



SAFETY MANAGEMENT MANUAL

ATL 7.5.5 R/V Atlantis Distillation Plant Operation

Originator:

Kevin Fisk

Approved By:

J.L. Coburn, Jr.

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



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- 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.