

Americas-Air Transport

Americas-Air Transport SGRAO Implementation Guide

Mandatory

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Restricted

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AMERICAS-AIR TRANSPORT SGRAO IMPLEMENTATION GUIDE

Compliance with the Shell Group Requirements for Aircraft Operations (SGRAO) is mandatory across the Americas-Air Transport region for all business unit aviation activities, assets, & facilities, including those conducted/owned by third parties regardless of contract mode. Mode 3 contract operations with aviation activity or assets and purchase of data collected by aircraft are included. Means of compliance shall be as stated in the SGRAO unless alternative means are specified in this document. Means of compliance differing from the SGRAO or this document requires the approval of the Americas-Air Transport (AAT) Regional Aviation Manager.

The contract holder for any direct aviation support contract or non-aviation contract with subcontracted aviation activity, assets, or facilities shall ensure that the necessary clauses representing the AAT implementation of the SGRAO are included as contractual requirements. The AAT aviation contract templates shall be used as the source material for contract development. Alternate means of compliance that differ from the standard AAT aviation contract templates requires the approval of the AAT Regional Aviation Manager.

The provisions of applicable law shall prevail over Shell requirements where they are more restrictive in their application, or where they prohibit a Shell requirement. In other cases, the Shell requirement shall be applied.

Note 1: AAT implementation or AAT specific requirements are preceded by "(AAT)" or can be simply stated and used interchangeably with "Americas" hereafter in this document.

Note 2: There is a misalignment of terms in the naming conventions of the SGRAO, Air Transport Competency Framework, Human Resources and Role Titles, as well as Roles Titles used in Shell "Reshape". The "Aviation Manager" used throughout this document is the same as and can be used interchangeably with Aviation "Assurance Lead".

SGRAO Business Unit Requirements (V3.1 dated June 2019)

MANAGE AIR TRANSPORT CONTRACTS

CON 01.01 AIR TRANSPORT CONTRACT – GENERAL – *Comply with SGRAO requirements*

The cognizant Logistics Manager shall manage all aviation activity in their respective region and unless otherwise agreed with the AAT Regional Aviation Manager, the Responsible AAT Aviation Manager shall be the contract holder for any directly contracted aviation support.

Where a non-aviation Contractor is approved to subcontract aviation services by the AAT Regional Aviation Manager, those operations shall be overseen, and assurance provided by the Responsible ATT Aviation Manager.

All Americas aviation activities including JV and subcontracted operations shall report flight activity to the AAT Regional Aviation Manager using the reporting template provided for consolidation and forwarding to SAI.

Requests for review of potential aviation Contractors shall be submitted to the AAT Regional Aviation Manager or the Responsible AAT Aviation Manager who will also schedule recurrent audits.

The AAT Regional Aviation Manager shall be consulted for all emergency aviation use:

- Prior to the inclusion of any aviation support provisions in Emergency Response Plans (ERPs). ERPs shall comply with the **Shell Group Requirements for Aircraft Operations**.

- Prior to activation of an unassessed aircraft operator for emergencies not covered under an ERP if time permits.
- During planned or unplanned use in all cases if time permits.
- After use in all cases where the AAT Regional Aviation Manager was not previously consulted.

Request for One-time approvals shall be submitted to the AAT Regional Aviation Manager or the Responsible AAT Aviation Manager for referral to SAI.

Requests for review of potential aviation Contractors shall be submitted to the AAT Regional Aviation Manager or the Responsible AAT Aviation Manager who will also schedule recurrent audits.

All contracts for both aviation and non-aviation services which have aviation content either direct or subcontracted shall be based on global aviation contract template language provided by Global Category Manager – Aviation, supplemented by the AAT Aviation Manager.

Initial planning for new Air Transport operations shall be conducted with the AAT Regional Aviation Manager prior to consultation with SAI. Consultation with SAI shall be made by the AAT Regional Aviation Manager.

All contracts for both aviation and non-aviation services which have aviation content either direct or subcontracted shall contain contract template language provided by Responsible AAT Aviation Manager for the aviation services specified.

All contracts with direct or subcontracted aviation content shall be categorized as High HSSE risk unless otherwise agreed with the AAT Regional Aviation Manager.

AAT companies shall not directly hire out contracted aircraft or seats to third parties. The hiring out or apportionment of seat costs shall be done through the aircraft provider.

Deviations from Contractual Allocation of Risk (CARM) requirements shall be agreed with the respective Americas Contract Management Team.

CON 02.01 ONE TIME USE AIR TRANSPORT CHARTER – *Comply with SGRAO requirements*

Request for One-time approvals shall be submitted to the AAT Regional Aviation Manager or the Responsible AAT Aviation Manager for referral to SAI.

CON 03.01 SUBCONTRACTED AIR TRANSPORT – *Comply with SGRAO requirements*

SAI conducts an audit of the non-aviation Contractor which if successful will allow the non-aviation Contractor to subcontract for aviation services provided:

- The Responsible AAT Aviation Manager oversees the aviation operations at the Contractor and subcontractor level to provide the required oversight and assurance, and
- The aviation subcontractor selected successfully completes a SAI audit.

If the non-aviation Contractor SAI audit is unsuccessful or if they cannot meet the SGRAO requirements they can subcontract for aviation service provided:

- The Responsible AAT Aviation Manager directly oversees the subcontracted aviation service, and
- The aviation subcontractor selected successfully completes a SAI audit, and
- The aviation subcontractor makes satisfactory progress in SAI audit closure and complies with the SGRAO and AAT requirements.

Otherwise, the cognizant Logistics Manager shall directly contract for the aviation services required under and the non-aviation Contractor shall schedule their aviation service through the respective Shell Logistics activity.

CON 04.01 CONTRACTING AIR TRANSPORT FACILITIES – *Comply with SGRAO requirements*

MANAGE AIR TRANSPORT BUSINESS

MAN 01.01 LEADERSHIP AND COMMITMENT – *Comply with SGRAO requirements*

MAN 02.01 COMPETENCE – *Comply with SGRAO requirements*

MAN 03.01 JOINT VENTURE HSSE & SP MANAGEMENT – *Comply with SGRAO requirements*

Managers responsible for Joint Venture agreements shall consult with the AAT Regional Aviation Manager and Shell Aircraft to agree aviation standards adoption in the Joint Venture. Consultation is required for both new and existing Joint Ventures. Where existing Joint Venture agreements cannot be rewritten with appropriate aviation standards adoption, the Business Leader responsible for the Joint Venture shall be notified of the shortfall for further action.

MAN 03.02 SHELL USE OF JOINT VENTURE AIRCRAFT – *Comply with SGRAO requirements*

MAN 04.01 ORGANIZATION, RESPONSIBILITIES AND RESOURCES – *Comply with SGRAO requirements*

Procedures found here: [Business Checklist for Air Transport Compliance](#)

MAN 05.01 MANAGING RISK – *Comply with SGRAO requirements*

MAN 06.01 PLANNING AND PROCEDURES – *Comply with SGRAO requirements*

Canada - AAT TA2 Project Checklist and Risk Assessment for each major workstream must be completed prior to the execution of each operation.

MAN 07.01 EXCEPTION TO HSSE & SP CONTROL FRAMEWORK REQUIREMENT – *Comply with SGRAO requirements*

All exceptions to the Air Transport Manual and Variances to the SGRAO shall be requested through the AAT Regional Aviation Manager who will prepare the necessary hazard analysis prior to submission to SAI.

Variances from the SGRAO shall be requested using the Group HSSE & SP Control Framework exception process.

PROCURE, OPERATE & MAINTAIN AIR TRANSPORT FACILITIES

OMA 01.01 APPLICATION OF AIR TRANSPORT FACILITY REQUIREMENTS – *Comply with SGRAO requirements*

Runways/airstrips shall be long enough to allow, without reliance on STOL procedures and taking into consideration runway condition and any contamination,

- Multi-engine airplanes to conduct balanced field operations for the conditions found at the computed operational weight; or,
- Single-engine airplanes to accelerate to VR, lift off, and meet all required climb gradients; and,
- The airplane to land in the touchdown zone or first third of the runway and come to a full stop on the runway. While reverse thrust may be used to bring the airplane to a stop, it cannot be used to compute required runway landing length.

OMA 01.02 RISK MITIGATION – AIR TRANSPORT FACILITIES – *Comply with SGRAO requirements*

OMA 02.01 THIRD-PARTY HELIDECK OPERATIONS – *Comply with SGRAO requirements*

Procedures found here: [Passenger Aviation Guidance – Non-Shell Operated Ventures \(NOVs\) rev. 1](#)

OMA 03.01 OPERATIONS TO UNPREPARED LANDING SITES – *Comply with SGRAO requirements*

EXECUTE AIR TRANSPORT OPERATIONS

OPS 01.01 FLIGHT OPERATIONS – GENERAL – *Comply with SGRAO requirements*

Requests for airline assessments shall be submitted to AAT Regional Aviation Manager for processing.

To ensure business continuity in the event of an aviation accident, each Americas business unit shall consider limiting the number of senior executives or members of a single leadership team flying in the same aircraft. The management level for leadership group travel approval shall be the Senior Shell Business Executive whose subordinates are affected or the Senior Shell Business Executive accountable for the air transport exposure.

Employees shall not fly on Contractor or Industry Partner corporate fleet aircraft without a positive SAI assessment arranged through the Responsible AAT Aviation Manager.

Employees and Contractors shall not accept "lifts" on third party aircraft while conducting company business without attempting to consult with the AAT Regional Aviation Logistics and obtain an assessment. Line manager approval is required in all cases and if travel is conducted without a SAI assessment or consultation the AAT Regional Aviation Manager, all HSE risk falls to the business leader of the respective AAT business.

Employees and contractors shall not pilot private or rental aircraft while on company business, or ride in an aircraft piloted by a pilot holding a private or sports license while on company business.

AAT employees shall not fly on military or government aircraft without a positive SAI assessment which shall be arranged through the AAT Aviation Logistics.

OPS 01.02 PASSENGER REQUIREMENTS – *Comply with SGRAO requirements*

OPS 01.03 HELICOPTER UNDERWATER ESCAPE TRAINING – *Comply with SGRAO requirements AAT HUET Requirements for Flight found here: [AAT HUET Requirements for Flight](#)*

OPS 02.01 HEALTH – *Comply with SGRAO requirements*

OPS 03.01 PERSONAL SAFETY – *Comply with SGRAO requirements*

OPS 03.02 PERSONAL PROTECTIVE EQUIPMENT – *Comply with SGRAO requirements*

OPS 03.03 COMPRESSED AIR EMERGENCY BREATHING SYSTEMS – *Comply with SGRAO requirements*

PROVIDE ESSENTIAL SUPPORT

SUP 01.01 EMERGENCY RESPONSE TO AIRCRAFT INCIDENTS – *Comply with SGRAO requirements*

SUP 01.02 USE OF AIR TRANSPORT IN EMERGENCY RESPONSE – *Comply with SGRAO requirements*

Country emergency aviation evacuation plans for countries or regions of potential political instability shall be coordinated with SAI through request to the AAT Regional Aviation Manager.

Where limited SAR capabilities preclude recovery of survivors offshore at night, flying shall cease early enough in the day to ensure that the full aircraft POB can be recovered prior to sunset.

Each offshore operating region shall prepare a Search and Rescue (SAR) ALARP assessment to determine if national SAR provisions are adequate. If the study determines that national SAR provisions are not adequate, a commercial SAR service shall be contracted.

The printed document is not controlled.

Underlined terms are defined in the [HSSE & SP Control Framework Glossary](#).

SUP 02.01 ASSURANCE – *Comply with SGRAO requirements*

SUP 02.02 OFFSHORE HELIDECK ASSESSMENT – *Comply with SGRAO requirements Low Exposure Desktop Procedures found here: [AAT Helideck Assurance](#)*

SUP 02.03 ONSHORE AIR TRANSPORT FACILITY ASSESSMENT – *Comply with SGRAO requirements*

SUP 02.04 RPAS ASSESSMENT – *Comply with SGRAO requirements*

SUP 03.01 INCIDENT INVESTIGATION AND LEARNING – *Comply with SGRAO requirements*

SUP 04.01 SECURITY – *Comply with SGRAO requirements*

SGRAO Air Operator Requirements (V3.2 dated June 2020)

SAFETY REQUIREMENTS

SAF 00.00 SAFETY MANAGEMENT SYSTEMS – *Comply with SGRAO requirements*

The Americas-Air Transport HSE Case shall be included by reference for all AAT business HSE cases conducting operations with aviation content. There shall be no other standalone aviation HSE cases in the Americas. The best practice bowties contained in the AAT HSE Case shall be used as the basis for local HSE case development. Local aviation hazards specific to a business or operating area shall be referred to the AAT Regional Aviation Manager for inclusion in the AAT HSE Case.

Contractor bridging documents for contracts with aviation content shall be prepared using the AAT HSE Case as a reference including the applicable best practice bow-ties and Hazard and Effects table controls and recovery measures.

Where Contractors do not have an acceptable Change Management process reference shall be made to the Management of Change section of the Shell HSSE Control Framework HSSE & SP Management System Manual for guidance.

Contractors providing services with aviation content shall develop a Bridging Document to demonstrate how their corporate SMS links to AAT HSE Case and HSE-MS. The responsible AAT Aviation Manager will provide the necessary materials and guidance to complete the Bridging Document. This shall be completed before the commencement of the Contract unless otherwise agreed.

SAF 01.00 SAFETY POLICY AND OBJECTIVES – *Comply with SGRAO requirements*

Coordination with the Global Category Manager for Aviation for guidance on current performance indicator reporting requirements shall be done by responsible AAT Aviation Manager. These requirements shall be included in applicable contracts.

SAF 01.01 LEADERSHIP AND COMMITMENT – *Comply with SGRAO requirements*

SAF 01.02 ORGANIZATION, ACCOUNTABILITIES AND RESOURCES – *Comply with SGRAO requirements*

SAF 01.03 COMPETENCE – *Comply with SGRAO requirements*

SAF 01.04 EMERGENCY RESPONSE MANAGEMENT – *Comply with SGRAO requirements*

SAF 01.05 DOCUMENTED PROCEDURES – *Comply with SGRAO requirements*

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SAF 01.06 MANAGEMENT REVIEW – *Comply with SGRAO requirements*

SAF 02.00 SAFETY RISK MANAGEMENT – *Comply with SGRAO requirements*

SAF 02.01 INCIDENT REPORTING, INVESTIGATING AND LEARNING – *Comply with SGRAO requirements*

Responsible Aviation Managers or Contract Holders as applicable shall report incidents, near misses, and unsafe conditions in accordance with the AAT Aviation Incident Reporting Matrix.

Contractors shall notify the responsible AAT Aviation Manager in accordance with the terms of their contract, which shall be aligned with the AAT aviation contract template.

SAF 03.00 ASSURANCE – *Comply with SGRAO requirements*

SAF 03.01 PERFORMANCE MONITORING – *Comply with SGRAO requirements*

SAF 03.02 MANAGEMENT OF CHANGE – *Comply with SGRAO requirements*

SAF 04.00 SAFETY PROMOTION – *Comply with SGRAO requirements*

FLIGHT OPERATIONS REQUIREMENTS

FOR 1: FLIGHT OPERATIONS – ORGANIZATION

FOR 01.01 AIR OPERATOR CERTIFICATE – *Comply with SGRAO requirements*

FOR 01.02 ORGANIZATION AND PERSONNEL – *Comply with SGRAO requirements*

FOR 01.03 FLIGHT CREW RESPONSIBILITIES – *Comply with SGRAO requirements*

FOR 01.04 FLIGHT CREW SCHEDULING – *Comply with SGRAO requirements*

FOR 01.05 CONTRACTED PILOTS – *Comply with SGRAO requirements*

FOR 01.06 SINGLE-ENGINE AIRCRAFT – *Comply with SGRAO requirements*

Single engine shall not be operated over hostile terrain at an altitude that would preclude the aircraft from gliding to a place to carry out a safe forced landing.

Exception:

Request for night or IMC use of single-engine turboprop aircraft for passenger or cargo service where allowed by regulation will be supported and addressed with SAI based on positive analysis of the following items. This use may require an HSSE & SP Control Framework exception request if SAI will not agree the use and the necessity of the service should be significant.

Cessna Caravan or Pilatus PC-12 operations only:

- (i) Current fleet engine out 10-year history from the manufacturer
- (ii) A thorough examination of the provider's power plant & propeller maintenance and fuel quality programs
- (iii) A review of the provider's engine out and forced landing training program
- (iv) A 10-year review of the provider's accident & incident history
- (v) Successful SAI Contractor audit

FOR 2: FLIGHT PREPARATION

FOR 02.01 FLIGHT PREPARATION - GENERAL – *Comply with SGRAO requirements*

FOR 02.02 OPERATING MINIMA – *Comply with SGRAO requirements*

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FOR 02.03 OFFSHORE ALTERNATES - HELICOPTERS – *Comply with SGRAO requirements*

FOR 02.04 WEATHER MINIMA – *Comply with SGRAO requirements*

Special VFR departures and arrivals (day or night) shall not be conducted with less than the Onshore - Day cloud base and visibility minima in the VFR minima requirements listed in FOR 02.04 without prior authorization from the AAT Regional Aviation Manager. The authorization shall be location specific, and shall be based on a defined requirement, a Contractor hazard assessment, and agreed controls to render the operations as safe as reasonably practicable. Unapproved special VFR operations during AAT service shall be reported to the responsible AAT Aviation Manager.

The pilot in command shall not cancel an IFR clearance and proceed visually unless the weather conditions are sufficient to conduct VFR terminal operations as defined by the Regulator.

Circling approaches shall not be conducted with visibility less than published minimums for the approach class of the aircraft, and cloud base less than the following:

- Helicopter - 600-foot cloud base or MDA plus 100 feet whichever is higher;
- Prop airplane <= 5,700 kg (12,500 lb) maximum gross weight - 1000 Feet cloud base or MDA plus 200 feet whichever is higher;
- Airplane >5,700 kg (12,500 lb) maximum gross weight and all turbojet - 1500 Feet cloud base or MDA plus 200 feet whichever is higher.

Day contact approaches shall not be conducted with less than the VFR minima set out in FOR 02.04, except that the cloud base shall be no less than 100 feet above the required obstacle clearance altitude. Obstacle clearance altitude shall be in accordance with published regulation until the required visual reference is acquired in order to conduct a normal landing. Vertical guidance from navigation aids or certified visual glide slope indicators should be followed where available.

Night contact approaches shall not be conducted without prior authorization from the AAT Regional Aviation Manager. The authorization shall be location specific, and shall be based on a defined requirement, a Contractor hazard assessment, and agreed controls to render the operations as safe as reasonably practicable. Vertical guidance from navigation aids or certified visual glide slope indicators shall be followed where available.

Day visual approaches are permitted subject to the VFR minima set out in FOR 02.04, unless regulation requires a higher cloud base and greater visibility. Vertical guidance from navigation aids or certified visual glide slope indicators should be followed where available.

Except when necessary to support actual SAR/MEDEVAC missions, night visual approaches shall not be conducted without prior authorization from the AAT Regional Aviation Manager. The authorization shall be location specific, and shall be based on a defined requirement, a Contractor hazard assessment, and agreed controls to render the operations as safe as reasonably practicable. Vertical guidance from navigation aids or certified visual glide slope indicators shall be followed where available.

Enhanced Operational Controls – Further weather restrictions may be imposed by TA1/TA2 when necessary for specific work (i.e., Pipeline Aerial Survey). Clearly document and communicate enhanced operational controls to all affected parties.

FOR 02.05 FLIGHT PLANNING – *Comply with SGRAO requirements*

FOR 02.06 FUEL REQUIREMENTS – FIXED WING – *Comply with SGRAO requirements*

FOR 02.07 FUEL REQUIREMENTS – HELICOPTERS – *Comply with SGRAO requirements*

In addition to the SGRAO requirements:

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Helicopter External Transport System (HETS)

- a) Fuel shall be sufficient for the leg to the extraction site and return to the recovery landing area where fuel is available plus:
- (i) Additional fuel based on the rules of the State of the operator or 5% of the planned trip fuel whichever is greater, plus;
 - (ii) Fuel for the insertion of the technician, additional return trips for any other equipment required, HOGA hover during preparation for patient extraction, plus;
 - (iii) 20 minutes fuel at planned transport speed, plus;
 - (iv) Extra fuel, at the discretion of the commander

Search and Rescue Operations - Helicopters

- a) Fuel shall be sufficient for the leg to the rescue area and return to planned patient transfer point plus:
- (i) Additional fuel based on the rules of the State of the operator, or fuel to fly for 30 minutes at cruise speed at the planned altitude, or 10% of the planned trip fuel whichever is greater, plus;
 - (ii) Fuel to fly for 30 minutes at holding speed at 1500 feet above the rescue area, plus;
 - (iii) Fuel to conduct a search for survivors and to conduct the necessary hoist operations at anticipated hoist performance, speed and interval for the number of anticipated survivors, plus;
 - (iv) Fuel for a missed approach at planned patient transfer point, plus transit and approach and landing at alternate, plus;
 - (v) Extra fuel, at the discretion of the commander

Land Seismic and Heli-rig Operations

- a) Fuel requirements shall be determined in accordance with the IOGP recommended practices detailed in IOGP 420, Annex D, SPO 04.01.

FOR 02.08 AIRCRAFT ACCEPTANCE – *Comply with SGRAO requirements*

FOR 02.09 AIRCRAFT DOCUMENTATION – *Comply with SGRAO requirements*

FOR 3: FLIGHT PROCEDURES

FOR 03.01 IN-FLIGHT OPERATIONS – *Comply with SGRAO requirements*

FOR 03.02 ADVERSE WEATHER – *Comply with SGRAO requirements*

The acceptable means of compliance for the SGRAO wake turbulence requirement is:

While conducting an AAT flight, the pilot in command shall not:

- Waive a wake turbulence hold time;
- Request or accept decreased wake turbulence separation;
- Decrease the separation that existed when a visual approach behind an aircraft of a heavier wake turbulence class was issued, unless they can remain on or above the flight path of the preceding aircraft;
- Descend below the flight path of the preceding aircraft, or land at or before the preceding aircraft's touchdown point; or touchdown at or beyond the preceding aircraft's rotation point when:
 - Landing a medium or heavy aircraft less than 2 minutes behind arriving or departing heavy aircraft, or
 - Landing a medium aircraft less than 2 minutes behind arriving or departing medium aircraft, or
 - Landing a light aircraft less than 3 minutes behind arriving or departing medium or heavy aircraft.
 - Landing a light aircraft less than 2 minutes behind arriving or departing light aircraft.

- If necessary, a missed approach shall be executed.

FOR 03.03 ICE PROTECTION – *Comply with SGRAO requirements*

FOR 03.04 GUARDING OF FLIGHT CONTROLS – *Comply with SGRAO requirements*

FOR 03.05 PASSENGERS - GENERAL – *Comply with SGRAO requirements*

Carriage of personnel not on company business in company owned or chartered aircraft is prohibited unless approved in writing by the business leader of the venture or business.

The only items that may be carried in offshore helicopter cabins without special authorization are small bound books, magazines, and smaller portable electronic devices. Loose papers such as newspapers are prohibited. Refer to OPS0081 for additional guidance.

Americas businesses and contractors shall comply with the specifications of the current OPS0081.

FOR 03.06 FLIGHT FOLLOWING – *Comply with SGRAO requirements*

FOR 03.07 PASSENGER BRIEFING – *Comply with SGRAO requirements*

The safety briefing for the type aircraft to be flown shall be given prior to the passenger's first flight of the day even if this is less than 24 hours since the last briefing.

Hats and caps may not be carried into the helicopter cabin and shall be stowed in luggage unless authorized in the helicopter cabin as part of a cold weather clothing ensemble.

FOR 03.08 OFFSHORE HELIDECKS – *Comply with SGRAO requirements*

FOR 03.09 STABILIZED APPROACH – *Comply with SGRAO requirements*

FOR 03.10 PERFORMANCE – FIXED WING – *Comply with SGRAO requirements*

The EASA performance class definitions given below shall be used when meeting the SGRAO requirement:

NOTE: Maximum operational passenger seating configuration (MOPSC) means the maximum passenger seating capacity of an individual aircraft, excluding crew seats.

(i) Performance class A airplanes means multi-engine airplanes powered by turbo-propeller engines with a MOPSC of more than nine or a maximum take-off mass exceeding 5 700 kg, and all multi-engine turbo-jet powered airplanes.

(ii) Performance class B airplanes means airplanes powered by propeller engines with a MOPSC of nine or less and a maximum take-off mass of 5 700 kg or less. This includes single engine airplanes.

(iii) Performance class C airplanes means airplanes powered by reciprocating engines with a MOPSC of more than nine or a maximum take-off mass exceeding 5 700 kg.

Where short takeoff and landing (STOL) procedures are published for a multi-engine airplane, the Contractor shall ensure that when operating on an AAT flight, the aircraft shall not be caused to become airborne at less than V_{MCA} , and that during landing that the airplane shall not be slowed below V_{MCA} until committed to land. Required takeoff and landing distances shall be adjusted accordingly.

Multi-engine operations shall be conducted to ensure balanced field takeoff operations. Where manufacturer data is not available to directly compute balanced field performance weights, the Contractor shall ensure that airplane payload and fuel load is adjusted such that:

(i) the airplane can accelerate towards V_1 , lose an engine and come to a complete stop prior to leaving the end of the runway plus stopway (accel-stop computation), and

- (ii) the airplane can lose an engine at or past V_1 and continue the takeoff while maintaining required terrain clearance and climb gradients (accel-go computation), and
- (iii) airplane fuel load shall be no less than that required in FOR 02.06

Single engine operations shall be conducted to ensure that the airplane can accelerate towards V_r , abort the takeoff, and come to a complete stop prior to leaving the end of the runway plus stopway. Airplane fuel load shall be no less than that required in FOR 02.06.

Airplane landing performance weights shall be computed to ensure that the airplane crossing the threshold at $V_{REF} + 5$ can land anywhere in the first third of the runway and come to a complete stop prior to leaving the end of the runway. Necessary landing distance additives shall be applied and stopway length shall not be utilized in planning.

The Contractor shall include procedures for computing performance for operations from contaminated runways in the Contractor OM. Operations from ice runways shall be considered contaminated field operations.

Where there is no manufacturer's data for operations related to the following conditions, the safety factors specified in either the Contractor's operating manuals or instructions, or the following factors below shall be applied in AAT operations for both takeoff and landing:

- (i) Weight of the Aircraft
- (ii) Airfield Altitude
- (iii) Air Temperature
- (iv) Wind
- (v) Slope
- (vi) Surface (Soft or Contaminated) – See the FSF BN 8.3 below for wet, snow, or ice contaminated runways.

NOTE: Reference to additional material such as the Flight Safety Foundation Approach & Landing Accident Reduction BN 8.3 (FSF BN8.3) or FAA AC 91-79 is recommended.

No credit shall be taken for the retarding effect of the runway surface when computing accel-stop distance.

No credit shall be taken for the retarding effect of the runway surface for landing performance requirements.

FOR 03.11 PERFORMANCE – HELICOPTERS – *Comply with SGRAO requirements*

FOR 03.12 USE OF OXYGEN – *Comply with SGRAO requirements*

FOR 03.13 BIRD STRIKE AVOIDANCE – *Comply with SGRAO requirements*

FOR 03.14 FLOAT ARMING – HELICOPTERS – *Comply with SGRAO requirements*

FOR 4: QUALIFICATIONS AND EXPERIENCE

FOR 04.01 FLIGHT CREW QUALIFICATIONS – *Comply with SGRAO requirements*

FOR 04.02 FLIGHT CREW QUALIFICATIONS AND EXPERIENCE – FIXED WING – *Comply with SGRAO requirements*

FOR 04.03 FLIGHT CREW QUALIFICATIONS AND EXPERIENCE – HELICOPTERS – *Comply with SGRAO requirements*

FOR 04.04 PILOTS FLYING MORE THAN ONE AIRCRAFT TYPE – *Comply with SGRAO requirements*

FOR 04.05 FLIGHT CREW COMPOSITION – FIXED WING – *Comply with SGRAO requirements*

FOR 04.06 FLIGHT CREW COMPOSITION – HELICOPTERS – *Comply with SGRAO requirements*

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FOR 5: FLIGHT CREW TRAINING

FOR 05.01 FLIGHT CREW – GENERAL TRAINING – *Comply with SGRAO requirements*

The Contractor should implement the requirements and acceptable means of compliance for their entire operation, but may alternately apply them solely for flight, maintenance, and support personnel engaged in the operation and maintenance of aircraft provided for Americas service. Where this “ring fenced” approach is taken, the Contractor shall upon demand present the full training documentation required for each person providing service to AAT, including any persons temporarily assigned.

FOR 05.02 FLIGHT CREW – PROFICIENCY TRAINING – *Comply with SGRAO requirements*

Night Operations

Continued Competency

- Pilots have carried out in the preceding 90 days, at least three take-offs, departures, approaches and landings at night at an offshore location in a helicopter of the same type, or a FSTD - Full Flight Simulator (FFS) representing that type. To the maximum extent practical, approaches and landings at night at an offshore location are to be conducted every other 90-day period.
- A minimum of one (1) night deck landing per year shall be assessed by a Base or Line Training Captain.
- If the above are not completed, the Pilot may not operate offshore by night, other than to participate in formal night training.

Mountain Flying

A formal and recorded training scheme flying in mountain operations shall have been undertaken plus a minimum of 6 months operations in mountainous terrain. For helicopter operations, the minimum elements should be based on the Helicopter Association of Canada Mountain Flying training guidelines.

Arctic / Cold Weather Flying

A formal and recorded training scheme flying in Arctic conditions which covers at a minimum: snow/ice and cold weather considerations, unprepared site and on ice landings, flat light and white out procedures, and operating area familiarization and procedures including fueling, communications and flight tracking.

Helicopter External Transport System (HETS)

An approved initial and annual recurrent training program is required for pilots assigned to Class D External Load Operations. The training program shall be based on the Helicopter Association of Canada Class D training guidelines, and shall include:

- (i) instruction on the applicable flight manual supplement or airworthiness approvals, including weight and balance calculation procedures, method of loading, rigging and attaching the external load and pre-flight procedures;
- (ii) instruction on operational requirements, including calculation of one engine inoperative performance as applicable, co-ordination communications procedures and operational restrictions;
- (iii) steps to be taken before commencing Class D load operations, including flight and ground crew briefings and instructions and pre-flight inspection requirements; and
- (iv) flight training with representative Class D loads including, as applicable to the load attachment configuration:
 - Precision hovering in and out of ground effect, including vertical reference maneuvering;
 - Pick-up, departure, approach and delivery of Class D loads;

- Simulated emergencies and malfunction procedures with representative Class D loads.

Helicopter External Transport System (HETS) Spotters and Technicians

An approved initial and annual recurrent training program is required for Spotters and Technicians assigned to Class D External Load Operations. The training program shall be based on the Helicopter Association of Canada Class D training guidelines.

FOR 05.03 FLIGHT CREW – EMERGENCY AND SAFETY EQUIPMENT TRAINING – *Comply with SGRAO requirements*

FOR 05.04 TECHNICAL/CABIN CREW MEMBERS – GENERAL TRAINING – *Comply with SGRAO requirements*

FOR 05.05 TECHNICAL AND CABIN CREW – PROFICIENCY AND EMERGENCY TRAINING – *Comply with SGRAO requirements*

FOR 05.06 LINE OPERATIONS SAFETY AUDIT – *Comply with SGRAO requirements*

FOR 6: MEDICAL AND FATIGUE

FOR 06.01 MEDICAL AND PILOTS MAXIMUM AGE – *Comply with SGRAO requirements*

Pilots on an AAT contract shall hold a medical certificate appropriate to the level of license required under the Shell contract. Where the regulator will allow operations with a lesser license (i.e. CPL) and the contract requires a higher license (i.e. ATPL), the medical certificate shall be that required by the regulator for the higher license.

Responsible ATT Aviation Managers and Contract Holders shall take legal advice from Shell attorneys familiar with the laws of the country where the aircraft operator is based and the country of operation when implementing the SGRAO requirements regarding age based medical requirements beyond that required by the regulator.

Responsible ATT Aviation Managers and Contract Holders shall take legal advice from Shell attorneys familiar with the laws of the country where the aircraft operator is based and the country of operation when implementing the SGRAO requirements regarding maximum age limits for aircrew.

FOR 06.02 FLYING HOUR LIMITS – FIXED WING – *Comply with SGRAO requirements*

Apply the 28-day flight time limit for all short-term operations exceeding 6 continuous days of company service including flight time in the period prior to Americas service, even if there are days during Americas service when no flying is conducted.

The Contractor shall manage crew assignments to meet these requirements. Crew assigned to Americas service shall be available to fly the maximum number of hours indicated in the table in FOR 06.02 without exceeding a required flight time limit for the period of their assignment, including previous flight time from non-Americas service. Some alleviation may be made at the discretion of the responsible AAT Aviation Manager for short notice operations.

FOR 06.03 FLYING DUTY PERIODS – FIXED WING – *Comply with SGRAO requirements*

Crews on even-length continuous work rotations (i.e. 7 on & 7 off or 14 on & 14 off) in AAT service shall observe the following requirements.

- (i) Crew assignments where regular flying is conducted without days off on site shall not be assigned longer than 14-day duty rotations.
- (ii) Crew assignments for Medevac standby where only training and currency flights are conducted shall not be assigned longer than 28-day duty rotations without days off on site.
- (iii) Crew training and non-AAT service during the AAT scheduled off work periods shall be conducted in the days immediately following AAT duty. Crew shall have no less than the following number of days off work immediately prior to reporting for Company duty.

Company work rotation	Days off prior to reporting for Company rotation
7 / 7	5
14 / 14	10
21 / 21	14
28 / 28	19

(iv) Variances to the above listed requirements may be approved by the responsible AAT Aviation Manager to the extent the Air Operator has implemented a computerized crew fatigue and rest recovery management system that has been accepted by the AAT Regional Aviation Manager.

While in Company service crews shall be provided:

- (i) One hour at the beginning of a crew duty period for preflight preparation, and;
- (ii) A minimum of ½ hour break near the middle of their duty period for a meal which shall not start until the crew is at their meal, and;
- (iii) Necessary breaks for personal comfort, and;
- (iii) At least ½ hour at the end of the duty period for post-flight duties.
- (iv) These times shall be included in the crew daily FDP total.

Two pilot operations using split or continuous duty periods which total more than 13 hours from beginning to end shall still comply with the minimum rest requirements. Next day start times shall be adjusted as necessary.

For single day ad hoc charters, the crew shall receive the Shell specified rest period prior to reporting for Shell duty.

Crewmembers changing from day duty to night duty, or from night duty to day duty, shall be provided no less than 24 hours off duty when making the shift change.

Assigning night standby duty to crews performing regular day flying is prohibited in AAT unless specifically authorized by the AAT Regional Aviation Manager.

Medevac crews assigned to 24-hour duty where allowed by regulation and where only training and currency flights are conducted shall have no less than 12 hours of on-call rest per 24 hour period which is reducible to 11 hours where accommodation is close to the place of work. When reducing the required 12 hour on-call rest period to 11 hours, the place of accommodation shall be no more than 30 minutes from the place of work under normal conditions. These requirements apply to both pilots and cabin crew.

FOR 06.04 FLYING HOUR LIMITS – HELICOPTERS – *Comply with SGRAO requirements*

Flying hour limits from FOR 06.04 for ad hoc or short-term service shall be applied as indicated in the following table:

Flight hour limit	Period of continuous service provision (Note 1)				
	< 7 days	7 to 14 days	2 to 4 weeks	4 to 8 weeks	> 8 weeks

Per year	N/A	N/A	N/A	N/A	N/A
3 x 28 days	N/A	N/A	N/A	N/A	Yes
Per 28 days	N/A	Yes	Yes	Yes	Yes
Per 7 days	Yes	Yes	Yes	Yes	Yes
Per 24 hours (including notes for SGRAO Flight Hour limit table)	Yes	Yes	Yes	Yes	Yes

Note 1: Service shall be considered continuous if an aircraft is dedicated to the Company, even if there are days during that period when no flying is conducted.

Note 2: The Contractor shall manage crew assignments to meet the requirements of this table. Crew assigned to Company service shall be available to fly the maximum number of hours indicated in FOR 06.04 without exceeding a required flight time limit for the period of their assignment, including previous flight time from non-Company service. Some alleviation may be made at the discretion of the responsible AAT Aviation Manager for short notice operations.

FOR 06.05 FLYING DUTY PERIODS - HELICOPTERS – *Comply with SGRAO requirements*

The SGRAO duty period definition shall be applied in all AAT operations.

Crews on even-length continuous work rotations (i.e. 7 on & 7 off or 14 on & 14 off) in AAT service shall observe the following requirements.

- (i) Crew assignments where regular flying is conducted without days off on site shall not be assigned longer than 14-day duty rotations. Rotations longer than 14 days shall use the normal SGRAO days off scheme.
- (ii) Crew assignments for SAR or Medevac standby where only training and currency flights are conducted shall not be assigned longer than 21-day duty rotations without days off on site. Rotations longer than 21 days shall use the normal SGRAO days off scheme.
- (iii) Crew training and non-AAT service during the AAT scheduled off work periods shall be conducted in the days immediately following AAT duty. Crew shall have no less than the following number of days off work immediately prior to traveling to report for Company duty.

Company work rotation	Days off prior to reporting for Company rotation
7 / 7	5
14 / 14	10
21 / 21	14

- (iv) Variances to the above listed requirements may be approved by the responsible AAT Aviation Manager to the extent the Air Operator has implemented a computerized crew fatigue and rest recovery management system that has been accepted by the AAT Regional Aviation Manager.

While in Shell service crews shall be provided:

- (i) One hour at the beginning of a crew duty period for preflight preparation, and;
- (ii) A minimum of ½ hour break near the middle of their duty period for a meal which shall not start until the crew is at their meal, and;

- (iii) Necessary breaks for personal comfort, and;
- (iii) At least ½ hour at the end of the duty period for post-flight duties.
- (iv) These times shall be included in the crew daily FDP total.

When reducing the required 12-hour rest period to 10-hours or the minimum permitted by the National Aviation Authority (NAA), whichever is greater, the place of accommodation shall be no more than 30 minutes from the place of work under normal conditions.

Crewmembers changing from day to duty to night duty, or from night duty to day duty, shall be provided no less than 24 hours off duty when making the shift change.

Cabin attendant limits shall be applied to SAR cabin crew.

Assigning night standby duty to crews performing regular day flying is prohibited in AAT unless specifically authorized by the AAT Regional Aviation Manager.

SAR / Medevac crews assigned to 24-hour duty where allowed by regulation and where only training and currency flights are conducted shall have no less than 12 hours of on-call rest per 24-hour period which is reducible to 11 hours where accommodation is close to the place of work. When reducing the required 12 hour on-call rest period to 11 hours, the place of accommodation shall be no more than 30 minutes from the place of work under normal conditions. These requirements apply to both pilots and cabin crew.

FOR 7: AIRCRAFT AND EQUIPMENT

FOR 07.01 EQUIPMENT SPECIFICATIONS – FIXED WING – *Comply with SGRAO requirements*

FOR 07.02 EQUIPMENT SPECIFICATIONS – HELICOPTERS – *Comply with SGRAO requirements*

A fly away crash box shall be provided for any operation with more than one assigned helicopter.

Rotor Brake serviceability for offshore operations:

The Aircraft Operator is Accountable for the following requirement:

1. Document a requirement that prohibits the helicopter departing without a serviceable rotor brake for the following flights:
 - a. From Operating Base to offshore; and
 - b. Offshore in-field and inter-field.

Acceptable Means of Compliance for the Rotor Brake requirement:

Direct flights from offshore to the Operating Base are permitted in order to return the helicopter back to base for rectification with approval of responsible AAT Aviation Manager.

On rare occasions, flights from the Operating base to offshore and back may be approved by the responsible AAT Aviation Manager in order to support unique Business Unit (BU) requirements and/or reduce overall risk exposure. Current and forecast weather shall be considered during the risk assessment process.

FOR 07.03 EQUIPMENT SPECIFICATIONS – SURVIVAL EQUIPMENT – *Comply with SGRAO requirements*

Immersion suits are also required for extended low-level, overwater fixed-wing survey flights when operating in conditions when they would be required for helicopter operations. The AAT Aviation Manager responsible for low-level, overwater fixed-wing operations shall ensure that personal survival equipment can be donned within the time of descent from the planned operational altitude plus time to brace for impact or that equipment must be worn for the duration of the flight.

The use of passenger PLBs shall be determined as part of the required SAR ALARP analysis. PLBs chosen shall be compatible with local SAR equipment.

The use of CA-EBS is intended. Incorporation in respective geographical sub-regions in the Americas for all offshore helicopter operations has been studied and is dependent in the short term on achieving alignment of peer OGP companies in the region to implement since contractors working offshore are typically drawn from the same contract providers as well as availability of an OPITO wet training course from an approved HUET Provider in the sub-region.

FOR 8: FLIGHT DATA MONITORING

FOR 08.01 FDM – HARDWARE, PROGRAM AND SYSTEM SERVICEABILITY SHELL – *Comply with SGRAO requirements*

Where there is a significant number of flight data monitoring system installations required combined with a low annual usage a cost benefit analysis shall be conducted with SAI and agreement with the using business reached before the SGRAO requirement is applied.

FOR 08.02 FDM – PROGRAM MANAGEMENT AND AUDIT – *Comply with SGRAO requirements*

ENGINEERING REQUIREMENTS

ENG 1: MANAGEMENT

ENG 01.01 AIRWORTHINESS MANAGEMENT – *Comply with SGRAO requirements*

The AAT contract aircraft replacement schedule shall be managed by the responsible AAT Aviation Manager in consultation with supported AAT businesses. Where a business deems it necessary to operate an aircraft type past the service date limits given in the SGRAO, the AAT Regional Aviation Manager concurs, and agreement cannot be obtained from SAI, the business shall execute an HSSE Control Framework exception request.

Exception:

In the USA, the following requirements for Equivalent non-EASA Part 66 Qualification Independent Inspection authorization shall be used.

- First and Second Signatory Mechanic A, P, A&P as per 14 CFR 65.
- Recent experience as per 14 CFR 65.
- Required inspection personnel in accordance with 14 CFR 135.429 regardless of the number of seats on contracted aircraft.
- Additionally - Providing evidence of suitable training and relevant experience to certify that level of independent inspection.

ENG 2: CONTINUING AIRWORTHINESS

ENG 02.01 CONTINUING AIRWORTHINESS ORGANIZATION – *Comply with SGRAO requirements*

A complete description of maintenance staffing shall be submitted by the Contractor describing number of personnel at each maintenance work site, roles, multiple roles held by an individual, normal shift periods, days on shift and days off at site, maximum duty hours while on shift, etc. A tool for this documentation is available from AAT and should be reviewed with SAI for compliance.

Contractor shall ensure that for local and remote operations, sufficient approved maintenance personnel are assigned to be able to conduct Completion of Independent / Duplicate Inspections / Required Inspection Items (RII) without utilizing pilots for these tasks, and without delaying Company operations to bring in an inspector

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from another location. The minimum number of appropriately licensed maintenance personnel for field maintenance operations shall be two, and at least one shall be approved as an Independent Inspector.

ENG 02.02 AIRCRAFT MAINTENANCE PROGRAM – *Comply with SGRAO requirements*

ENG 02.03 AIRWORTHINESS DIRECTIVES AND (ALERT) SERVICE BULLETINS – *Comply with SGRAO requirements*

ENG 02.04 AIRCRAFT TECHNICAL RECORDS – *Comply with SGRAO requirements*

ENG 02.05 CONTRACTED MAINTENANCE AND SERVICES – *Comply with SGRAO requirements*

A complete description of maintenance staffing shall be submitted by the Contractor describing number of personnel at each maintenance work site, roles, multiple roles held by an individual, normal shift periods, days on shift and days off at site, maximum duty hours while on shift, etc. A tool for this documentation is available from AAT and should be reviewed with SAI for compliance.

Contractor shall ensure that for local and remote operations, sufficient approved maintenance personnel are assigned to be able to conduct Completion of Independent / Duplicate Inspections / Required Inspection Items (RII) without utilizing pilots for these tasks, and without delaying Company operations to bring in an inspector from another location. The minimum number of appropriately licensed maintenance personnel for field maintenance operations shall be two, and at least one shall be approved as an Independent Inspector.

ENG 02.06 COMPETENCE AND TRAINING (CONTINUING AIRWORTHINESS) – *Comply with SGRAO requirements*

ENG 3: MAINTENANCE

ENG 03.01 MAINTENANCE ORGANIZATION MANAGEMENT – *Comply with SGRAO requirements*

Contractors shall implement a compliance monitoring system that includes all aspects of company operations including flight operations, maintenance operations, and ground servicing operations. The activities to be checked shall be selected based on hazard analysis and historical incidents and near misses.

ENG 03.02 MAINTENANCE CONTROL AND RELEASE TO SERVICE – *Comply with SGRAO requirements*

ENG 03.03 DUPLICATE INSPECTIONS – *Comply with SGRAO requirements*

The use of pilots to act as the second signatory is solely intended to return an aircraft to a maintenance location from a non-maintenance site. Field maintenance in support of seismic, helirig, aerial survey operations and other temporary project support shall be adequately staffed to support operations.

ENG 03.04 TOOLS AND EQUIPMENT – *Comply with SGRAO requirements*

Tools shall be inventoried at the beginning of each maintenance action and shall be inventoried and accounted for prior to an aircraft being released to service. These inventories shall be documented in an auditable form.

All tools shall be secured when not in use and Contractors shall implement a policy prohibiting the undocumented borrowing of personal tools which could render the control and accounting of tools ineffective.

In the event that a tool cannot be accounted for, any aircraft provided for Americas service shall be removed from service if there is any cause to believe that the tool may have been left on that aircraft, which shall include the possibility of undocumented borrowing of tools. The aircraft shall not be returned to service until a thorough inspection has been conducted to confirm that the missing tool was not left on the aircraft being provided for AAT service.

ENG 03.05 AIRCRAFT FACILITIES, PPE AND STORES – *Comply with SGRAO requirements*

Parts and consumables that rely upon undamaged packaging for shelf-life assurance (such as packaged O-rings) shall be inspected to ensure that the packaging is not damaged and that it has not been pierced during handling or through inadvertent stapling or other action. Such parts and consumables shall be rejected upon receipt if damaged packaging is detected.

ENG 03.06 MAINTENANCE OBSERVATION PROGRAM – *Comply with SGRAO requirements*

ENG 03.07 STAGED WORKSHEETS – *Comply with SGRAO requirements*

ENG 03.08 FITNESS FOR WORK AND FATIGUE MANAGEMENT – *Comply with SGRAO requirements*

Contract Holders shall take legal advice from Shell attorneys familiar with the laws of the country where the aircraft operator is based and the country of operation when implementing the requirements in ENG 03.08 regarding maximum age limits for engineers and age based medical requirements beyond that required by the regulator.

Control of fatigue caused by commuting to work

- Contractor shall have a process to control engineer fatigue caused by commuting from a location not local to the work site for Company service. Commuting from place of residence or from another duty assignment shall both be controlled.
- Daily commutes shall not exceed one hour each way. If a daily commute is longer than one hour each way, Contractor shall provide local accommodations that shall be used when on Company service or a different engineer shall be assigned to maintain aircraft provided for AAT service. Alternatively, if it does not impede aircraft availability for AAT service, the engineer's work shift may be reduced by the amount of time spent in round-trip commute greater than two hours.
- Where an engineer commutes to a work site for a multi-day Company assignment and that commute is greater than two hours, the engineer shall either:
 - o report no later than 9 hours prior to commencing Company service and shall be provided local accommodations in order to achieve no less than 8 hours of local rest, or;
 - o work a reduced shift of no more than 12 hours adjusted for the time spent in the commute that exceeds two hours, i.e. maximum work shift = 14 hours - total time spent in commute to work site.

ENG 03.09 AUTHORIZATIONS, COMPETENCE AND TRAINING (AMO) – *Comply with SGRAO requirements*

ENG 03.10 FOREIGN OBJECT DAMAGE – *Comply with SGRAO requirements*

ENG 03.11 AIRCRAFT FUEL QUALITY – *Comply with SGRAO requirements*

ENG 03.12 AIRCRAFT REFUELING – *Comply with SGRAO requirements*

ENG 4: HEALTH AND USAGE MONITORING SYSTEM

ENG 04.01 HUMS – EQUIPMENT FIT AND PROCEDURES – *Comply with SGRAO requirements*

ENG 04.02 HUMS – REQUIRED SERVICEABILITY – *Comply with SGRAO requirements*

ENG 04.03 HUMS – DOWNLOAD, ANALYSIS AND CERTIFICATION – *Comply with SGRAO requirements*

ENG 04.04 HUMS – SUPPORTING PROCESSES – *Comply with SGRAO requirements*

SPECIALIST OPERATIONS

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SPO 01.01 AVIATION SECURITY – *Comply with SGRAO requirements*

SPO 02.01 SEARCH AND RESCUE OPERATIONS – HELICOPTERS – *Comply with SGRAO requirements*

SPO 03.01 RESERVED – *Comply with SGRAO requirements*

SPO 04.01 LAND SEISMIC AND HELI-RIG OPERATIONS – *Comply with SGRAO requirements*

SPO 05.01 AERIAL PIPELINE INSPECTION – *Comply with SGRAO requirements*

SPO 06.01 MARINE PILOT TRANSFER – HELICOPTERS – *Comply with SGRAO requirements*

The vessel may adopt the supporting Aircraft Operator's published hoisting instruction as a suitable means of compliance for documented hoisting procedures.

The hoisting area inspection may be carried out by AAT approved Aircraft Operator representatives. It shall be documented in an inspection report which shall be maintained in AAT files. Where the receiving vessel is arriving from an area where an on-site inspection cannot be conducted, a desktop review is permissible with concurrence from the Aircraft Operator and the AAT Regional Aviation Manager.

SPO 07.01 AIRBORNE GEOPHYSICAL SURVEY – *Comply with SGRAO requirements*

SGRAO RPAS Requirements (V3.2 date June 2020)

RPAS REQUIREMENTS

RPAS: REMOTELY PILOTED AIRCRAFT SYSTEMS

RPAS 01.01 REMOTELY PILOTED AIRCRAFT SYSTEMS (RPAS) OPERATIONS – *Comply with SGRAO requirements*

SGRAO Facilities Requirements (V3.1 date June 2019)

HELIDECK DESIGN

FAC 01.01 APPLICABLE HELIDECK DESIGN STANDARDS – *Comply with SGRAO requirements*

FAC 01.01.1 NATIONAL GOVERNING DOCUMENTS FOR HELIDECK DESIGN – *Comply with SGRAO requirements*

FAC 01.02 DEFINE HELIDECK REQUIREMENTS – *Comply with SGRAO requirements*

FAC 01.03 HELIDECK PHYSICAL REQUIREMENTS – *Comply with SGRAO requirements*

FAC 01.04 HELIDECK ENVIRONMENTAL EFFECTS ANALYSIS – *Comply with SGRAO requirements*

FAC 01.05 HELIDECK MARKING AND LIGHTING – *Comply with SGRAO requirements*

FAC 01.06 HELIDECK WEATHER AND MOTION MONITORING SYSTEMS – *Comply with SGRAO requirements*

FAC 01.07 HELIDECK COMMUNICATION EQUIPMENT REQUIREMENTS – *Comply with SGRAO requirements*

A portable VHF Air Band hand-held radio with headset shall be required per helideck team member.

FAC 01.08 HELIDECK EMERGENCY EQUIPMENT – *Comply with SGRAO requirements*

FAC 01.09 OFFSHORE AVIATION REFUELING EQUIPMENT – *Comply with SGRAO requirements*

FAC 01.10 OFFSHORE HELICOPTER HOIST OPERATION (HHO) AREA SELECTION AND MARKING – *Comply with SGRAO requirements*

FAC 01.11 OFFSHORE CRANE REQUIREMENTS – *Comply with SGRAO requirements*

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FAC 01.12 NUI PHYSICAL CHARACTERISTICS AND EQUIPMENT – *Comply with SGRAO requirements*

AERODROME DESIGN – RESERVED

FAC 02.01 - RESERVED

PASSENGER HANDLING

FAC 03.01 FLIGHT SCHEDULING – *Comply with SGRAO requirements*

FAC 03.02 PASSENGER HANDLING AREAS – *Comply with SGRAO requirements*

FAC 03.03 PASSENGER WEIGHT AND SIZE – *Comply with SGRAO requirements*

Use of declared weights in remote areas requires AAT Regional Aviation Manager approval. All efforts shall be made to provide a means of collecting actual weights.

Where standard passenger mass is used, the Responsible AAT Aviation Manager shall conduct representative surveys of passenger weights at the beginning of the operation and at intervals no greater than every two years thereafter. The higher of the Group prescribed standard weights or the local survey standard weights shall be used. The local survey standard weight shall be set as the mean of the surveyed weights plus one standard deviation. It may be divided by gender; otherwise male weights shall be used for all passengers.

FAC 03.04 MANIFESTS – *Comply with SGRAO requirements*

FAC 03.05 PASSENGER SCREENING AND SECURITY – *Comply with SGRAO requirements*

FAC 03.06 PASSENGER, BAGGAGE AND CARGO HANDLING – *Comply with SGRAO requirements*

Carriage of checked-in baggage or cargo in aircraft cabins requires the case-by-case approval of the Responsible AAT Aviation Manager.

Carriage of hand baggage and luggage in offshore helicopter cabins requires the case-by-case approval of the Responsible AAT Aviation Manager.

The requirements of 49 CFR Part 175 apply to all shipments offered for air transport to, from, or within the United States, including when the shipment is prepared in accordance with the ICAO Technical Instructions for the "Safe Transport of Dangerous Goods by Air" (Doc. 9284-AN/905).

HELIDECK OPERATIONS

FAC 04.01 MANAGE HELIDECK RISK – *Comply with SGRAO requirements*

For the purposes of providing persistent, real-time assurance for offshore helidecks, Americas – Air Transport has implemented the use of SafeHelideck—an online, software-based assurance tool that provides management of helideck programs. The program allows assurance providers to track the completion of training, inspections, and facilitates the ability to standardize the management of information across numerous assets throughout the region.

All Shell-owned offshore facilities that conduct helicopter operations approved by Shell shall utilize SafeHelideck for assurance and standardization purposes. Americas – Air Transport will provide a standard template and provide guidance on how to best use the software and shall use the software as part of its helideck assurance program.

FAC 04.02 HELIDECK MANNING REQUIREMENTS – *Comply with SGRAO requirements*

FAC 04.02.1 HELIDECK TEAM MANNING AND DUTIES MATRIX – *Comply with SGRAO requirements*

FAC 04.03 HELIDECK MANNING REQUIREMENTS – MINIMALLY MANNED FACILITIES – *Comply with SGRAO requirements*

FAC 04.03.1 HELIDECK TEAM MANNING AND DUTIES MATRIX – MINIMALLY MANNED FACILITY – *Comply with SGRAO requirements*

FAC 04.04 OFFSHORE AVIATION ROLE COMPETENCE – *Comply with SGRAO requirements*

Helicopter landing officer training – *Comply with SGRAO requirements*

Brazil – HLOs shall be trained and certified under the ALPH national regulatory requirements by attending the EMCIA course.

Mexico – OPITO certified training center is RelyOn Nutec CME for HLO and HDA training as well as the different under water egress training required courses.

Colombia / French Guiana / USA – Attend the AAT accepted HLO training course or any OPITO or OPITO equivalent course. Consult with the Responsible AAT Aviation Manager for acceptability.

Trinidad – Designated OPITO equivalent course as specified. Consult with the Responsible AAT Aviation Manager for acceptability.

Helideck Assistant (HDA) training – *Comply with SGRAO requirements*

Brazil – HDAs shall be trained and certified under the BOMBAY national regulatory requirements by attending the EMCIA course.

All other areas - Local training / SGRAO requirements shall be observed.

Air traffic controller training – *Comply with SGRAO requirements*

A log of air traffic control radio transmissions is not required if communications are recorded on an automatic system which retains the recording for a suitable period to aid in SAR and incident investigation.

Radio operator training – *Comply with SGRAO requirements*

Brazil – Radio operators are licensed under local regulation and associated required EPTA CAT “M” given by ICEA.

Mexico – Radio operators are licensed under NAA regulation, (AFAC). Flight dispatchers and pilots have the rating on their licenses: RTAR (Radio Telefonista Aereo Restringido)

Trinidad – No radio operator’s license is required. Local training requirements shall be observed.

USA – No radio operator’s license is required. Local training requirements shall be observed.

Other areas – As per national regulation. Local training requirements shall be observed.

FAC 04.04.1 OFFSHORE AVIATION ROLE COMPETENCE - HLO AND HDA COMPETENCE FRAMEWORK – *Comply with SGRAO requirements*

FAC 04.05 OFFSHORE AVIATION ROLE COMPETENCE – SUPPORTING ROLES – *Comply with SGRAO requirements*

For offshore facilities using SafeHelideck, the software will be used as the program of record for documenting training and proficiency of Helideck Personnel. All training and competency will be tracked in the program.

Designated HLOs shall competency assess HDAs and designate them as such in SafeHelideck. Designated

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HLO competency assessors shall competency assess HLOs. Following the completion of a successful competency assessment, the Offshore Installation Manager (OIM)/Person in Charge (PIC)/Vessel Master shall designate HLOs in SafeHelideck.

FAC 04.06 HELIDECK TEAM EXERCISES – *Comply with SGRAO requirements*

An annual training plan shall be posted in SafeHelideck by the Americas-Air Transport Team. For offshore facilities using SafeHelideck, all completed helideck team training exercises/drills shall be recorded in SafeHelideck. Based upon the enhanced tracking capabilities of SafeHelideck, it is recommended that monthly exercise/drill scenarios are completed in the order in which they are published in SafeHelideck.

FAC 04.07 GENERAL HELIDECK PROCEDURES – *Comply with SGRAO requirements*

FAC 04.07.1 GENERAL HELIDECK PROCEDURES – TEMPLATES FOR SITE SPECIFIC HELIDECK NORMAL PROCEDURES – *Comply with SGRAO requirements*

FAC 04.07.2 GENERAL HELIDECK PROCEDURES – DEVELOPMENT OF ABBREVIATED HELIDECK OPERATIONS CHECKLIST – *Comply with SGRAO requirements*

FAC 04.07.3 GENERAL HELIDECK PROCEDURES – WEEKLY HELIDECK EQUIPMENT CHECKLIST – *Comply with SGRAO requirements*

FAC 04.08 NORMALLY UNATTENDED INSTALLATION (NUI) PROCEDURES – *Comply with SGRAO requirements*

FAC 04.08.1 NUI HELIDECK PROCEDURES – TEMPLATES FOR SITE SPECIFIC NUI PROCEDURES – *Comply with SGRAO requirements*

FAC 04.09 OFFSHORE EMERGENCY RESPONSE – *Comply with SGRAO requirements*

FAC 04.10 OFFSHORE REFUELING PROCEDURE – *Comply with SGRAO requirements*

Fueling helicopters with passengers on board is not authorized.

"Daily Fuel Quality & Sampling Inspections" and "Daily Helideck Preflight Inspections" shall be completed daily no later than the first scheduled landing aboard the helideck for that day or 0800, whichever is earlier. This requirement applies even when there are no scheduled flights for the day.

FAC 04.11 HELIDECK SIMOPS HAZARDS – *Comply with SGRAO requirements*

Second helicopter operations to obstructed helidecks:

The following expanded requirements shall be followed.

For concurrent maintenance recovery landings (two aircraft on a single helideck with the disabled aircraft outside of a properly sized parking area):

- a) Determine if alternate means of transporting engineers and material can be used such as vessel transport. Use the alternate means of transport where practicable.
- b) Operations shall be daylight only and shall be authorized by the Contractor's Operations Manual.
- c) Only personnel required for the recovery activity may travel on the recovery helicopter. No other passengers may be transported to or from the facility in the recovery helicopter unless the full Obstacle Free Sector is available. Deviation from this requirement requires AAT Regional Aviation Manager approval.
- d) A smaller helicopter shall be used where possible.
- e) Minimum obstruction clearance during landing or take-off shall not be less than the greater of 1/3 rotor diameter or 4 meters. Any such obstructions shall be located within the area swept by the 8

o'clock forward through to the 4 o'clock position of the landing helicopter as viewed from the flight deck.

- f) The landing helicopter's landing gear may not be placed closer than 1 meter / 3 feet to the edge of the Safe Landing Area.
- g) The disabled helicopter shall be completely tied down - airframe and all blades.
- h) The combined weight of the landing helicopter and disabled helicopter shall be checked to ensure it does not exceed the maximum limit for the helideck.
- i) The disabled helicopter PIC & recovery helicopter PIC shall consult prior to conducting the landing.
- j) The helicopter operator, PIC of the recovery helicopter, PIC of the facility, and responsible aviation manager must all agree that the landing can be safely conducted.

FAC 04.12 UNSCHEDULED LANDING PROCEDURE – *Comply with SGRAO requirements*

FAC 04.13 OFFSHORE HELICOPTER HOIST OPERATIONS (HHO) – *Comply with SGRAO requirements*

Where a contract for winching is established, the Contractor shall publish a winching instruction which shall be provided to all vessels and platforms where winching could be performed.

Where vessel hoisting operations are anticipated, designated vessel hoisting points shall be evaluated against the CAP 437, applicable National Governing Documents, and the International Chamber of Shipping (ICS) "Guide to Helicopter/Ship Operations". Depending on winching exposure this may be done by a desktop review or physical inspection.

FAC 04.14 COLD WEATHER HELIDECK OPERATIONS – *Comply with SGRAO requirements*

FAC 04.15 VESSEL MOTION AND RELATIVE WIND HAZARD CONTROLS – *Comply with SGRAO requirements*

Maximum sustained wind speed for normal helicopter operations shall be 45 knots unless the business or destination has established a lower limit in which case that limit shall be used. Maximum sustained wind speed for normal helicopter operations shall not exceed any wind related SAR limit. Maximum sustained wind speeds for emergency operations shall be the limit set in the operator's operations manual for landing and ground operations or for hoisting as applicable.

Maximum sea state or wave height for normal offshore helicopter operations shall be the lowest of:

- The float certification limit delineated by aircraft type. If more than one type float system is in use for a given aircraft type this limit may be applied according to the individual system certification limit as installed on the helicopter.
- The maximum sea state for personnel vessel recovery if this is the primary means for SAR, including any FRC launch limits.
- The maximum sea state for personnel hoist recovery as established by the helicopter SAR provider if this is the primary means for SAR.

Maximum sea state or wave height for offshore airplane operations shall be the lowest of:

- The maximum sea state for personnel vessel recovery if this is the primary means for SAR, including any FRC launch limits.
- The maximum sea state for personnel hoist recovery as established by the helicopter SAR provider if this is the primary means for SAR.

Maximum vessel motion shall be the lowest of:

- The maximum vessel motion established by the vessel. This limit may be applied vessel by vessel if properly published to the pilots.
- The maximum motion limit established by the helicopter operating company.

- The limits given in the Helideck Certification Agency HLL Part C available from their website download page.

FAC 04.16 DYNAMIC POSITIONING VESSEL HAZARD CONTROLS – *Comply with SGRAO requirements*

FAC 04.17 OFFSHORE EXTERNAL LOAD OPERATIONS – *Comply with SGRAO requirements*

FAC 04.18 OFFSHORE LOW HOVER OPERATIONS – *Comply with SGRAO requirements*

FAC 04.19 HELIDECK AIRCRAFT MAINTENANCE RECOVERY – *Comply with SGRAO requirements*

FAC 04.20 HELICOPTER DOWNWASH AND WAKE TURBULENCE HAZARD CONTROLS – *Comply with SGRAO requirements*

AERODROME OPERATIONS – RESERVED

FAC 05.01 - RESERVED

HELIDECK & AERODROME MAINTENANCE

FAC 06.01 HELIDECK AND HELIDECK SYSTEM MAINTENANCE – *Comply with SGRAO requirements*

Commission annual certification of:

- The helideck firefighting foam production system if fitted.
 - For installation design, commissioning and annual testing refer to NFPA 11 and NFPA 16. (Additional guidance is available in Shell DEP 80.47.10.12 – Gen. and Shell DEP 80.47.10.31 – Gen.)
- Foam Proportioner System:
 - Laboratory certified produced foam test:
 - In lieu of a laboratory certified produced foam test, the foam proportioning system shall be permitted to be tested with a listed or approved method that does not require discharge of foam concentrate (NFPA 11, 11.6.3). Testing may be performed using surrogate, nonfoaming, environmentally acceptable, test liquids in lieu of foam discharge to the extent proper proportioning in accordance with the manufacturer’s design specifications can be demonstrated.
 - Laboratory certified foam concentrate test:
 - Refer to Shell DEP 80.47.10.31 – Gen. for requirements pertaining to additional testing requirements for foam concentrate.

*For additional information, reference the Technical Position Paper on the Selection, Use, Handling and Disposal of Fire-fighting foams and Firewater Containing Per – and Poly-Fluorinated Alkyl Substances (PFAS).
Link - Shell Technical Position Paper (TPP)

FAC 06.02 NORMALLY UNATTENDED INSTALLATION (NUI) MAINTENANCE – *Comply with SGRAO requirements*

FAC 06.03 HELIDECK FUEL SYSTEM MAINTENANCE AND QUALITY SAMPLING – *Comply with SGRAO requirements*

Daily Fuel Quality & Sampling Inspections shall be completed daily no later than the first scheduled landing aboard the helideck for that day or 0800, whichever is earlier. For the purposes of Emergency Response readiness, this requirement shall apply even when there are no scheduled flights for the day.