

ANNEX D TO AC 138-05 V2.1

Guidance on operational risk considerations Marine Pilot Transfer – Class D external load operations

Guidance - MPT Class D external load operations

Operations manual requirements

The operations manual must provide clear and detailed information for your crews and ancillary personnel, that covers aircraft equipment requirements, pilot and aircrew member experience requirements, operational and flight risk assessment profiles for each sequence and detailed operational and emergency procedures.

Risk assessment requirements

Utilising your SMS functionality prepare a pre-operational risk assessment for MPT class D external load operations that assesses the stated risk and/or articulates the nature and details of the stated risk controls for the operation generally.

The pre-operational risk assessment may utilise relevant elements of your general task specialist and class D external load pre-operational risk assessments and should also consider for MPT the hazard reduction capability of the following:

- pilot and aircrew member minimum experience requirements
 - pilot and aircrew member training, ongoing recency and proficiency requirements
 - aircraft equipment and MEL requirements to suit the expected type of operation
 - minimum crewing for differing operations e.g., NVIS operations
 - obstacle clearance procedures during transit to the ship including calculation of Night Visual Flight Rules (NVFR) and instrument flight rule (IFR) minimum safe altitude, as applicable
 - descent to ship procedures including:
 - instrument approach procedures (if applicable)
 - for night operations use of NVIS
 - ship identification procedures
 - descent to circuit altitude
 - circuit setup
 - approach profile including stabilised approach procedures
 - missed approach and go round criteria
 - use of radio altimeter
 - use of Terrain Awareness Warning Systems (TAWS).
 - determination of winch site
 - hover reference requirements
 - confirmation of available power
 - aircraft emergencies
 - winch emergencies
- departure and climb to minimum safe altitude

The operator's pre-operational risk assessment should also consider potential hazards and treatments required for matters that may reasonably occur, such as -

- the potential of the hazards associated with variable locations on the vessel for winching operations to or from a ship
- limiting wind and sea conditions
- alternative procedures when vessels have limited manoeuvring capability
- Environmental effects such as aerodynamic and wave motion effects -
 - turbulence and air flow effects from the flow of air around the hull
 - turbulence from air flow around the superstructure of the ship
 - hot gas flows and thermal effects from the funnel and exhaust outlets
 - dynamic motions such as pitch and sway, roll and surge and heave and yaw
- availability of rescue and fire fighting services on the vessel or externally provided.

Other general considerations

Pilot experience requirements

Due to the diversity of pilot experience across different operations, it is not suitable for CASA to mandate pilot minimums for night Marine Pilot Transfer (MPT) winching. However, operation manuals must outline the elements required by subsection 28.08(3) of the Part 138 MOS and consider:

- the requirement for a low-level rating with a winch endorsement
- the experience requirements to be the Pilot in Command (PIC) of a helicopter
- the experience requirements in the type or class of helicopter used for MPT winch operations
- the experience requirements as a PIC under the NVFR or IFR and at night
- the experience required for conducting deck landings
- the experience required for conducting winch cycles
- the content of the course of training and competency assessment required for MPT night winch operations.

Air crew member minimum experience requirements

As with pilots, air crew members typically have a diverse background in winch operations and helicopter experience. The operations manual is to outline suitable experience levels and training requirements to ensure competency prior to the conduct of MPT winch operations and should cover the following:

- the requirement for a winch training and competency assessment as per the requirements of the Part 138 MOS chapter 24
- the experience requirements for conducting winch cycles by day (land)
- the experience requirements for conducting winch cycles by night (land)
- the experience requirements for conducting winch cycles by day (ship)
- the experience requirement for conducting winch cycles (training) by night (ship)
- the course of training and competency assessment required prior to conducting night MPT winch operations.

Marine pilot training requirements

Operators should require Marine Pilots carried as aerial work passengers who are to be winched to or from a ship, to undergo a course of training prior to the conduct of winch operations that consists of, but is not limited to, the following:

- general helicopter safety and knowledge
- helicopter over water operations safety and emergency procedures
- winching equipment ground syllabus including practical use
- winching operations ground syllabus including practical dry runs
- complete 2 winches to an open land area by day and night
- complete 2 winches to a confined land area by day and night
- complete 2 winches to a container, tanker or gas vessel by day and night.

These requirements may be reduced where the operator is satisfied that the marine pilot has prior competency in relation to winching activities.

Note: Further guidelines for the syllabus of training are contained within the ICS guide to Helicopter/Ship Operations available for purchase from [International Chamber of Shipping Publications \(ics-shipping.org\)](http://www.ics-shipping.org)

General operational considerations

Descent to ship

The descent to ship procedure should be similar to that conducted for MPT land-on operations. The operations manual procedure is to contain information related, but not limited to, the following:

- method of ship identification
- obstacle avoidance procedures (day and night procedures)
- approach profiles including airspeeds and maximum Rate of Descent, instrument approach requirements, if applicable
- stabilised approach parameters*
- go-around triggers and go-around procedures
- procedures relating to use of GPWS and TAWS including response to warnings
- use of searchlights
- use of autopilot and flight director
- use of NVIS
- engine and other system failure procedures

Note: *Further guidance on establishing stabilised approach criteria for your operations can be found in the Helioffshore - Flightpath Management Guidelines [Flightpath-Management-RP-v2.0.pdf \(helioffshore.org\)](http://www.helioffshore.org)

Conduct of winch

The operator's operations manual is to contain information in relation to the conduct of the winch:

- procedure for confirmation of suitability of winch area
- confirmation of winch area minimum dimensions
- minimum clearance from obstacle requirements during the conduct of the winch
- confirmation of required power available relating to OEI HOGE requirement
- positioning and use of aircraft searchlight and winch downlights
- winch procedures
- specific requirement for bridge winching operations*
- aircraft and winch emergency procedures.

Note: *The ICS guide to helicopter/ship operations (see references) provides significant information on winch area dimension requirements and risk profiling on Bridge winch requirements. This information should be contained in the operator's operations manual.

Departure and climb to minimum altitude

The operator's operations manual is to contain relevant information relating to departure and climb to night minimum altitude including the following:

- positioning clear of winch area
- transition to forward flight
- awareness and mitigation of the risk of Controlled Flight into Terrain (CFIT)
- minimum transit altitude for return to base or to another ship.

Flight risk assessment considerations

SMS and operational documentation content

In addition to the pre-operational risk assessment, your SMS should contain the risk processes outlined in Figure 1 - Risk assessment and mitigation process flow chart from AC 138-05 or an equivalent process designed for your operation.

This process should also include the construction of the flight risk management plan and the processes for a pre-flight risk review for each task or series of tasks by your flight crew members. Refer to sections 4.2.8 and 4.2.9 of AC 138-05 for more information on this topic.

The post flight risk review requirements for MPT should also be covered by your procedures and the normal reporting requirements of your SMS followed in regard to matters raised at this stage of the risk assessment and management requirements of your MPT operations.