



SAFETY MANAGEMENT MANUAL

ATL 6.7 R/V ATLANTIS WINCH OPERATIONS

Originator:

Peter Leonard

Approved By:

Timothy Twomey

1. Purpose

The purpose of this procedure is to set forth the standards for winch operations and the qualification for training winch operators on the R/V Atlantis.

The safety of the operation for personnel and equipment is of the utmost importance.

2. Responsibility

Winch operations are conducted with the approval of the Master. The Master is responsible to ensure the safety of the vessel and all personnel. This is accomplished through coordinated planning and the utilization of qualified winch operators.

The Chief Mate, working with the Bosun and other qualified winch operators, will ensure that all operators are trained in the procedures, limitations and uses of the various winches in use on Atlantis. The SSSG technician is responsible for the training and for establishing that members of the science party are qualified to operate winches on the vessel.

The Mate on watch is responsible for monitoring the operation in progress and may suspend the operations in the interest of safety for the vessel, personnel and/or equipment. During a deployment or recovery, the winch operator is under the direction of the Bosun or SSSG technician.

3. References

Markey DESH-5 Research Winch Manual
Markey DUTW-9-11 Research Traction Winch
Atlantis Hand Signals

4. General

A. Prior to conducting any winch operations;

1. Request that the engineer on watch energize the traction winch and control station, if that winch is to be used. The bosun or qualified AB may energize the hydro winches in the incinerator room.
2. The winch operator conducts an inspection of equipment (see pre-inspection guidelines)
3. A pre-evolution conference should be held to explain the nature of the deployment and any information that may impact any part of the operation. Examples include, but are not limited to the following:
 - a. Method of communications
 - b. Winch speed
 - c. Estimated maximum scope of wire



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- d. Depth at which control is switched to science
 - e. Estimated time of finish and call out of recovery team
 - f. Weather
 - g. Need to secure overboard discharges
 - h. Limitations or requirements of the gear or package
 - i. Final cast
 - j. Need to rinse wire, etc.
4. Request permission from the Mate on watch prior to deploying or streaming any gear
 5. Confirm all personnel are clear of the winch prior to operating and all stations are ready for the operation including the donning of appropriate PPE

B. Pre-operation winch inspection

1. Make sure the correct overboarding block is rigged to the boom and the wire is reeved correctly from the block to the flag block to the drum. Check for proper alignment of the flag block and its stops.
2. Ensure wire run is free from debris and possible fouling
3. Make sure there are no loose or buried wraps on the drum.
4. Check to ensure the level wind is aligned
5. Inspect winch for oil leaks
6. Verify the control station to be used for overboarding is active and the emergency stop is in the disengaged (up) position
7. Verify that the correct winch is chosen on the winch monitoring system.
8. Verify near-zero tension on the winch monitoring system prior to loading the wire.
9. Radio check with all stations

C. General Winch Operations

1. Allow sufficient time for the hydroboom hydraulics to warm up.
2. Never two-block the package. Take particular care with packages on EM wire to avoid pulling the termination into the overboarding block.
3. Monitor the tension on the wire to avoid exceeding the safe working load.
4. Obey all stop orders, and don't hesitate to give a stop order if necessary for clarification of orders, safety of personnel or equipment.
5. Avoid sudden or abrupt starting / stopping.
6. Do not exceed maximum winch speeds.
7. Do not run the winch unless sufficient tension is maintained on the wire to avoid loose wraps on the drum.
8. Stay alert to the task at hand; do not get distracted by by-standers.
9. Scientists must be instructed in the use of any additional equipment that they are expected to monitor in the performance of their duties, i.e. scanning



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equipment, video monitors, digital readouts, etc. A sufficient number of trained scientists must be available to operate the winch to permit breaks and avoid fatigue.

10. Inform the bridge of any problems encountered.

11. The mate on watch must record/report maximum wire out and maximum tension in the wire log for each cast.

12. The mate on watch must record wire-rinsing, pull-tests, and any unusual occurrences during casts in the wire log.

D. CTD Recovery

1. The CTD will be brought out of the water straight to the head of the hydro-boom, without a stop at the air/sea interface. The transponder poles/hooks will be hooked on in the air.
2. The hooks will be hooked into the vertical CTD rails, and slight/medium tension will be taken up on the tuggers. The same person who hooks on the pole/hook, will put down their pole and take up slight tension with the tugger.
3. When the SSSG tech gives the word, the winch operator will haul in on the hydro-boom, keeping the CTD level from the deck.
4. The tugger operators will maintain sufficient tension to keep the bottom of the CTD slightly more inboard than the head of the hydro-boom. This will make the CTD come in at a little bit of an angle, but the angle will keep the CTD from swinging inboard towards the bulkhead.

4. Training

To become qualified as a winch operator on R/V Atlantis, the crewmember shall:

- A. Observe qualified operators perform pre-operation checks.
- B. Observe qualified operators in launch and recovery operations.
- C. Demonstrate an understanding of hand signals.
- D. Demonstrate an understanding of uses and limitations of the winches/hydro booms.
- E. Demonstrate an understanding of safety concerns and the use of the emergency stop control.
- F. Demonstrate, under the supervision of a qualified operator, the proper and safe control of the winch while launching and recovering equipment.

5. Reporting

Upon completion of the above requirements to the satisfaction of the Chief Mate, "Winch Operator" will be added to the Training Section of the crewmember's personnel record in NS5.