1. **Purpose**
   The purpose of this procedure is to set forth procedures, processes and protocols for the inspection and maintenance of the Launch and Recovery System (LARS) on R/V Atlantis.

2. **Responsibilities**
   As noted in the Master’s Responsibilities and Authority, maintaining the seaworthiness of the vessel and protecting the interests of the Institution are the responsibility of the Master. It is believed that the maintenance of the LARS is essential to protecting the interests of the Institution and therefore the responsibility of the Master.

   It is the responsibility of both the Chief Mate and the Chief Engineer to conduct monthly maintenance inspections of the LARS.

   It is the responsibility of the Chief Engineer to record the monthly LARS inspection in NS5.

3. **General**
   The LARS on Atlantis is an important piece of equipment in the overall mission of the vessel. In addition, it is a complex piece of equipment. It is large, made of steel and is constantly exposed to the harsh maritime environment.

   During the 2002 recertification of the LARS by NAVSEA 92Q, a corrective action card was issued for a maintenance protocol to be developed and placed into action. This procedure is designed to accomplish that tasking. As a part of the 2012-13 modifications to the LARS system and for recertification, this procedure has been updated.

4. **Specific Details**
   Maintenance of the LARS is to be conducted by the Third Engineer or any other licensed engineering officer in the Engine Department.

   A. **Periodic Inspections and maintenance**
      NS5 is the system of record for Standard Job (SJ) maintenance. NS5 schedules the inspections and maintenance, calculated by the last completion date for the following schedules.

      1) Weekly
      2) Monthly
In addition, a monthly condition inspection shall be conducted by both the Chief Engineer and Chief Mate. The emphasis of this inspection is to identify specific areas that need maintenance and to determine which department will conduct the maintenance.

This monthly maintenance inspection is in addition to the regular standard jobs that engineers routinely perform on a calendar or running hour basis.

B. Maintenance Action
Maintenance action falls into a number of potential areas of responsibilities. It is most advantageous to get as much work accomplished with on-board personnel as possible during normal working hours. It is recognized, however, that not all maintenance can be accomplished this way. Mission requirements occasionally place demands on equipment and personnel that make it difficult to conduct regular designated maintenance.

To avoid duplication of effort or the possibility of overlooking identified maintenance, the Chief Engineer and Chief Mate must identify maintenance items that can be accomplished by on-board personnel. Some maintenance items can be accomplished while the vessel is underway on a not-to-interfere basis. Other tasks must be addressed in-port during non-science days or during more extended maintenance periods.

Items not within the capabilities of shipboard personnel must be accomplished by outside vendors using the current ABS and NAVSEA standards for fabrication and testing as required. This work may be scheduled during short in-port periods on a not-to-interfere basis or during longer maintenance periods.

To assist the port office with the task of bringing outside assistance to perform needed maintenance, work items shall be specific enough to allow port office personnel to turn the item into a service request for an outside contractor. If necessary, photos can be provided.

No items should drop off a monthly inspection report if it has not been accomplished by either shipboard personnel or outside entities.
4. **Recording**

NS5 is the official system of record for maintenance. The monthly inspection of the LARS has been established as a standard job within this system.

Within NS5, the monthly inspection of the LARS shall be recorded in the maintenance module and associated with the LARS monthly inspection standard job.

It shall be the responsibility of the Chief Engineer to report the findings of the monthly inspection in NS5. A complete list of the maintenance items shall be placed in the “findings” section of the standard work order job. By doing this, all inspections will be located in one location and they will be easily retrievable.

The Chief Engineer shall identify the department (deck or engine) next to each maintenance item that can be accomplished by the ship’s crew, and whether the item can only be accomplished during designated maintenance periods. It is not necessary to distinguish between those that can be accomplished at sea or during shorter in-port periods.

As time allows, department personnel will accomplish the maintenance items associated with the monthly inspection. Before starting maintenance, a new Work Order shall be generated for each item as a WO/Crew Job. Upon completion of the job, the Work Order shall be closed out by filling in the “Completed” box.

When work is to be accomplished by an outside vendor, a new Work Order shall be generated as a Service Request (SR) job with detailed description of work. This SR will enable Port Office personnel to contract outside sources to accomplish the work. The contracting of the work will change the SR into a Service Order (SO). Upon completion of the job, the SO shall be marked as completed by entering the completion date within the SO by either the Chief Mate or Chief Engineer.