obs Hot	OCEANOGR ADUIC	ATL 02 ATLANTIS MAINTENANCE PROGRAM	
ŏ		Originator:	Approved By:
4	<	Theophilus Moniz III	Theophilus Moniz III
	1930	1	·

#### INFORMATION

This document outlines the Maintenance Program that will be used to maintain the vital system automation safety systems on board the R/V Atlantis. The use of this program and the Periodic Safety Test Procedure will verify each system continued reliability for unattended operation and demonstrate that each system's operational capabilities remain consistent.

This program, which was taken from the existing shipboard maintenance program, has been tailored to focus on the vital systems and supplement the Periodic Safety testing Procedure sections referenced below. The comprehensive maintenance program is comprised of both the vital systems and those systems considered non-vital.

- Main generator control Systems Section I a. **Emergency Generator Control Systems** b. Sections II Main Propulsion Control Systems Section III C. d. **Emergency Equipment and Systems** Section IV **Central Machinery Alarm Systems** Section V e. f. Fire Detection and Extinguishing Systems Section VI Section VII
- Flooding Safety Systems g.

The **FREQ** column describes the frequency of which each task would be conducted and is defined below: IP: In port, W: Weekly, 2W: Bi-weekly, M: Monthly, 2M: Bi-monthly, 4M: Every four months, 6M: Semi-annually, Y: Yearly, 2Y: Bi-annually and XXXX: Every XXXX hours of operation.

The small "X" in the program table defines when the task would be scheduled during the year.

The circuit description, schematics, diagnostic flow charts and discussions which describe the maintenance procedures and the test equipment required to complete each task are described in the equipment operation and maintenance manuals summarized below which are kept onboard.



## **ATL 02 ATLANTIS MAINTENANCE** PROGRAM

Originator: Theophilus Moniz III Approved By:

Theophilus Moniz III

### **OPERATIONS & MAINTENANCE MANUALS**

- 1. **GENERAL ELECTRIC** 
  - Automatic Control Console Unattended a)
  - **Engineers Operating Manual** b)
  - c) **Propulsion Drive Module**
  - d) **Distributed Micro-controller**
  - e) DC Motor
  - f) Main Switchboard
  - Emergency switchboard g)
  - **Circuit Breakers** h)
  - AKR drawout & POWER BREAK circuit breakers i)
  - Molded case circuit breakers ii)
- LIPS 2.
  - Propulsion, Steering and Auxiliaries a)
- 3. CATERPILLAR
  - a) 3516 engine
    - Kato generator i)
  - 3508 engine b)
    - Kato generator i)
  - 3406B engine C)
    - Kato generator
  - **PYROTRONICS**

i)

- Fire Detection a)
- AURORA 5.

4.

- Fire pump a)
- Ballast & bilge pumps b)
- HOSE McCANN 6.
  - General Alarm a)
  - Sound Powered Phone b)
  - C) Engineer's Call

#### **SAFETY PRECAUSTIONS & NOTES**

- 1. Subsequent to working on electrical circuits, open and tag the power supply circuit breakers and verify that the circuit is de-energized.
- 2. When equipment must be energized for testing, take extra care for electrical shock hazard and do not touch any bare wires, connectors or internal components of the equipment.

OCEANOGR ADA		
SOO THE REAL PROPERTY OF	ATL 02 ATLANTIS MAINTENANCE PROGRAM	
õ // // E J	Originator:	Approved By:
4	Theophilus Moniz III	Theophilus Moniz III
1930		

- 3. Prior to starting rotating equipment, verify that the equipment is free to rotate, all protective guards are in place and the area is clear of all unnecessary material and personnel.
- 4. Consideration should be given to coordinating with vessel operations to schedule those tests that require operation of the main power generation or propulsion systems when the vessel is at sea.
- 5. The maintenance procedures must be scheduled during periods that would be least disruptive to vessel operations and conducted under the guidance of qualified vessel engineers familiar with the equipment.

oceanograamic IIIIIIII	ATL 02 ATLANTIS MAINTENANCE PROGRAM	
ğ // // le \ J	Originator:	Approved By:
4	Theophilus Moniz III	Theophilus Moniz III
1930		

MAINTENANCE CHECK LIST					
DESCRIPTION	VERIFY	INIT.	DATE		
The following check list will serve as a guide for reviewing the					
operational status of the automatic control and monitoring systems					
prior to leaving the Machinery Control Station Console (MCSC)					
unattended. This review must be completed prior to leaving the					
MCSC unattended to insure the control systems status and alarm					
failure monitoring capabilities would be transferred to the Pilot					
House Control Station (PHCS).					
<ol> <li>Check the following console controls:</li> </ol>					
Lamp Test					
Alarm Test					
Pager Function					
Acknowledgement Button					
Verify proper visual and audible indications are present.					
2. Check the MCSC alarm displays for any unexplained vital					
systems alarms and verify that no alarms have been					
inhibited. Verify the sensor indications are within the					
operating parameters.					
a) Verify that the Generator/Engine and switchboard controls					
have been set for automatic starting control.					
<ul> <li>Verify that the SHIP SERVICE DEAD BUS</li> </ul>					
GENERATOR SELECTION SWITCH, and the PROP					
BUS DEAD BUS GENERATOR SELECTION SWITCH					
are assigned to the designated STANDBY					
GENERATOR/ ENGINE.					
<ul> <li>Verify that the bus voltage, current and frequency</li> </ul>					
meters indicate within the normal operating range.					
<ul> <li>Verify normal engine Starting Air Pressure is available</li> </ul>					
at full pressure with one compressor in <b>AUTO</b> and one					
in <b>STANDBY</b> .					
<ul> <li>b) PORT &amp; STBD Propulsion Control system status and</li> </ul>					
Alarms					
<ul> <li>Verify that the cooling pumps have been selected for</li> </ul>					
RUN and STANDBY					
<ul> <li>PORT &amp; STBD Steering Control System status &amp;</li> </ul>					
alarms					
<ul> <li>Bilge status &amp; alarms</li> </ul>					
Watertight doors status					



# ATL 02 ATLANTIS MAINTENANCE

PROGRAM

Originator: Theophilus Moniz III Approved By: Theophilus Moniz III

VERIFY		
	INIT.	DATE