1. **Purpose**  
The purpose of this procedure is to establish general instructions for operation of the distillation plant on R/V Atlantis.

2. **General**  
The distillation plant on Atlantis is a waste heat, low-pressure evaporator. The heat is provided through the jacket water from the ship service generators.

3. **Start up**  
A. Ensure that the brine OVBD valve is open  
B. Open the S/W inlet valve before and after the strainer  
C. S/W valving at the Evaporator should be arranged to allow some S/W feed to flow through the distillate cooler  
D. Start the S/W pump; the pressure gauge should read approximately 60 PSI  
E. Close the vacuum release valve and wait for shell vacuum gauge to indicate 26 – 30 in of Hg.  
F. Ensure that the following J/W valves are open:  
   1. J/W inlet at the Mixing Tank from the Engine  
   2. J/W outlet at the Mixing tank to the Engine  
   3. J/W Boost Pump suction  
   4. J/W inlet / outlet at the Evaporator  
   5. J/W at Head Tank to the Mixing Tank  
   6. J/W at Head Tank to the Engine  
G. Line up the J/W valves at the engine and ensure that the valves at the other engines are closed  
H. Start the J/W Boost Pump; the pressure gauge should read approximately 12-14 PSI  
I. The Boiling action should be seen through the inspection window after a few minutes  
J. Open the distillate discharge valve above # 1 R/O unit and ensure that the flow is available to the potable water tanks
K. Turn the power on to the salinity meter

L. When the water appears in the distillate suction hose, start the distillate pump and open the distillate pump discharge valve. Throttle the valve until bubbles in the suction hose cease

M. Ensure that there is a level in the Evaporator Chemical Feed Tank and open the flow meter inlet valve. Maintain a chemical flow rate of approximately 1.8 GPH.

4. Securing
   A. Secure the power to salinity meter and ensure that the unit is dumping
   B. Open the vacuum release valve
   C. Secure the J/W Boost Pump
   D. Secure the J/W valves at engine
   E. Secure the Distillate Pump and close the Distillate discharge valve
   F. Allow the S/W to flow through the unit for approximately 10-minutes to ensure proper cool down of the unit
   G. Secure the S/W Feed Pump and close the S/W Feed Pump suction valve
   H. Secure the Evaporator Chemical Feed to the Evaporator
   I. Secure the brine OVBD valve

5. Reporting
   The start up and securing of the distillation plant shall be logged in the Engineer’s Logbook.

   The Duty Engineer shall record the appropriate gauge readings during his/her required engineering rounds.