For Discussion: AMPI Best Practice (Position Paper)

Subject: Marine Pilot Helicopter Transfers; Land on and Winching.

Purpose
To develop an AMPI Best Practice Document, compiled by AMPI Members who are Marine Pilots with technical support from the Aviation Industry.

Background
This document may assist Pilotage Organisations with implementing best practice standards and carrying out due diligence on helicopter operators, machines, standards, Personal Protective Equipment and training.

There is an increasing number of Marine Pilot Transfer Helicopter Operations undertaken in Australia. This discussion paper also aims to open robust and constructive discussion with an end goal of Pilotage Industry best practice on what is undoubtedly a critical high-risk operation.

Helicopter Operator
AMPI recommends the following standards for “Helicopter Operators”
- Must hold an Air Operator Certificate (AOC) with approval to conduct Charter and Aerial Work
- Must have CASA approval for Winching under Charter Operations for Marine Pilot Transfer on their AOC
- Must have an approved Part 141 organisation for Pilot Training
- Must have an approved CAR 217 for Crewman and Wiremen training
- Must meet all CASA CAO 29:11 requirements
- Must hold BARS SOHO accreditation
- Operations must be conducted in accordance with Marine Order 57 (Helicopter Operations) and the ICS Guide to Helicopter/Ship Operations (the ICS Guide)

Helicopter Machine
AMPI recommends the following standards and list of equipment for “Helicopter Machines” the list is to help guide Pilot Organisations when assessing Helicopter Machines.
- One engine in operatable performance (OEI) Capability during winching operations

1 Winching recommendations only apply if winching transfers are to be undertaken
• 2 independent search lights
• Certified for MPT Winching operations
• 4 axis auto pilot with auto hover
• Floats with integrated life rafts
• Dual Navigation
• MFD with weather overlay
• ADS-B
• TAWS
• Dual GPS
• Standby attitude indicator with independent power source.
• RADAR Altimeter
• Dual Gyroscopic heading indicators (HSI’s)
• Instantaneous Vertical Speed Indicators (VSI’s)
• Weather RADAR (Colour)
• Dual VHF Transceivers
• Transponder (Mode S)
• VHF Marine Band Radio
• Emergency Locator Beacon (406 MHz)
• Satellite flight tracking (1 minute intervals)
• Cockpit Voice Recorder / Flight Data Recorder
• Engine Health and Usage Monitoring
• Survival Kit
• Emergency Cabin and Exit lighting (HEELS)
• Push out windows
• 2 x steerable search lights (minimum 450w)
• Auto activation floats and life rafts

Helicopter Pilots

AMPI recommends the following minimum standards for “Helicopter Pilots”
• Commercial Helicopters License
• CPL Medical
• Minimum 2000 hours
• Minimum 25 hours on type
• Minimum 100 hours multi engine command
• Must have winch rating on license
• Must be checked to line for MPT Winch operations
• Current HUET – every 2 years
• Current CRM / Human Factors – every 2 years
• Current Instrument Rating – annual
• Safety Management System training – every 2 years
• Emergency Response Procedure Training – every 2 years
• Dangerous Goods – Every 2 years

1 Winching recommendations only apply if winching transfers are to be undertaken
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- Emergency Simulator Training – Every 12 months.

**Helicopter Crewman**¹

AMPI recommends the following standards for “Helicopter Crewman”, which are part of the winching team when engaged for winching operations.

- 29:11 Winch certification
- PPL Medical
- Minimum 250 winches
- Must be checked to line for MPT Winch operations
- Current HUET – every 2 years
- Current CRM / Human Factors – every 2 years
- Safety Management System training – every 2 years
- Emergency Response Procedure Training – every 2 years
- Dangerous Goods – Every 2 years
- Emergency Winch Simulator Training – Every 12 months.

**Helicopter Winch**¹

AMPI recommends the following minimum standards for “Helicopter Winches”, which are used to hoist/lower Marine Pilots to and from vessels.

- Minimum 200kg lift
- Minimum 50m cable
- Pop 2 clutch as minimum
- Powered moveable boom.
- Variable speed winch with integrated limit and speed micro switches.
- Crewman and Pilot – Cable Cut authority switch.
- Two independent downward facing lights on boom controlled by crewman with override switch for pilot.
- CASA and Helo specific approval
- All components tracked and life as per Manufacturer Specs and CASA.

**Aviation PPE**

AMPI recommends the following standards for “Aviation PPE”, this list although not exhaustive will cover the requirements, best practice and suggested best available products for Helicopter Pilots, Crewmen and Marine Pilots.

- Aviation Pilot
  - Flight Suit – Nomex
  - Helicopter helmet with dual visor, face guard and helmet light.
  - Approved lifejacket with EBS.
  - Life Jacket to include – CASA approved, SOLAS approved, Manual inflation capability, EBS, EPIRB, Flares, Sea Dye, light, torch.
  - Nomex Gloves
- Crewman¹

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Australasian Marine Pilots Institute

- Flight Suit – Nomex
- Helicopter helmet with dual visor, face guard and helmet light.
- Approved integrated restraint harness / lifejacket with quick release.
- Life Jacket to include – CASA approved, SOLAS approved, Manual inflation capability, EBS, EPIRB, Flares, Sea Dye, light, torch.
- Nomex Gloves
- Sturdy boots with ankle support.

- Marine Pilots
  - Helicopter helmet with dual visor – this allows for spectacles under the external visor (recommend external visor to be clear)
  - Approved integrated restraint harness / lifejacket with approved Y-Piece for winching
  - Life Jacket to include – CASA approved, SOLAS approved, Auto / Manual inflation capability, EBS, EPIRB, Flares, Sea Dye, light, torch.
  - Nomex Gloves
  - Sturdy boots with ankle support & steel caps – during winching training it was noted my Marine Pilots than when taking a knee; toe, ankle and knee support/protection is important for comfort.

MPT Winching Training

- Marine Pilots:
  - Undergo classroom theory and dry practical runs plus theory examination.
  - Complete 2 winches to open land area
  - Complete 2 winches to confined land area
  - Complete to winches to bulk vessel (Day and Night)
  - Complete 2 winches to container, tanker or Gas vessel. (Day and Night)
  - 12 month re-currency on Wireman duties (Theory and Practical)
  - Must be rechecked if no winching within 90 days.

Links

CASA

- Civil Aviation Order 29.11 - (CAO 29.11)
- CASR Part 141 – (Civil Aviation Safety Regulations 1998, Volume 4, Part 141) Recreational, private and commercial pilot flight training, other than certain integrated training courses
- AMSA Marine Order 57

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Equipment example links

- Alpha Eagle Flight Helmet:

- MSA LH250 dual visor flight helmet

- Goodrich winch
  - [http://www.goodrichhoistandwinch.com/](http://www.goodrichhoistandwinch.com/)

Technical input from the Aviator Group which supplies MPT services in Gladstone, Mackay/Hay Point and Port Hedland.


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Additional feedback received

- Emergency Locating Beacon (406MHz) fitted outside helicopter with automatic release function and registered with AMSA (we are going through this process now)
- Manual inflating life jackets to aid in underwater escape
- Sturdy boots with ankle support, composite/steel caps and zipped for easier underwater release (majority of helicopter pilots here using now)
- Marine Pilots periodic re-familiarisation with helicopters 6 monthly (we are currently doing 3 monthly)
- Current HUET – every 2 years for Marine Pilots. This may come down the track with current investigation

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