Aviation Task Profile – Sling Loading by Helicopter

This task profile outlines the identified hazards associated with the movement of animals, fodder and equipment operations by helicopter as an underslung (external) load. Failure to utilise the practical controls to those hazards identified in this plan will unnecessarily raise the risk profile of the task.

This task profile can be used to develop standards and/or to provide a reference for auditing and assessment by identifying the controls that are in place, assessing the risk and then determining what extra (if any) controls should be utilised.

Compliance with aviation and state WHS regulations, as well as any other applicable regulation, are implied and are to be considered and complied with in addition to the controls identified in this profile.

Task Profile Name	Sling Loading by Helicopter
Objectives of Task	To transport animals, fodder and equipment by air as an underslung helicopter load in support of NSW DPI Emergency Management tasks.
Description of task	The task involves planned and short notice callout to at risk areas as part of emergency management. Heights flown shall be a minimum of 500ft AO unless landing, sling loading, taking off or due stress of weather. Landings and takeoffs at non-aerodromes will be required. No personnel other than crew may be carried onboard the helicopter.
CASA permit/approval	Air Operating Certificate (AOC) endorsed for charter operations. Compliance with CAO 29.6 and/or Part 138 Aerial Work Operations. Operators require a Part 138 aerial work certificate. Pilots are to have appropriate experience in remote area operations. Operations conducted within the parameters permitted by the Civil Aviation Safety Regulations, associated orders and relevant advisory publications.
Aircraft Type	Helicopters only are utilised. Helicopters shall be turbine powered. The helicopter shall have sufficient performance to hover out of ground effect and depart with a positive rate of climb from the hover. Generally, helicopters should be operating with a 5% power margin based on out of ground effect (nil wind).
Number of engines	Single or multi-engine turbine engines.

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Task profile (sequence)	• Callout • Planning includes map reconnaissance for hazards, assessments of takeoff and landing areas, aircraft and how loading will be conducted • Briefing including update of hazards as shown on appropriate map, flight following procedures, weather, task objectives, landing/takeoff areas, communications, aerial risk assessment. Including expected power margins • Contact landowner/manager (include briefing on appropriate clothing) if utilising their land • Fuelling when required • Conduct Crew, passenger and ground crew brief • Start/Taxi/Takeoff • Transit to area of operation at a height commensurate with conditions and regulatory requirements but in any case, at a height not below 500 feet (ft) Above Obstacles (AO). • Conduct route and area of operations identification where practical, aerial hazard survey and pre-descent brief prior to descent below 500ft AO to Helicopter Landing Sites (HLSs) or operating area. Requires authorisation, risk assessment and hazard identification before attempting task. • Descend to the HLS or operating area commensurate with task objectives, authorisations, and conduct further hazard/target identification if required. • Communicate with ground crew. • Communicate with Air Services as required by standard regulatory, advisory and Company procedures and documentation. • Communicate with LCC or Operator (as approved) for flight following and/or task update. • Transit to operating base/fuelling area. Conduct pre-landing brief. • Land / Shut Down. • Debrief and report.
Task conditions or technical aspects	Information from aerial surveillance of the HLS or operating area should, where practicable, be augmented by information obtained from ground-based information. Flights may only be conducted in day visual conditions. Helicopters shall operate with a minimum 5% power margin based on Out of Ground Effect power requirements (nil wind). Sling load activities may be conducted if aircraft equipped and manned appropriately, approved in the aviation operations plan and conditions are suitable. Ground crew must be briefed and appropriately trained to conduct their roles in preparing and hooking up loads. Only aviation contractor personnel are to be under the helicopter while it is hovering. Maps may be provided to assist the pilot, but these should not be relied on by the pilot for the identification of hazards and therefore the reconnaissance of operating areas that are not certified landing areas, before descent is essential. The responsibility of ensuring the area is safe to descend into, operate and depart from remains with the pilot. Although 500ft has been nominated as the safe level of operations, it should be noted that wires may be strung between hills at higher levels and therefore constant vigilance by pilots and crew is required. Descent below 500ft (which includes the length of any long line with load) may be conducted if approved in the Aircraft Operations Plan required for the task and the pre-descent reconnaissance has been completed. The entire area that the aircraft operates below 500ft shall have been fully inspected in the pre-descent reconnaissance. The area should be continually assessed during the descent below 500ft. The purpose should be only to deliver or depart with an external load of animals, fodder or equipment. In all cases, a complete pre-landing survey is required to ensure that no obstacles may impinge on the safe operation of the helicopter.

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Time of Year	Operations are year-round
Terrain description	The areas of operations will encompass all types of terrain including paddocks, hills, and urban areas. The high terrain areas can experience low air density which can adversely affect aircraft performance. Also, the terrain can experience severe downdraughts and turbulence as a result of the strong winds. Cloud can roll in quickly. The lower areas can experience extensive areas of fog, mist, smoke or smog, which can limit visibility. High environmental temperatures and adverse winds will also negatively impact helicopter performance. The areas can be extensively wooded and/or populated with domestic structures in close proximity to power lines. Fences may be hidden in long vegetation. Areas may be flooded and therefore pickups maybe from outcrops, small areas of high ground or from buildings.
Limitations	Flights into or out of non-certified landing areas conducted in day visual conditions only. Landings at, and departures from non-certified landing areas shall be preceded by a pilot initiated risk assessment (as approved in the aviation operations plan) including aerial aviation hazard identification and assessment, assessment of environmental risks and an assessment of the operational impact of conducting the retrievals within the conditions established by this task profile. Descent below a safe height (clear of all known and potential obstacles – which are 500 ft AO) is not to be conducted until the pilot confirms a low level of risk factoring in the route and area of operations, aircraft performance, aerial hazard and obstacle survey, environmental conditions and has conducted a low-level flying pre-descent brief. This must be conducted for each descent below a safe height. Personnel working around the helicopter should be trained. Operator personnel only are permitted to work under the aircraft while it is hovering but then only in extenuating circumstances. Arrangements should be made to ensure the lift and delivery are accomplished without any personnel under the helicopter where possible. Doors would normally be fitted to the aircraft unless a specific reason is identified for their removal and the removal is identified as essential to conduct the task and considered in the risk assessment process. This may occur if the pilot needs to conduct vertical reference flying. Animals should be caged when being carried by sling. Sling loads to utilise remote release hooks as well as swivels at both ends. (CAAP 92-2) Helicopter Landing Site (HLS) are normally required for landings and departures however, the task will likely require operations to other areas and may be authorised following a risk assessment. Sterile cockpit procedures shall be implemented when the aircraft is operating below 500ft AO.
Height restrictions	As a general rule, flights are to be conducted at the highest altitudes commensurate with the task objectives. Any operations to non-certified landing areas shall require to be identified and approved in the aviation operations plan.
Minimum height above obstacles	500ft AO is generally accepted as the minimum operating height unless otherwise authorised. This operating height may need to be raised commensurate with the terrain and potential obstacles such as power lines.

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Operating times	Nominally 2 hours per session with a maximum of four sessions in any one day and consistent with the Contractors' fatigue management plan or CASA industry exemptions (whichever represents the greater restriction). Restricted to daylight hours and due consideration to visibility.
Aviation Contractor Requirements	Contractor must be tasked through the RFS SAD and meet all requirements of the Standing Offer such as having: - an AOC and/or an Aerial Work Certificate for aerial work operations, as well as other CASA authorisations suitable to the task - a demonstrably functioning Safety Management System - fatigue management, or CASA approved flight and duty time system - external sling load equipment must be approved in their aviation operations manual - been audited and assessed as being suitable and capable of conducting NSW DPI Emergency Management transport operations including the particular tasks noted - a proper and demonstrably functioning oversight of aerial work operations described - detailed and documented training system including training and checking for the conduct of air operations as described including the maintenance of proper training records for all operator personnel involved - a minimum 5-year history of transport and aerial work operations similar to the tasks described with no accidents indicating a trend in poor oversight or safety management - proper and detailed maintenance records of the aircraft and role equipment to be used in operations described.
Crew composition	1 to 3 - person crew (employed by the aviation contractor), Pilot, additional pilot and/or Crewman.
Qualification / Training of each crew member	**Pilot(s) –** CASA licenced, medically current, appropriate approvals, map and GPS navigation, Crew Resource Management, Fly the Wire (or similar), HUET, Sling Endorsed, and experience (see EOI) **Crewman** (if carried) – medically current, appropriate approvals, Crew Resource Management, HUET, trained and qualified to utilise equipment on helicopter, navigation and radio usage trained.
Role of each crew member	**Pilot(s)** – Identify hazards and maintain hazard clearance, operate aircraft, navigation, communication, responsible for safety of the aircraft and crew/passenger, pre-flight and in-flight briefings. **Crewman** (if carried) – May fly in helicopter and assist the pilot in hazard identification and avoidance, map reading, aircraft operation. Crewman also undertake ground based role assisting with sling load operations and communication. Crewman are employed by the aviation contractor.
Landing zone details	Landings should be conducted to low risk (CAAP 92-2) Helicopter Landing Site (HLS). If landing in non-certified site, approved needs to be in aviation operations plan.

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Communication requirements	The communications requirements for flight following purposes shall be detailed during the pre-flight briefing. It should be noted that the communications management may reside with the Operator but the LAOM shall be responsible for ensuring that the flight following is being conducted. Communications need to be maintained at all times between the pilot, the crewman, and ground crew in relation to hazard and targets identification, manoeuvring and general awareness. Communications should also be established and maintained between the aircraft and the ground crew element as appropriate in order to facilitate the communication of operational and hazard related information. Communications as required with flight services. Communications are to be established and maintained with other low flying aircraft in the immediate vicinity and that of the HLS.
SAR requirements	Flight-following should be conducted by the aviation contractor using satellite-based tracking systems showing real time information with at a minimum location and height reports not exceeding 5 minutes. The Local Air Operations Manager should have access to the satellite tracking system where possible to monitor task progress and aircraft location. In circumstances where it is not possible or practical, the Local Air Operations Manager may decide to use an air base manager to coordinate flight following.
PPE	• Appropriate flying helmet (equipped with visor) worn by each helicopter crewmember • Flammable resistant clothing worn by each crewmember and passenger • Enclosed leather footwear (hardened toe and supported heel preferred) • Cotton or wool underclothing, socks • Aviation standard gloves (recommended)