



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.

110 AIR CONDITIONING CHILLED WATER PLANT

START-UP

1. Ensure power to water chiller controller and all fan coil unit controllers is on
2. Ensure chilled water expansion tank level is at its proper level
3. Ensure chilled water system valving is set correctly (i.e.: pump inlet / outlet valves, and chilled water by-pass valve, etc are open)
4. Start appropriate chilled water pump; pump discharge pressure to be maintained at approximately 70 PSI
5. System is now up and running

SHUT DOWN

1. Secure Chilled Water Pump by pressing the Motor Controller "OFF" pushbutton
2. Close the Chilled Water Pump inlet and outlet valves

NOTE: If Chilled Water Pump MCC disconnect switch is opened install the proper Lockout / Tagout device and make the appropriate entry in the Lockout / Tagout Logbook



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.

110 TON AIR CONDITIONING PLANT

START-UP

1. Ensure power to water chiller controller and all fan coil unit controllers is on
2. Ensure condenser cooling water system is operating
3. Ensure chilled water system is operating, additionally check that all conditioned space thermostats are set properly
4. Check compressor crankcase oil level via sump sight glass; oil level should be between 1/8 to 1/4 of sight glass
5. Verify all system refrigerant valves are lined up as per TABLE 2-1, which is found in the OEM Technical Manual. Only exception being the compressor suction service valve (SSV)
6. Open compressor SSV one full turn
7. Start compressor at Compressor Motor Control (MCC), by momentarily pressing the "START" button. Immediately continue to open the compressor SSV SLOWLY, watching the compressor suction pressure. If SSV is open too rapidly, potential to pump oil out of crankcase exists.
8. Observe compressor operations for approximately 5-minutes, if there is no evidence of liquid refrigerant returning to compressor open compressor SSV wide
9. System is now up and running

SHUT DOWN

1. Shut dehydrator inlet valve (KING VALVE, KV); system will pump itself down
2. Press Compressor Motor Controller (MCC) "STOP" push button, even though the compressor has stopped
3. Tag "START" push button and compressor suction service valve
4. Shut compressor suction and discharge service valves
5. Shut condenser S/W inlet and outlet valves
6. Shut chilled water inlet and outlet valves
7. System is now secured

EMERGENCY SHUT DOWN

1. Depress MCC "STOP" pushbutton

NOTE: If Compressor MCC disconnect switch is opened, install the proper Lockout / Tagout device and make the appropriate entry in the Lockout / Tagout Logbook



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.

50 TON AIR CONDITIONING

START-UP

1. Ensure power to water chiller controller and all fan coil unit controllers is on
2. Ensure condenser cooling water system is operating
3. Ensure chilled water system is operating, additionally check that all conditioned space thermostats are set properly
4. Check compressor crankcase oil level via sump sight glass; oil level should be between 1/4 to 1/2 of sight glass
5. Verify all system refrigerant valves are lined up as per TABLE 2-1, which is found in the OEM Technical Manual. Only exception being the compressor suction service valve (SSV)
6. Open compressor SSV one full turn
7. Start compressor at Compressor Motor Control (MCC), place POWER and UNIT switches to the "ON" position. Place the PUMP DOWN switch in the "OFF" position.
8. Immediately continue to open the compressor SSV SLOWLY, watching the compressor suction pressure. If SSV is open too rapidly, potential to pump oil out of crankcase exists.
9. Observe compressor operations for approximately 5-minutes, if there is no evidence of liquid refrigerant returning to compressor open compressor SSV wide
10. System is now up and running

SHUT DOWN

1. Shut dehydrator inlet valve (KING VALVE, KV); system will pump itself down
2. At the Compressor Motor Controller (MCC), turn the UNIT and POWER switches to the "OFF" positions
3. Tag "START" push button and compressor suction service valve
4. Shut compressor suction and discharge service valves
5. Shut condenser S/W inlet and outlet valves
6. Shut chilled water inlet and outlet valves
7. System is now secured

EMERGENCY SHUT DOWN

1. Depress MCC "STOP" pushbutton

NOTE: If Compressor MCC disconnect switch is opened install the proper Lockout / Tagout devise and make the appropriate entry in the Lockout / Tagout Logbook



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.

50 AIR CONDITIONING SYSTEM CHILLED WATER PLANT

START-UP

1. Ensure power to water chiller controller and both fan coil unit controllers is on
2. Ensure chilled water expansion tank level is at its proper level
3. Close the Chilled Water System feed and return crossover valves between the 110 Ton Air Conditioning Chilled Water Plant and 50 Ton Air Conditioning Chilled Water systems (valves located in the upper Main Engine Room)
4. Ensure the remaining 50 Ton Air Conditioning Plant Chilled Water System valving are aligned properly
5. Start the chilled water pump by pressing the "ON" pushbutton, located on the Chilled Water Pump Motor Controller(MCC); pump discharge pressure to be maintained at approximately 30 PSI
6. System is now up and running

SHUT DOWN

(steps to be done after 50 Ton Air Conditioning Plant has been secured)

1. Secure Chilled Water Pump by pressing the Motor Controller "OFF" pushbutton
2. Close the Chilled Water Pump inlet and outlet valves
3. Open the Chilled Water System feed and return crossover valves between the 110 Ton Air Conditioning Chilled Water Plant and 50 Ton Air Conditioning Chilled Water systems (valves located in the upper Main Engine Room)

NOTE: If Chilled Water Pump MCC disconnect switch is opened, install the proper Lockout / Tagout devise and make the appropriate entry in the Lockout / Tagout Logbook



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:	Approved By:
Kevin Fisk	J. L. Coburn, Jr.

FUEL OIL PURIFIER

START-UP

1. Determine which storage tank Fuel Oil Purifier (FOP) will pull from and discharge to. Align valves to accomplish this task
2. At the FOP, open the FOP inlet and outlet valves.
3. NOTE: FOP outlet valve is utilized to maintain FOP backpressure.
4. Start the Oil Feed Pump
5. Start the separator at the motor starter, check for the following items:
 - a. Vibration – stop separator immediately, check bowl assembly
 - b. Check amp-meter on motor starter, to ensure that separator is at Full speed
 - c. Ensure that no exceptional noise occurs – secure separator if any are heard
6. Start the control program
7. Ensure that the following J/W valves are open:
8. System is now up and running; if there are further question is the OEM Technical Manual

SHUT DOWN

1. Stop the Control Program, following events will occur:
 - a. Stop sequence operation LED lit (YELLOW)
 - b. A sludge discharge is performed
 - c. The separator can not be re-started for 3-minutes
2. Stopping sequence is terminated, when display indicates "OFF"
3. At Fuel Oil Purifier (FOP) close the inlet and outlet valves; close valves FOP was pulling from and discharging to
4. System is now secured



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.

MAIN ENGINE / SSDG

START-UP

1. Verify DAY TANKS Suction / Return valves are open
2. Verify that the SSDG Fuel Oil inlet and return valves are open
3. Verify that at least 2 of the 3 RACOR filters are on-line (inlet / outlet valves are open)
4. Verify that PORT and STARBOARD Main S/W system skin valves are open
5. Verify that SSDG S/W system OVBD valve is open
6. Verify SSDG start air pressure is at 150 PSI or above
7. Verify individual SSDG air start valves are open; blow down air start line lubricator before attempting to start SSDG
8. At individual SSDG "LOCAL" switch panel, turn the LOCAL / REMOTE switch to the LOCAL position
9. Move the IDLE / RATED SPEED switch to the IDLE position
10. Toggle the START switch to "START" position – SSDG should start within 10 to 15 seconds. If it does not, refer to SSDG / ENGINE OEM Technical Manual
11. After SSDG has been run at IDLE SPEED for 15 to 20 minutes (minimum), switch the IDLE / RATED SPEED switch to RATED SPEED
12. Change the LOCAL / REMOTE switch to REMOTE – SSDG control has now changed to MCS

SHUT DOWN

1. Remove electrical load from the SSDG
2. At the MCS console, open individual SSDG mimic
3. Stroke key for SSDG STOP button; this function will slow SSDG speed from RATED to IDLE; SSDG will operate at the IDLE speed for 15-minutes after which time SSDG will shut down
4. Additional way SSDG can be shut down are:
 - a. At SSDG pull the manual FUEL SHUTOFF LEVER; SSDG will stop without the benefit of a Cool Down cycle
 - b. At the SSDG pulling on the Hydro-Mechanical Shutdown Devise KNOB; SSDG will stop without the benefit of a Cool Down cycle
 - c. In the MCS, pull the ENGINE / SSDG REMOTE EMERGENCY STOP LEVER; SSDG will stop without the benefit of a Cool Down cycle



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.

MAIN ENGINE LUBE OIL TRANSFER PUMP

START-UP

1. Verify there is a proper level in the storage tank; record lube oil meter reading
2. Energize the Lube Oil Transfer Pump Motor Controller
3. Verify that the other engine lube oil valves, as well as Main Deck valves are secured
4. Open following valves:
 - a. Storage Tank outlet valve
 - b. Meter inlet and outlet valves
5. Start the Lube Oil Transfer Pump at the local controller

SHUT DOWN

1. Once proper level achieved secure Lube Oil Transfer Pump at the local controller by pressing the "STOP" pushbutton
2. Open following valves:
 - a. Storage Tank outlet valve
 - b. Meter inlet and outlet valves
 - c. Engine Oil Fill valve
3. Secure power the Lube Oil Transfer Pump at MCS Motor Controller
4. Obtain meter reading, enter amount of Lube Oil used in the Official Engineering Dept. Logbook



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.

PROPULSION BUS FROM SWBD

PROPULSION BUS – Dead Bus

1. SSDG must be running at RATE SPEED; see MAIN ENGINE SSDG START-UP OPERATING PROCEDURE
2. Call up SSDG mimic that will be placed on the PROPULSION BUS
3. Review all SSDG parameters (i.e.: J/W, Lube Oil temperature and pressure, etc); if satisfactory proceed to next step, if not rectify problem before proceeding
4. Verify that SWBD LOCAL / REMOTE switch key is installed and in the LOCAL position, remove key
5. At individual SSDG, place the key into the GEN PROP NO. __ BUS SYNC SWITCH
6. The GEN PROP NO. __ BUS SYNC SWITCH can be placed in the following two positions:
 - a. AUTO – Circuit Breaker will automatically sync with other SSDG that is on the BUS, once satisfied Breaker will close; if BUS is dead then Circuit Breaker will close once AUTO position is chosen
 - b. MANUAL – Operator must manual sync the oncoming SSDG to the match the existing SSDG on-line, once all parameters are satisfactory, then Circuit Breaker can be closed; even if BUS is dead, operator must still manually close Circuit Breaker
7. Once Circuit Breaker has closed, place the GEN PROP NO. __ BUS SYNC SWITCH to the OFF position and place key back into the SWBD LOCAL / REMOTE switch
8. Power is now available on the PROPULSION BUS

ONE SSDG ON PROPULSION BUS, ship underway

1. SSDG must be running at RATE SPEED; see MAIN ENGINE SSDG START-UP OPERATING PROCEDURE
2. Call up SSDG mimic that will be placed on the PROPULSION BUS
3. Review all SSDG parameters (i.e.: J/W, Lube Oil temperature and pressure, etc); if satisfactory proceed to next step, if not rectify problem before proceeding
4. Notify BRIDGE of intention to place additional SSDG on PROPULSION BUS; if ship's SHAFT turns are above 400 RPM, request BRIDGE reduce turns below 400 turn for SSDG evolution; once shaft turns are below 400 RPM proceed to next step
5. Verify that SWBD LOCAL / REMOTE switch key is installed and in the LOCAL position, remove key
6. At individual SSDG, place the key into the GEN PROP NO. __ BUS SYNC SWITCH



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.

-
7. The GEN PROP NO. __ BUS SYNC SWITCH can be placed in the following two positions:
 - a. AUTO – Circuit Breaker will automatically sync with other SSDG that is on the BUS, once satisfied Breaker will close; if BUS is dead then Circuit Breaker will close once AUTO position is chosen
 - b. MANUAL – Operator must manual sync the oncoming SSDG to the match the existing SSDG on-line, once all parameters are satisfactory, then Circuit Breaker can be closed; even if BUS is dead, operator must still manually close Circuit Breaker
 8. Once Circuit Breaker has closed, place the GEN PROP __ BUS SYNC SWITCH, to the OFF position and place key back into the SWBD LOCAL / REMOTE switch
 9. Once all SSDG parameters have stabilized and are acceptable, inform BRIDGE that they may increase SHAFT back to previous setting



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:	Approved By:
Kevin Fisk	J. L. Coburn, Jr.

PROPULSION BUS FROM MCS

No SSDG assigned to STANDBY, DEAD BUS GEN SELECT PROPULSION BUS

1. SSDG must be running at RATE SPEED; see MAIN ENGINE SSDG START-UP OPERATING PROCEDURE
2. Call up SSDG mimic that will be placed on the PROPULSION BUS
3. Review all SSDG parameters (i.e.: J/W, Lube Oil temperature and pressure, etc); if satisfactory proceed to next step, if not rectify problem before proceeding
4. Verify that SWBD LOCAL / REMOTE switch key is installed and in the REMOTE position
5. At SSDG mimic, place the cursor on the "ON LINE, PROPULSION" button and stroke the mouse button twice
6. SSDG Circuit Breaker will close, power is now available on the PROPULSION BUS

ONE SSDG ON PROPULSION BUS, ship underway

1. SSDG must be running at RATE SPEED; see MAIN ENGINE SSDG START-UP OPERATING PROCEDURE
2. Call up SSDG mimic that will be placed on the PROPULSION BUS
3. Review all SSDG parameters (i.e.: J/W, Lube Oil temperature and pressure, etc); if satisfactory proceed to next step, if not rectify problem before proceeding
4. Verify that SWBD LOCAL / REMOTE switch key is installed and in the REMOTE position
5. Notify BRIDGE of intention to place additional SSDG on PROPULSION BUS; if ship's SHAFT turns are above 400 RPM, request BRIDGE reduce turns below 400 turn for SSDG evolution
6. At SSDG mimic, place the cursor on the "ON LINE, PROPULSION" button and stroke the mouse button twice
7. SSDG will synch will SSDG already on-line, once everything is satisfactory the SSDG Circuit Breaker will close
8. Once all SSDG parameters have stabilized and are acceptable, inform BRIDGE that they may increase SHAFT above 400 RPM

ONE SSDG assigned as the STANDBY, DEAD BUS GEN SELECT PROPULSION BUS (only works if there is 1 SSDG on the Propulsion Bus)

1. If the SSDG on-line experiences a fault and shuts down, the SSDG assigned as the STAND-BY, AUTO DEAD BUS PROPULSION SSDG will start and come on line
2. All machinery on the PROPULSION BUS will have to be re-set, see PLANT RECOVERY PROCEDURE for equipment list



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.

SHIP SERVICE BUS FROM MCS

No STANDBY, DEAD BUS GEN SELECT SHIP SERVICE BUS

1. SSDG must be running at RATE SPEED; see MAIN ENGINE SSDG START-UP OPERATING PROCEDURE
2. Call up SSDG mimic that will be placed on the SHIP SERVICE BUS
3. Review all SSDG parameters (i.e.: J/W, Lube Oil temperature and pressure, etc); if satisfactory proceed to next step, if not rectify problem before proceeding
4. Verify that SWBD LOCAL / REMOTE switch key is installed and in the REMOTE position
5. At SSDG mimic, place the cursor on the “ON LINE, SS” button and stroke the mouse button twice
6. SSDG Circuit Breaker will close, power is now available on the SHIP SERVICE BUS
7. Close either Transformer # 1 (Circuit PO602 #1) or Transformer # 2 (PO602 # 2)-line side Circuit Breakers; breakers are located on the lower middle section of the 600 VAC SHIP SERVICE BUS
8. At the 480 VAC SHIP SERVICE SWBD, close either Transformer # 1 (Circuit PO602 #1) or Transformer # 2 (PO602 # 2) – load side circuit breaker
NOTE: Whichever 480 VAC SHIP SERVICE BUS Transformer Circuit Breaker that is closed, MUST match the line side Transformer Circuit Breaker close on the 600 VAC SHIP SERVICE BUS
9. The 480 VAC SHIP SERVICE SWBD is now powered up

PARALLELING SSDG ON SHIP SERVICE BUS

1. SSDG must be running at RATE SPEED; see MAIN ENGINE SSDG START-UP OPERATING PROCEDURE
2. Call up SSDG mimic that will be placed on the SHIP SERVICE BUS
3. Review all SSDG parameters (i.e.: J/W, Lube Oil temperature and pressure, etc); if satisfactory proceed to next step, if not rectify problem before proceeding
4. Verify that SWBD LOCAL / REMOTE switch key is installed and in the REMOTE position
5. At SSDG mimic, place the cursor on the “ON LINE, SS” button and stroke the mouse button twice
6. SSDG will synch will SSDG already on-line, once everything is satisfactory the SSDG Circuit Breaker will close



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.

SHIP SERVICE BUS FROM MCS (continued)

ONE SSDG assigned as the STANDBY, DEAD BUS GEN SELECT SHIP SERVICE BUS
(only works if there is 1 SSDG on the Ship Service Bus)

1. If the SSDG on-line experiences a fault and shuts down, the SSDG assigned as the STAND-BY, AUTO DEAD BUS SHIP SERVICE SSDG will start and come on line
2. All machinery effected by this the loss of the SHIP SERVICE BUS will have to be re-set, see PLANT RECOVERY PROCEDURE for equipment list



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.

SHIP SERVICE BUS FROM SWITCHBOARD

SHIP SERVICE BUS

1. SSDG must be running at RATE SPEED; see MAIN ENGINE SSDG START-UP OPERATING PROCEDURE
 2. Call up SSDG mimic that will be placed on the SHIP SERVICE BUS
 3. Review all SSDG parameters (i.e.: J/W, Lube Oil temperature and pressure, etc); if satisfactory proceed to next step, if not rectify problem before proceeding
 4. Verify that SWBD LOCAL / REMOTE switch key is installed and in the LOCAL position, remove key
 5. At individual SSDG, place the key into the GEN SHIP SERVICE NO. ___ BUS SYNC SWITCH
 6. The GEN SHIP SERVICE NO. ___ BUS SYNC SWITCH can be placed in the following two positions:
 - a. AUTO – Circuit Breaker will automatically sync with other SSDG that is on the BUS, once satisfied Breaker will close; if BUS is dead then Circuit Breaker will close once AUTO position is chosen
 - b. MANUAL – Operator must manual sync the oncoming SSDG to the match the existing SSDG on-line, once all parameters are satisfactory, then Circuit Breaker can be closed; even if BUS is dead, operator must still manually close Circuit Breaker
 7. Once Circuit Breaker has closed, place the GEN SHIP SERVICE NO. ___ BUS SYNC SWITCH, to the OFF position and place key back into the SWBD LOCAL / REMOTE switch
 8. Power is now available on the SHIP SERVICE BUS
 9. Close either 1500 KVA XFMR # 1 (Circuit PO601) or 1500 KVA XFMR # 2 (PO602); breakers are located on the lower middle section of the 600 VAC SHIP SERVICE BUS
 10. At the 480 VAC SHIP SERVICE SWBD, close either XFMR 1500 KVA # 1 Circuit Breaker or XFMR # 2 Circuit Breaker
- NOTE: Whichever 480 VAC SHIP SERVICE BUS Transformer Circuit Breaker that is close, MUST match the Transformer Circuit Breaker close on the 600 VAC SHIP SERVICE BUS**
11. The 480 VAC SHIP SERVICE SWBD is now powered up



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:	Approved By:
Kevin Fisk	J. L. Coburn, Jr.

REFRIGERATION PLANT

START-UP

1. Check for proper compressor oil level; level should be between $\frac{1}{2}$ to $\frac{3}{4}$ of the crankcase sump sight glass
2. Energize the appropriate unit coolers in the two shipboard refrigeration boxes. If there are any questions, see the OEM Technical Manual
3. Verify that all valves are aligned for the appropriate mode of operations, as per TABLE 2-2 & 2-3 in the OEM Technical Manual
4. Verify that auxiliary S/W system is operating, in addition check that the condenser inlet and outlet valves are open
5. Open compressor Suction Service Valve (SSV) one full turn
6. Start the compressor by momentarily pressing the "START" pushbutton on the compressor Motor Controller (MCC)
7. Continue to open the SSV as suction pressure is reduced. Open SSV slowly to prevent rapid pumping down of the compressor crankcase oil
8. Observe compressor operations for approximately 5-minutes. If there is no evidence of liquid refrigerant returning to the compressor, open the compressor SSV wide
9. Unit is now up and running

SHUT DOWN

1. Verify that the dehydrator inlet valve (KING VALVE, KV) is closed and close the dehydrator inlet valve; system will pump itself down
2. Allow compressor to cycle off on low pressure
3. Disable the oil cooler by closing valve 1 on unit being secured
4. Monitor suction pressure gauge; press and hold the LPBP (Low Pressure By-Pass) momentary pushbutton
5. Release LPBP pushbutton when suction pressure drops to 1 to 2 PSI
6. Press Compressor Motor Controller (MCC) "STOP" push button, even though the compressor has stopped
7. Tag "START" push button and compressor suction service valve
8. Shut compressor suction and discharge service valves
9. Shut condenser S/W inlet and outlet valves
10. Secure power to shipboard refrigerated box unit coolers
11. System is now secured

EMERGENCY SHUT DOWN

1. Depress MCC "STOP" pushbutton



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.

NOTE: If Compressor MCC disconnect switch is opened install the proper Lockout / Tagout devise and make the appropriate entry in the Lockout / Tagout Logbook



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.

REVERSE OSMOSIS WATER MAKER PLANT

START-UP

1. Open the sea water supply valve
2. Open the product line valve and the ship's potable water supply valve
3. Open the waste brine valve
4. Fully open the high pressure regulating valve by turning it counterclockwise until it stops
5. Position all valves on the membranes isolation manifold in the "RUN" position with the handle vertical
6. Position the handles of the CLEANING VALVE in the "RUN" position
7. Press that BOOST PUMP button (YELLOW) to start up the booster pump
8. Press system ON / OFF button (WHITE) to start water maker
9. Once there is adequate water pressure (@ least 15 PSI) is shown on the LOW PRESSURE gauges, turn the high-pressure valve counterclockwise until the pressure reads 1000 PSI, or the product water flow rate reads 2.77 GPM on the flow meter.
Note: Do not exceed either of these parameters or damage will occur to membrane assy
10. The RED (non-potable) light should be on for the first three minutes
11. After three minutes, the RED (non-potable) light should go out and the GREEN (potable) light should come on. This indicates that the Water Maker is producing potable water and the quality of the potable water should be displayed in the digital display on the salinity controller @ the units electrical control panel
12. Adjust the high pressure valve until the product water output is between 2.5 and 2.77 GPM, but do not exceed 1000 PSI on the high pressure gauge
13. Periodically, monitor the gauges / lights and adjust as needed to maintain correct pressure and flow

SHUT DOWN

1. Press the system ON / OFF button for the high pressure pump to stop operation of the Water Maker
2. Fully open the high pressure regulating valve by turning it counterclockwise until it stops
3. The Fresh Water Flush (FWF) will automatically activate when the unit is shut down and the display will read "FRESH WATER FLUSH." To override the FWF, press the YELLOW button labeled FRESH FLUSH CANCEL. The unit cannot be re-started while the FWF is in operation
4. Close the sea water supply valve, the product line and the potable water supply valve.
5. Close the waste brine valve
6. Unit is now secured



MANAGEMENT SYSTEM MANUAL

ATL 7.5.4 R/V Atlantis AUXILIARY PLANT OPERATION APPENDIX – OPERATING PROCEDURES

Originator:

Kevin Fisk

Approved By:

J. L. Coburn, Jr.