1. **Purpose**
   The purpose of this procedure is to establish qualifications for crane operators aboard R/V Armstrong.

2. **Responsibility**
   It is the responsibility of the Chief Mate to establish standardized training and certification for crane operators aboard R/V Armstrong. The Chief Mate, Bosun, or qualified Able-bodied Seaman may conduct crane training.

3. **General**
   In accordance with the vessel Safety Management System, all crane operators aboard R/V Armstrong must be certified prior to operating the equipment.

   The following requirements must be satisfied:

   A. Demonstrate knowledge of the basic hand signals as described on page 4-4 of the RVOC Safety Manual.
      1. Hoist load
      2. Lower load
      3. Boom up
      4. Boom down
      5. Slew boom
      6. Stop
      7. Emergency stop

   B. Operate the crane to the satisfaction of the examiner. A practical test will include the following:
      1. Starting and stopping the crane
      2. Physically following each of the hand signals in section “A” above, both with and without a load.
      3. Demonstrate knowledge of location and how to operate the emergency stop.
      4. Show location and use of boom angle indicator.
      5. Show location and understanding of load charts posted at the crane controls and identify allowable weights to be lifted at several different boom angles and boom extensions.
      6. Demonstrate understanding of anti-two-block system (A2B) and load sensing equipment.
C. Demonstrate understanding of any safety procedure or definition your examiner may request which is found in your Research Vessel Operators Committee (RVOC) Safety Manual, section 4 “Deck Systems and Operations”.

D. Any additional requirements deemed necessary for certification by the Master, Chief Mate or Bosun

4. Reporting
   Upon completion of these requirements to the satisfaction of the Chief Mate or Bosun, “Crane Operator” will be added to the Training Section of the crewmember's personnel record in NS5.