

MOSR 5-10

21 December 2009

## **NZSAR HOIST OPERATORS' WORKSHOP 2009**

1. The NZSAR Secretariat and 3 Squadron RNZAF jointly hosted a two day workshop for helicopter hoist operators and associated search and rescue practitioners on Thursday 19 and Friday 20 November 2009 at RNZAF Base Ohakea.

2. **Purpose.** The purpose of the workshop was to help standardise the operation, safety procedures and training for helicopter hoist operations and to discuss night vision operations and search techniques. The workshop also served as a venue to share ideas and to learn from the operational experiences of colleagues.

### **Summary of Workshop**

3. Wg Cdr Russell Mardon (CO 3 Squadron) welcomed the attendees to RNZAF Base Ohakea, and opened the workshop.

4. Duncan Ferner (NZSAR Secretariat), provided an overview of the structure of NZSAR, and the purpose of the workshop. Nigel Clifford (RCCNZ), and Bill Nicholson (NZ Police), provided an overview of the organisation and role of RCCNZ and NZ Police in coordinating search and rescue operations (SAROPs) and the ongoing joint training for Air Observers and the importance of SAREXs.

5. For Session 1, attendees split into three groups to consider hoist & long line operations, and safety issues, in the following environments:

- wet/maritime
- land environment
- alpine environment.

### **6. Feedback Workshop Session 1:**

#### **• Wet/maritime Environment:**

- Winching operations offshore and from moving decks can be the most difficult type of operations; therefore there is a need for consistent training to keep currency and competency levels at the appropriate standards.
- Every operation is different, due to specific conditions on the day (type of vessel, sea conditions, water temperature, state of patient etc). Operators need to have an arsenal of different techniques and options available to them, to be able to respond to each incident.
- For all wet/maritime operations, SAFETY is the key issue.
- Communications – consider dropping a VHF hand held onto the vessel.

- Ensure suitable clothing is worn by all crew for the conditions, including the appropriate safety equipment (wetsuit etc).
- There can be problems with using a high line without a trained person on the vessel.
- Do not put paramedics or crew into the water without first considering whether or not it is worth the risk. Consider using a rescue cage or basket as an alternative.
- Concern was raised that there are no set limits or procedures that are common throughout all operators.
- HUET training for all helicopter crews operating over water – Suitable qualifications and training standards should be established.
- There is a desire to have common terminology – winch patter – across all operators. Needs to take into account the variables of off-shore winching.
- Operations from small vessels lead to a reduction/lack of pilot references. One mitigating action is to utilise another vessel to act as a pilot reference (contact via channel 16).
- Be prepared for seasickness – reduce by taking tablets.
- The ideal criteria for wet winching are:
  - ✓ A good pilot
  - ✓ Good crew coordination
  - ✓ Twin engine helicopter, with single engine capability
  - ✓ 600lb winch
  - ✓ IFR capable
  - ✓ Night capable
- Have air droppable life rafts available as an option.
- **Land Environment:**
  - It was noted that winching in the land environment tends to include a large number of volunteer being involved. This leads to variations in the gear land operators are using – e.g. clothing, helmets, headsets, and monkey straps.
  - It was suggested that there should be a minimum standard for gear requirements for land volunteers. E.g. Dog harnesses, Headsets/helmets ,Crew person full harness or monkey straps, flight overalls, underclothing, lifejackets, uninformativity of gear (possibility for group purchasing)
  - Concern over the equipment that is sometimes brought on board the aircraft – firearms, gas canisters, batteries etc. – there needs to be a SOP developed for these.
  - Loading of passengers and packs – try not to get all packs in or out last.
  - Desire to produce a training DVD – as safety training for volunteers.

- Helicopter crews do not always know the level of training of volunteers, so crews should treat all volunteers as novices and fully brief them on what they need to know when operating in and about aircraft.
  - There is a need to standardise “patter and common training for land SAR events using aircraft.
  - Eventual deployment of the NH90 will probably lead to more winching operations, due to the larger downwash produced. This will also mean that landing and operating zones will need to be larger.
  - If one operator turns down a tasking due to weather, then any other operators that are requested to do the task must be informed of this.
  - Duty cycles for night SAR operations must be adhered to.
  - Pilots need to be able to call ‘fatigue’ as appropriate.
  - While the ability to search at night has improved rescue is still a problem particularly over water.
  - Public relations need to be managed, especially as the public perception of capability (NVG) increases. The message needs to be made that the appropriate asset was tasked at the appropriate time. There is a need to build relations and communications with media.
  - Tasking agencies need to be aware of the dusk/dawn transition, and the challenges it brings to flying.
  - There is a need for a clear interpretation of the rules as these are not being interpreted in the same way in the training programmes.
  - CAA Rule 13A cannot be exercised just because you are on a SAR operation. Must stick to the rules.
  - There is a need for good relationships between operational planners and responders.
  - The tasking agencies are not aware of the level of training for each operator. The onus is on operators, rather than the coordinating authority, to call off the task if the operator is not able to carry out the task safely.
- **Alpine Environment:**
    - Risk management is a priority. A decision always needs to be made between “can we fly” and “should we fly”. Do not push forward when under pressure.
    - There needs to be standardisation of common hand signals to use when there are no communications.
    - Communications development required to provide effective and reliable communications with the “guy” on the stop.
    - Standardisation of training. There are concerns about the turnover rate of trained volunteers. The preference is that there are groups of specialist trained volunteers in the various alpine regions, and that they are always used for operations in alpine terrain. The volunteers

and crews (including pilots), need appropriate clothing, safety equipment, communications, location equipment (including reflective tape, phones, lights and torches) and survival packs for alpine terrain.

- The specialist volunteers are an important part of the decision making process.
- Necessary versus unnecessary risks need to be considered carefully. There is a need to consider the pressures to continue with the mission against the risks associated with the mission.
- Need to have as many options open as possible: strop, winch, sling, nappy, bowman bag. Need to have various options available to suit the condition of the patient and the time of day. Also need to know how to prevent spinning.
- NVG use. Lights from police vehicles are useful in guiding aircraft to operating areas, but flashing lights need to be turned off when the aircraft is operating in the immediate area. Lights should be pointing towards the landing area as the aircraft will fly over them on the approach to the area and not towards the lights.
- Would like to see development of a manual for winching/stropping operating in the alpine environment.

7. For Session 2, attendees split into three groups to consider:

- Communications;
- Aircraft safety briefs; and
- Human load equipment.

### **Feedback Workshop Session 2:**

- **Communications feedback.**
  - There needs to be better clarity on what frequencies are being used during operations. It is common for land volunteers and coordinating agencies to talk about channels (marine Ch 16, RNZAF Ch 13). Aircraft crews need to know what frequencies the channels correspond to.
  - The channel/frequency chosen for the operation should be one that can be accessed by all agencies involved.
  - Operation planning needs to include the processes for reporting back to the sarbase/RCC. This should also cover the frequency of SITREPS from operators.
  - Crew briefing needs to cover the communications protocols during busy flying conditions, winching etc.
  - Various options for communicating with the crew/paramedics being winched were discussed. These include handheld VHF (with earpiece under helmet), helmets with mics/radios, Bluetooth trials, throat mics, hand signals (not good at night), and cell phone as back up.
  - Communications options for crew members need to be covered during crew briefings. Good briefings lead to good operations.

- **Aircraft Safety Briefs feedback.**
  - To meet the OSH requirements and to satisfy the pilot that the crew have been fully briefed there needs to be an appropriate safety brief that covers the following topics:
    - ✓ Danger Areas
    - ✓ Approach/Departure/hand signals (Standard Agreement of 'Thumbs Up' from crew)
    - ✓ Emergency Equipment/Exits
    - ✓ Security (A/C specific)
    - ✓ Actions in an Emergency
    - ✓ Personal Responsibility
    - ✓ Safety briefing cards could be developed to cover the additional topics required to be covered for different environments and/or operations.
  - Wet Environment:
    - ✓ Extra Safety Equipment
    - ✓ Procedures for life vests and life rafts
    - ✓ Exit
    - ✓ Cabin Security
  - Alpine Environment
    - ✓ Exit Procedures
    - ✓ Controlling Gear
    - ✓ Clothing for the Environment
    - ✓ Whiteout/Visibility
  - Night Operations
    - ✓ NVGs and Light Sources
    - ✓ Slowdown and take care
    - ✓ Crewmember to escort passengers
    - ✓ Cars at 45 degrees to the landing area – fly over them on the approach
  - Winching Operations
    - ✓ Security  
seatbelts/strops/chairs/nappies/packs/equipment/currency/securing equipment/hold items with two hands.
    - ✓ Pre-training
    - ✓ Alternatives to Winching
    - ✓ Clear Signals
    - ✓ Hard hats

- **Human Load Equipment feedback.**

- There was some discussion as to whether or not operators are following any set standards for human load equipment. It was noted that the military and alpine operators do.
- There was a preference to have commonality of gear. This should be treated as a guideline rather than establishing a national standard.
- All gear must be certified.
- There should be a place to share ideas, such as a website. It was pointed out that the NZSAR website ([www.nzsar.org.nz](http://www.nzsar.org.nz)) has a lessons learnt section that can be used for this purpose.

### **Information and Discussion Sessions**

8. Several information and discussion sessions also took place during the course of the Hoist workshop. They included:

- Martin Paget (NZ Police) provided an insight into conducting maritime SAR operations.
- Nigel Cooper (RNZAF) provided an insight into conducting operations with NVGs.
- The RNZAF Introduction into Service Team provided an update on the NH90/A109 aircraft, the timeframes for becoming operational, their potential use as a SAR asset, and their capabilities.

9. **Closure.** Duncan Ferner closed the workshop at 4pm Friday 19 November 2009.

10. The workshop proved to be an effective platform to assist the sector to discuss the standardisation of operations, safety procedures and training for helicopter hoist operations. It also provided a good opportunity to discuss night vision operations and search techniques. The workshop was an effective venue to share ideas and to learn from the operational experiences of colleagues. Attendees would like to see the workshop repeated in a similar format every two years. The action points from the workshop are attached.

Duncan Ferner  
Manager  
NZSART Secretariat

## Action Points Arising from the NZSAR Hoist Operators Workshop

<b>Item</b>	<b>Notes</b>	<b>Responsible</b>
Wet Winching	Develop common terminology – winch patter – that is consistent across all operators.	<b>Operators</b> Sub-Group convened by NZSAR
Land Winching	Have standard gear requirements for all land volunteers.	<b>LandSAR</b> Sub-Group convened by NZSAR
Land Winching	Consider the produce a DVD to be used for safety training for SAR people who use rescue helicopters.	<b>Secretariat</b> Sub-Group convened by NZSAR
Land Winching	Operators <b>MUST</b> be informed if another operator has turned down a tasking request, especially if due to weather.	<b>Coordinating Authorities</b>
Land Winching	Operators must inform the coordinating authorities if they are do not have the full capabilities or training to complete a tasking requirement.	<b>Operators</b>
Alpine Winching	Standardisation of common hand signals used when there is no other means of communication.	<b>Operators</b> Sub-Group convened by NZSAR
Alpine Winching	Develop a manual for winching in an alpine environment.	<b>Secretariat/SARINZ</b> Sub-Group convened by NZSAR
Communications	Produce a online record of all SAR channels/frequencies used in NZ that may be required by SAR aircraft including the area they are relevant to.	<b>Secretariat</b> Sub-Group convened by NZSAR
Communications	Coordinating Authorities need to provide operators the frequencies for the communications channels being used.	<b>Coordinating Authorities / IMT</b>
Communications	Operation plans for operations are to include communications plans, including times/events for scheduled reporting.	<b>Coordinating Authorities / IMT</b>
Aircraft Safety Briefs	Agree on and produce a general safety briefing that covers the following topics: danger areas, approach and departure, emergency equipment and exits, security, actions in an emergency, personal responsibility.	<b>Operators/Secretariat</b> Sub-Group convened by NZSAR
Aircraft Safety Briefs	Agree on and produce additional safety elements for the different environments and operations: wet environment, alpine environment, night operations, winching operations.	<b>Operators/Secretariat</b> Sub-Group convened by NZSAR
Human Load Equipment	Consider a guideline on commonality of Human Load Equipment.	<b>Operators</b> Sub-Group convened by NZSAR
Human Load Equipment	Utilise the lessons learnt section on the NZSAR website as a place to share ideas.	<b>Operators</b>