



SAFETY MANAGEMENT MANUAL

ATL 6.5 R/V ATLANTIS LARS Operations

Originator:	Approved By:
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1. Purpose

The purpose of this procedure is to set forth the standards for the Launch and Recovery System (LARS) operations and the qualification for training LARS operators on the R/V ATLANTIS.

The LARS on the R/V ATLANTIS is used to hoist and lower the DSV Alvin and is rated for 50,000 pounds. When hoisting or lowering, three persons are inside the DSV and two swimmers tend the lift lines externally on the DSV. The hydraulic hoses that operate the luffing cylinders are pressurized up to 4000 psi. Safety is of the utmost importance.

2. Responsibility

DSV Alvin operations are conducted under the joint responsibility of the Master and the Expedition Leader. The launch coordinator, a member of the DSV Alvin team, is in charge of the evolution and directs the actions of launch and recovery personnel. The LARS operator takes commands from the launch coordinator, reference (c).

The operation, maintenance and certification of LARS operators are the responsibility of the Chief Engineer. Any malfunctions and/or abnormalities noted by maintenance and operations personnel must be reported to the Chief Engineer.

The Chief Engineer designates a member of the engineering staff to energize the system and perform the preliminary inspection checks. The launch coordinator shall visually inspect the condition of the main lift line, tail and tow lines during warm up, reporting any abnormalities to the Chief Mate and Expedition Leader.

3. References

- R/V ATLANTIS Alvin Launch & Recovery System Operations and Maintenance Manual
- R/V ATLANTIS "DSV Alvin Operation" procedures (SMM ATL 07.9)
- Management Plan for the Submersible Engineering & Operations Group
- R/V ATLANTIS LARS Operation Qualifications Notebook

4. General

Prior to conducting any Alvin operations, a member of the ships' engine department, designated by the Chief Engineer, energizes the LARS and allows a minimum of 30 minutes of warm up time. This individual conducts a Pre-Launching/Recovery Checklist for the LARS; reference (a). During the performance of the checklist, the Chief Engineer sets the LARS arrangement. The LARS operator is required to review pages 1 and 2 of the Pre-Launching/Recovery procedure prior to accepting control. It is then the responsibility of the LARS operator to complete pages 3 through 5 of



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the Pre-launch/ Recovery procedure prior to any manned lift; reference (a) and (b). It is important to note that all signatures for the Pre-launch/Recovery Checklist must be completed prior to any loaded lifts.

The LARS is designed to operate with the two main hydraulic pump units on line and either the port or starboard hydraulic motor driving the main lift winch. The system is controlled from the main console located in the winch control station (doghouse).

5. Training

To become a qualified LARS operator, the following shall occur:

- a. Review and understand the material contained in the operation section of the reference manuals listed above.
- b. Observe a qualified LARS operator conduct three (3) launch and recovery operations.
- c. Have a qualified operator explain and demonstrate all the functions involved in the operations including routine procedures, checklists, safety considerations, and emergency procedures.
- d. Demonstrate to qualified operator knowledge of the operations and procedures.
- e. Complete five (5) practice launches and recoveries with a qualified operator.
- f. Complete five (5) practice launches and recoveries to the satisfaction of the Chief Engineer.
- g. Complete at least three (3) loaded lift launches and recoveries of the sub in the presence of a qualified operator.
- h. Once the Chief Engineer is satisfied with the trainee's performance, and the Expedition Leader and Master concur, the operator is considered qualified.

The Chief Engineer, Expedition Leader and/or the Master reserve the right to revoke any LARS operator's qualifications if the operator is violating any of the established safety parameters or unable to maintain proficiency.

6. Reporting

The Pre-Launching/Recovery Checklist, reference (a), conducted prior to a launch or recovery becomes a part of the LARS records and are maintained for the period of system certification or otherwise directed by NAVSEA.

Upon successful completion of the above Training requirements, the Chief Engineer will certify the trainee as a qualified LARS operator. "LARS Operator" will be added to the Training Section of the crewmember's personnel record in NS5. Hardcopy of the newly certified LARS Operator training records will be archived in the LARS Operator Certification Notebook on the R/V ATLANTIS, maintained by the Chief Engineer, reference (d).