise, intentional violations of ASD's safety protocols will not be tolerated.

Prior to the first flight of the day, the PIC will complete a formal risk assessment. The results of that risk assessment will be kept as a record by the flight crew and will be available for inspection by ASD. For ease of reference and standardization, the PIC is encouraged to use

the Risk Assessment Matrix (provided in Appendix A). Any “High” risk operation will be reported to the operator’s Chief Pilot and consulted with ASD for approval prior to takeoff.

### **2.3 Accidents and Incidents**

In the instance of an actual or suspected accident or incident, the safety of those involved is the priority. Response actions, therefore, will include the coordination of emergency response and medical care if necessary. When safe to do so, those present should also attempt to secure the helicopter and the incident/accident scene.

Flight crew(s) will notify ASD immediately in case of any accident or incident. ASD will then, if appropriate, activate the Accident Incident Response (AIR) Plan. The notification will either be via radio, phone, or in person.

Contractors and employees are not to communicate any information regarding the accident or incident with any member of the public, including all television and news agencies, unless explicitly authorized by SDG&E Public Relations, regardless of the landing location or persons involved on the ground.

Any employee or contractor who is contacted by the FAA, NTSB, TSA, or local or state police should immediately report such contact to ASD. While ASD understands that each contractor has its own reporting requirements in such instances, the content of any reports submitted to those authorities will be provided to ASD as well.

In addition to these requirements, an initial written statement from the contractor will be submitted to ASD within 24 hours of the accident or incident. That statement should include as much detail as is known and should indicate next steps the contractor intends to take to complete its investigation of the accident or incident.

In addition to the standard definitions of an accident and incident as provided by the NTSB, SDG&E requires its employees and contractors to include the following as incidents, reportable as directed above:

- Near mid-air misses (defined as the unintentional proximity of two or more aircraft that requires immediate and/or evasive action to avoid a collision).
- Any main rotor or tail rotor strike of vegetation or ground objects.
- Any time the aircraft exceeds operating limits (engine, transmission or airframe) that result in a temporary out of service condition (and/or requires maintenance intervention).
- Bird strikes.
- Unnecessary maneuvering (“hot dogging”, negative ‘g’ maneuvers, excessive nose up/down, etc.).
- Any movement of the helicopter that injures or endangers persons or damages property on the ground.

- Precautionary landings, and any unplanned or diverted landings that are the result of an inflight emergency.
- Lost or compromised communications.
- Loss or failure of on board GPS and/or flight following equipment.
- The failure or malfunction of any external load equipment.
- The unintentional inflight departure of any aircraft component, such as cowlings, seat cushions, doors, or of any pilot or passenger items such as maps, clipboards, or bags.
- Any time a PIC, under his emergency authority deviates from any FAA regulation.
- Any time a PIC's duty period exceeds the limitations set forth in 14 CFR Part 135.
- Any time a support person's duty time exceeds the limitations set forth in 49 CFR Part 395.
- Refueling anomalies.
- Inadvertent encounters with weather (clouds, severe turbulence, lightning).
- A pilot or mechanic who appears to be under the influence of drugs, alcohol, or otherwise impaired while on duty.

Any time that the safety of flight or airworthiness of the aircraft is in question, the PIC will discontinue the flight. The aircraft should not be flown until the PIC has determined, in accordance with contractor's internal operating procedures that the aircraft is safe to operate. It is expected that contractor's maintenance personnel will inspect and release the aircraft for flight. Pilots who make an unscheduled landing for reasons such as securing a door, a seatbelt or to investigate a bird strike to non-rotating parts are authorized to resume flight if no damage has occurred.

## **2.4 Personal Protective Equipment**

PPE consists of clothing and equipment that provide protection to an individual in a hazardous environment. PPE are listed in the table below.

If any flight crewmember, air crewmember, or passenger refuses to adhere to PPE requirements, the PIC or work-site supervisor will terminate the flight and report the non-compliance to ASD. For specialized missions, additional PPE may be required. For extreme weather conditions, additional PPE or substitute equipment may be authorized by ASD and/or SDG&E's Safety Department on a case by case basis and in accordance with a conducted risk assessment matrix.

For long-line hook-up personnel, an aviator helmet with handheld radio adaptor is recommended. If possible, positive radio communications with the pilot will be maintained. In case of radio failure, agreed upon hand signals may be used. At a minimum, long-line hook-up personnel are required to utilize the external load PPE listed below.

		Persons in/attached to the aircraft					Ground Crew			
		Patrol	External Load (A, B, C, & D)	Field Pax/Internal Equipment Transport	HEC / Platform	Transportation to/from improved areas	External Load (A, B, C, & D)	Crew working within 25' of rotor arc	Refueler, Hot	Refueler, Cold
Head	Headset					✓				
	Flight Helmet w/visor	✓	✓	Pilot	Pilot					
	Hard hat w/chin strap			Pax	Pax		✓	✓	✓	
Body	Flight suit	✓	✓	Pilot	Pilot					
	Flame resistant shirt			Pax	Pax				✓	✓
	Non-synthetic full length work pants			Pax	Pax					✓
	Non-static clothing								✓	✓
Feet	Leather work boots	✓	✓	✓	✓		✓	✓	✓	✓
Eyes	ANSI-approved eye protection			✓	✓ *	✓	✓	✓	✓	✓
Hands	Flame retardant gloves		✓		Pax				✓	✓
	Rubber gloves									
Ears	Hearing protection	✓	✓	✓	Pax	✓	✓	✓	✓	

\*Retention Strap Required

The hard skull cap with a headset is equivalent to a helmet)

## 2.5 Tailgate

Safety and Operational briefings (also known as Tailgates) will be conducted prior to the start of each job. They will take place at a pre-designated location (e.g., a project fly yard, job site or staging site).

For ASD-scheduled activities, the Construction Supervisor will provide an ERO/TCM tailgate in accordance with SDG&E's policy. Where helicopters are involved, the Aviation Operations Advisor (AOA) or a representative approved by ASD will provide the helicopter tailgate in accordance with Attachment D of ESP 315. The helicopter tailgate form will be retained by the approved provider and kept available for inspection by ASD staff if requested. Topics discussed will include but are not limited to the following:

- Nature of the work to be accomplished.
- Current and forecast weather and any potential weather hazards.

- Flight routes and associated flight hazards including noise abatement requirements.
- Crew Resource Management topics such as communications, roles and responsibilities during emergencies, and contingency planning.
- Any logistical matters (such as refueling).

Examples of an ASD-approved representative are, but not limited to:

- Ground crew supervisor
- Pilot or Co-pilot
- Rigger
- ASD staff

For helicopter work not scheduled by ASD, the Tailgate shall be delivered by the contracted operator and shall be retained by that provider and available for inspection by ASD staff if requested.

## **2.6 Passenger and Ground Crew Safety**

All SDG&E employees who interact with helicopters either on the ground or as a passenger, shall complete an ASD-approved helicopter safety training class. Alternatively, on a case by case basis, ASD or their designee can provide on-site safety training prior to any helicopter operation(s).

Employees and contractors are expected to question any unsafe condition or activity in and around the helicopter, and shall not board a helicopter if they have any question about the safety of the helicopter, its pilot, or the planned operation.

### 3 Roles and Responsibilities

#### 3.1 Pilot In Command (PIC)

The PIC is the final authority for the safety of passengers, cargo, and crew, and has full operational control over any flight which he/she initiates. Additionally, the PIC will:

- Accomplish and appropriately document preflight inspections of aircraft and equipment to be used.
- Inspect maintenance documents, including any status sheets, to determine the airworthiness of the aircraft. Report any discrepancies to the appropriate maintenance authority.
- Complete all training and qualification events required to maintain currency as dictated by Title 14, C.F.R.
- Conduct all flight operations in compliance with applicable Title 14, C.F.R., the RFM, the operator's General Operations Manual (GOM), Operations Specifications, this AOM, and SDG&E's policies and procedures.
- Not exceed duty time limits as dictated by Title 14, C.F.R., Part 135
- Familiarize themselves with all pertinent information regarding flights to be undertaken, including but not limited to NOTAMS, TFRs, FTA's, weather information, and mission specific requirements.
- Protect the aircraft from damage from weather or similar events. If relocation of the aircraft is required, notify ASD immediately.
- Supervise the loading of passengers, baggage, and fuel and determine that weight and balance remains within the limitations contained in the RFM for all flight operations.
- Do not fly an aircraft with a known "grounding" deficiency until the deficiency is cleared by maintenance or deferred under the aircraft's minimum equipment list (MEL) if an authorized MEL is used.
- Utilize all required safety equipment.
- Complete and submit all relevant flight and maintenance forms immediately following the end of daily flight operations, and ensure any relevant "pass-down" is completed to either the following PIC or designated maintenance personnel.
- Ensure the proper briefing of passengers in accordance with Title 14, C.F.R., Part 135.117 and this manual.
- Ensure the appropriate aircraft navigation charts and documents are up to date, and ensure the aircraft's GPS database is current.



- Notify ASD immediately if any contact with the FAA, NTSB, TSA, or law enforcement authorities is made (e.g., ramp checks, official inquiries).
- Notify ASD immediately when a safety of flight issue is discovered.
- Perform a complete 360-degree walk-around, to include inspection of the tail rotor, prior to entering the cockpit for flight and upon completion of each flight.
- Ensure GPS and flight following systems are operational prior to engine start.
- Maintain positive control of the aircraft. A PIC may not exit the aircraft while blades are turning. The only exception would be for maintenance inspection purposes and in such cases the PIC will ensure no person or object enters the rotor arc while the controls are unattended.

### **3.2 Aviation Operations Advisor (AOA)/Air Traffic Advisor (ATA)**

Each work site at which aviation operations will occur will have an Aviation Operations Advisor or designee. The AOA or it's designee designated in advance by ASD or its Aviation Contractor, with approval from ASD. At work sites with multiple aircraft or other complex aviation circumstances a qualified Air Traffic Advisor (ATA) may be required.

The AOA/ATA's primary responsibility is the safe operation of the helicopter(s) into, out of, and through an area of operation (AOO), and to oversee the interaction of the helicopter with ground personnel (e.g. passenger loading and unloading, external load operations and refueling). In support of this primary role, the AOA/ATA will conduct a daily briefing ("Tailgate") pursuant to ESP 315 with all crewmembers and work-site personnel prior to the first flight of the day. Additionally, the AOA will:

- Facilitate communication with other aviation traffic and facilitate the sequencing and separation of aircraft as necessary.
- Participate in landing zone site selection or, if already established, evaluate the appropriateness of the sites, including emergency landing areas, and take any necessary action to ensure safety and regulatory requirements are met.
- Ensure necessary landing zone equipment is in place.
- Ensure safe vehicle operations (parking and movement) within the landing zone.
- Ensure dust abatement measures are used when required.
- Establish crash-rescue procedures and manage appropriate services.
- Ensure Personal Protective Equipment (PPE) is utilized.
- Oversee movement of passengers to and from the aircraft. Ensure passengers understand the items included on their passenger briefing.
- Be conversant with the AOM and relevant portions of Title 14, C.F.R. Parts 91, 133 and 135.



### 3.3 Flight Operations Base Personnel

The Flight Operations Base primary responsibility is to facilitate the safe, orderly, and efficient movement of helicopter traffic. Specifically, the Flight Operations Base (FOB) will:

- Schedule, coordinate and monitor all manned and unmanned aircraft in the SDG&E service territory.
- Provide alerts to pilots if:
  - Other known aviation traffic is nearby
  - Adverse weather is known to exist in the AOO.
- Support the PIC's requests for assistance, including emergencies.
- Track the status of aircraft operating on behalf of SDG&E.
- Maintain a list of crew and passengers for every flight originating from Gillespie.
- Coordinate flight requests between requesters and aviation operators.
- Initiate the AIR Plan in case of an accident or incident.
- Coordinate the notification of emergency services.
- In the case of a fire emergency, coordinate the assignment of SDG&E assets in support of company, local and state fire agencies in accordance with ASD's Fire Support policies.

## 4 General Flight Operations

### 4.1 Operational Control

SDG&E requires a two-tier system of operational control. The first tier consists of the contractor's management, including those in management and leadership positions listed in the contractor's operations specifications. This management structure will be responsible for ensuring the contractor's pilots are appropriately trained and qualified. That they are assigned to an aircraft that is airworthy and that can complete the assigned mission. That the risk associated with the flight is identified, assessed, and mitigated. The contractor's management structure has the authority to initiate, divert, or terminate any flight conducted by its own pilots. All aircraft flown by a contractor will be listed on the contractor's operating certificate. Additionally, contractors will not use another company's pilots without prior notification to ASD.

The second tier consists of the operational control the PIC exercises as the final authority over the operation of the aircraft. The PIC determines whether a flight can be accepted, initiated, and conducted or whether it must be terminated. The PIC is expected to operate in compliance with Title 14, C.F.R., the RFM, aviation operator's GOM, and this AOM. If the PIC has any doubts that a flight can be safely completed in accordance with applicable rules and regulations, he will contact his company's management for additional guidance.

In addition, all aviation operators shall provide to ASD, if requested for inspection, a written aviation operations plan, to include air lift plan if relevant (per Section 4.6), prior to operating in SDG&E's service territory (preferably 2 weeks in advance of any planned operation). All aviation operators must be fully briefed by ASD prior to working in SDG&E service territory. As part of the briefing process, aviation operators must acknowledge receipt of and be prepared to facilitate GPS tracking (per Section 4.2) and operate SDG&E 800 MHz radios, or operations will not be approved.

ASD reserves the right to conduct a safety audit of any aviation operator contracted to work in SDG&E service territory. ASD also reserves the right to exclude any aviation operator from operating on any SDG&E projects, work or property.

### 4.2 Flight Release/Flight Following

All Contractors flying for or in support of SDG&E or on an SDG&E project or operation will, prior to any flight, obtain an ASD-assigned flight number from the FOB.

Should the pilot receive a request from ground personnel or a passenger that differs significantly from the planned mission, the PIC will contact the FOB to update the original information and flight data provided. Updated information should include:

- Passengers or crewmembers not on the original manifest.
- Requests to perform a different mission.

- Requests to operate in different areas.

Additionally, a pilot who is experiencing a significant delay arriving to the work site should contact the FOB.

All contractors flying for SDG&E will have established flight following procedures in accordance with federal aviation regulations. In addition, all contractors will participate in FOB flight following services when directly operating on behalf of SDG&E under Part 133 or 135. FOB flight following is conducted via a GPS tracking service (such as TracPlus). ASD can provide a GPS tracking device or, preferably, operators can coordinate with FOB to accept their existing GPS tracking service (if not TracPlus).

### **4.3 Overdue/Missing Aircraft**

Any aircraft on a VFR flight that fails to arrive at any given destination 15 minutes after the most recent estimated time of arrival (ETA), or fails to establish communications 15 minutes after an unscheduled landing, or fails to establish communication 15 minutes after the last required position report will be considered overdue or missing. ASD will, at that time, initiate the lost communications/overdue aircraft procedures which include attempting radio contact, contacting persons at the intended destination, and contacting air traffic control.

If the aircraft cannot be located within 30 minutes after it has been designated as overdue or missing, the aircraft should be considered missing and ASD will initiate the AIR Plan which includes official notification of the FSDO and SDGE's Emergency Services on-call personnel. ASD will also notify the contractor's DOO/Chief Pilot to assist with search efforts and notification requirements. Additionally, ASD will coordinate search and rescue efforts with available assets until first responders arrive. Search activities are expected to be halted and aircraft removed from the area upon request from the Incident Commander (IC)

Any aircraft on an IFR flight plan that is reported by the Flight Service Station (FSS) as being overdue or missing (and the PIC has not called in by telephone as required) will be considered overdue or missing.

### **4.4 Accident Incident Response (AIR) Plan**

ASD will develop and maintain the AIR Plan to ensure appropriate steps are taken once an accident or incident has occurred. Such steps will include timely notification to appropriate internal ASD personnel and to appropriate external agencies.

The AIR Plan has protocols that address the following situations (when aviation-related): medical emergencies, weather or mechanical difficulties that result in an unscheduled landing, overdue and missing aircraft, accidents, aircraft-related fires, and any injuries or deaths. The AIR Plan will also incorporate protocols to request assistance from law enforcement and other emergency services. The AIR Plan will be tested and evaluated at least annually.

#### **4.5 Securing of Cargo**

Cargo will be stored to ensure that it does not exceed loading limits of seats, floors, or structures, is placed or covered to prevent injury to occupants, and is located to not interfere with emergency or regular exits.

Any helicopter that has its doors removed or intends to operate the doors during flight will take additional precautions to ensure all items within the cockpit and cabin are appropriately secured. Additionally, for any open-door flight, all passengers on board the flight will be briefed on the importance of maintaining positive control over all personal items.

#### **4.6 External Load Operations**

External load operations will comply with all relevant Federal Aviation Regulations and Company safety and operational requirements. PICs have the responsibility to ensure external load operations are conducted safely and effectively. Among the requirements for conducting any external load operation is the preparation of a written lift plan for each lift or series of lifts on any given project or mission. That written plan will be maintained by the helicopter service provider and shall be available for inspection by ASD staff.

All Aviation operators contemplating external load operations will ensure that Congested Area Plans (CAPs) are completed and submitted for approval to the FAA prior to any relevant lift operations. Such CAPs will be maintained as records and be available for inspection, upon request, by ASD.

Hooks shall be marked with the manufacturer's rated capacity. Damaged or unmarked hooks will be removed and barred from use.

Synthetic long lines used in external load work or HEC shall be tagged with manufacturer's rated capacity, date of manufacture, as well as retirement date. Lines shall be inspected daily. If damage is noted or the tag is missing or unreadable, the line shall be removed and barred from use.

#### **4.7 Human External Cargo**

Per Advisory Circular 133-1B, the FAA defines Human External Cargo as a person(s) that at some point in the operation is carried external to the rotorcraft. Therefore, HEC encompasses skid work, or any time a person is carried on the skids of the aircraft.

Any planned HEC mission must be fully briefed in writing to ASD at least five (5) working days prior to the initiation of such operations. Briefing shall include justification for using HEC, reason for excluding conventional ground methods, aerial map to include LZ and fly structure(s), coordinates and photographs if applicable. All HEC operations shall be flown in accordance with 14 CFR Part 133. ASD reserves the right to inspect and monitor any external load/HEC operation and to halt such operation at any point ASD perceives or is made aware of undue safety risks.

#### **4.8 Landing Zone Selection**

The PIC remains the final authority on whether he can perform a safe approach and landing to any landing zone (LZ). In general, LZ's should be selected such that their size is at least 1.5 times the overall length and width of the helicopter to be used, and must have safe approach and departure paths. At all times when operating in LZ's, extreme care should be exercised to avoid any obstructions and to ensure vertical and horizontal clearance of the main and tail rotors.

#### **4.9 Stabilized Approach**

Pilots should maintain a stabilized approach for all approach to landings. It is expected, therefore, that PICs will establish a stable aircraft attitude, power setting, closure rate and rate of descent prior to decelerating below effective translational lift or descending below 300' AGL.

If at any time a PIC is not established in a stabilized approach as required above, a missed approach/go around should be executed.

#### **4.10 Manipulation of Flight Controls**

The PIC shall not allow other persons to manipulate the controls of the aircraft during flight. The exception is an authorized safety representative of the FAA, a company check airman, or a co-pilot, as approved by ASD, who is current and proficient in the make and model helicopter.

#### **4.11 Weather**

All pilots are expected to abide by their company's weather regulations outlined in their general operations manual (GOM) and operations specifications, as well as any weather restrictions provided in the respective RFM.

In addition, all flying in support of SDG&E (or in the specific localized area, should weather phenomena be localized) may be suspended under the following conditions:

- The ceiling is less than 500' AGL and/or visibility is less than 2 statute miles;
- Any active SIGMET or convective SIGMET exists for the AOO;
- Lightning is observed in the AOO;
- Severe turbulence or hail is forecast or reported;
- Heavy rain.

In addition, extreme wind conditions may necessitate the suspension of flight activities. The capability to fly a helicopter in excessive wind conditions varies considerably with the weight class of the helicopter, the mission being flown, and the degree of turbulence associated with the wind. ASD may suspend flight operations under the following circumstances:

- For flights above 1,000' AGL: When winds exceed 40 knots for all types of helicopters.

- For flights below 1,000' AGL: For Type 1 and 2 helicopters, when steady winds exceed 40 knots, and gust spreads exceed 15 knots, or per the RFM, whichever is more conservative. For Type 3 helicopters: When steady winds exceed 25 knots, and gust spreads exceed 15 knots, or per the RFM, whichever is more conservative.

PICs may decline, without fear of retribution, to fly in any weather condition which causes them to have any concern about their ability to safely complete the mission. Depending on individual factors present during flight operations, ASD may also prescribe specific and more restrictive limitations. Any flight request for missions to be flown during the above-stated weather conditions must be approved in advance by the ASD Manager.

Pilots may request Special VFR clearances when in controlled airspace when the weather is at least 300' AGL and 2 miles visibility during the day, or 800' AGL and 3 miles visibility at night.

Should a PIC encounter deteriorating weather conditions that do not permit him/her to continue the flight to the desired destination, he should utilize the following options:

- Divert to an alternate destination, if applicable.
- Return to the departure point, if practical.
- Land.
- If weather conditions permit and if the PIC and aircraft are appropriately qualified, obtain a clearance and continue the flight under IFR.
- Execute Inadvertent IMC (IIMC) procedures.

#### **4.12 Minimum Altitude**

In the absence of higher minimums required by other regulations, all pilots will maintain a minimum altitude AGL as listed in the operator's FAA approved GOM. An exception is made for approaches, landings, departures and those portions of the flight when the mission being performed requires a lower altitude (e.g., firefighting, certain line maintenance/ inspection flights, HEC). This minimum altitude not only applies to the actual ASD missions being flown, but for the transit legs to and from the area of operation, with or without passengers on board.

#### **4.13 Performance Planning & Weight and Balance**

Prior to every leg of every flight, all pilots are required to ensure the sufficiency of their aircraft's performance capabilities given aircraft loading and environmental and geographical conditions, for both their departure and destination. Pilots will follow the guidance provided in their company's GOM and the helicopter's RFM; however, pilots will not use, nor rely upon, performance enhancement charts (also known as "wind charts") that attempt to take advantage of prevailing winds.

When possible, the PIC will use actual weights for crew, equipment and baggage. If using passenger-provided stated weights, 10 pounds will be added to each person's stated weight.

Under no circumstances will a pilot attempt flight without determining the necessary performance required, with the aircraft's gross weight in doubt or exceeded, or with the aircraft's center of gravity out of limits for any portion of the flight to be undertaken.

#### **4.14 Currency**

If a PIC has not flown a specific make, model, or series aircraft in the last 60 days, the PIC will, at a minimum, accomplish one start and three takeoffs and landings. If a flight is to be conducted at night, the PIC will be familiar with all aircraft lighting. A PIC who has not flown in the AOO within the preceding 90 days shall ensure he or she is familiar with all applicable rules and regulations, and with the specific geography and environmental characteristics of the AOO.

#### **4.15 Passengers**

All passengers onboard all ASD flights will be appropriately briefed prior to the first flight of the day. The passenger briefing will include door operation, emergency exits, seat belt operation and usage, smoking and cell phone policies, the securing of baggage, in flight emergencies, the use of fire extinguishers, embarking and disembarking procedures, safety protocols, and headset/helmet usage.

Passengers do not need to receive a full briefing on subsequent flights during the day, but the PIC will ensure that passengers understand and comply with all passenger briefing directives.

Passengers will not depart the helicopter or approach the helicopter while it is running without the permission from the PIC. The PIC will not take off until he has received verbal or visual confirmation that all passengers are seated, safety belts and shoulder harnesses are fastened, and the doors are closed and secured.

The FOB will maintain a passenger manifest for all flights originating from Gillespie.

For all passengers boarding the aircraft off-site, the flight manifest will be established and maintained by the job site supervisor or foreman.

#### **4.16 Helicopter Refueling**

Refueling helicopters involves a heightened degree of risk and should be approached with the greatest of care. The PIC is responsible for the safety of all refueling operations, for ensuring the appropriate grade, quality, and quantity of fuel is dispensed, and for ensuring ground personnel are following refueling protocol.

When refueling away from an airport, the contractor/pilot will ensure prior permission has been granted as to the exact location of refueling operations, and that the fuel truck and fuel truck driver have the required equipment and training as dictated by the Project Manager.



Refueling from unsecured drums (drums or tanks not part of a permanent installation of a fueling truck or facility) should be avoided.

The following general safety precautions will apply to any refueling operation:

- Persons refueling will remove any loose objects from their person that could possibly enter a fuel or oil service port.
- A fire extinguisher will be available.
- The aircraft will be grounded to the fueling vehicle.
- The refueling truck will remain a safe distance outside the rotor arc.
- Refueling operations will not be conducted during thunderstorms or detected lightning within 10 miles.
- Aircraft maintenance will not be performed during refueling.
- Aircraft ground power units will not be connected or disconnected during refueling.
- Electric tools will not be used in or near the aircraft during refueling.
- The fueling nozzle will not be blocked in the open position by a foreign object.
- The nozzle will not be left unattended during refueling.
- No smoking within 100' of the aircraft.
- Persons not involved in the refueling process should remain 50' away from the helicopter.
- Any refueling anomalies that occur during the refueling process shall be reported and mitigated immediately.

. The following guidance is provided for hot refueling operations:

- Hot refueling will be conducted in accordance with the operators GOM and RFM.
- PIC must maintain positive control of the aircraft at all times.

#### **4.17 Helicopter Fuel Sumping**

Helicopters should be sumped in the frequency and manner provided in the approved RFM. The helicopter may be sumped by either the PIC or mechanic, but the PIC retains the responsibility. If no specific guidance is provided in the RFM, then the helicopter will be sumped at the beginning of every shift.

#### **4.18 Walk Around**

The final action taken by a PIC before entering the cockpit for a flight is a 360° walk around of the aircraft to confirm the security of all cowlings, doors, seat belts and latches and to ensure the



aircraft is not restrained by any attached ground appliances or mooring cables. Post-flight procedures should also include a walk around.

#### **4.19 Carriage of Weapons**

No pilot or passenger may carry a deadly weapon aboard an aircraft operated by or on the behalf of SDG&E except for local, state, or federal law enforcement officers authorized to carry such weapons. Pepper spray, mace, or other aerosol products are strictly prohibited.

#### **4.20 Flight Time and Duty Time**

Aircrews flying in support of SDG&E will follow the flight time and duty time limits provided in Title 14 C.F.R., Part 135, even if the flight is being conducted under Part 91 or 133. All support personnel including fuel servicing vehicle drivers and mechanics will follow the duty time limits provided in DOT Safety Regulations 49 CFR Part 395.

All personnel will report for duty with the required rest and can perform their respective functions. Additionally, pilots who perform non-SDG&E flying for compensation or hire will ensure that those activities do not interfere with their ability to perform their duties while flying for SDG&E.

During rest periods, pilots and support personnel may not be assigned duties or be required to respond to work-related requests (including phone calls).

#### **4.21 Operating Near Other Aircraft**

A detailed flight briefing shall occur prior to any flight in proximity to other aircraft. Pilots must establish two-way communication and announce intentions over a predetermined radio frequency. Under no circumstances will aircraft be operated closer than five rotor discs or wing spans in flight.

Any planned formation flight must be fully briefed in writing to ASD at least five (5) working days prior to the initiation of such operations. Formation flights shall not be conducted with passengers onboard.

#### **4.22 Service Bulletins**

All Alert Service Bulletins (ASB) and Service Bulletins (SB) issued by the original equipment manufacturer (OEM) will be considered mandatory for the operator to fully and appropriately execute.

## 5 Training

All personnel involved with ASD aviation operations will receive initial and recurrent training appropriate to their job scope.

### 5.1 Pilot Training

Pilots will receive an initial AOM review designed to establish a working knowledge of the ASD area of operations and the rules and regulations under which they will be required to operate. Training will occur prior to conducting any work on behalf of SDG&E.

### 5.2 Personnel Training

SDG&E personnel who embark on aircraft, conduct external load work, or observe flight operations will receive training on helicopter safety, at an interval listed below.

The training curricula for all training events will be detailed in Sempra's My Training online learning portal. The following requirements will be met:

		TCM			ERO			GAS	Support Services	Contract Administrators
		Patrolmen	Linemen	Supervisors	Troublemakers	Linemen	Supervisors	Involved with aviation operations.	Involved with aviation operations.	Involved with aviation operations.
Frequency										
Part 135 Passenger Briefing	Day Of	x	x	x	x	x	x	x	x	x
Wire Environment Training	Annual	x	x	x	x	x	x	x	x	x
Basic Helicopter Safety Training	Annual	x	x	x	x	x	x	x	x	x
External Load Training	Annual		x	x		x	x			

# APPENDIX

## Appendix A: Risk Assessment Matrix

### Risk Assessment Matrix

PIC: \_\_\_\_\_

Date: \_\_\_\_\_

Flight #: 2016-\_\_\_\_\_

#### PILOT

1. PIC Experience in Model	
Greater than 2,500	1
500-1,500	3
Less than 500	5

2. Consecutive Days On Duty	
Less than 5 days	1
5-10 days	3
Greater than 10 days	5

3. Expected Duty Day Length	
Less than 6 Hours	1
6-8 Hours	2
8-10 Hours	3
10-12 Hours	4
More than 12 Hours	5

#### ENVIRONMENT

4. Visibility	
Greater than 3,000' / 5 nm	1
Less than 3,000' / 5 nm	3
SVFR or Night (EENT)	5

5. Density Altitude	
Less than 3,999'	1
4,000'-5,999'	3
Greater than 6,000'	5

6. Winds In Mission Area	
0-10 kts	1
11-20 kts	3
21+ kts	5

7. Terrain	
Desert, Flat	1
City, Foothills	3
Mountain/Over water/Under Wire	5

#### MISSION

8. Mission Type	
Passenger Transport	1
Patrol/Wire Environment	2
External Load/Class B or C	3
HEC/Class D	4

9. Landing	
On Airport	1
Off Airport	3
Multiple Off Airport	5

10. Cross Country	
Less than 25 NM from Base	1
26-75 NM from Base	3
More than 75 NM from Base	5

TOTAL RISK SCORE	
10-15 LOW	
16-25 ELEVATED	
26-32 MODERATE	
33+ HIGH	

I am fit to fly:

\_\_\_\_\_

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