



CNSL

READINESS STANDARDS GUIDE GENERAL ELECTRICAL SYSTEMS



CURRENT ISSUES

SHORE POWER

Issue: PMS and Shore Power Rigging/Unrigging (SPRU) are not being performed correctly, if at all. Currently CG, DDG, LSD, LPD 17 and PC Class ships DO NOT have PMS coverage for the shore power system. Inspections to be performed under SPRU are not performed correctly and deficiencies aren't corrected.

- FFG 7 Class Perform PMS IAW 3211/001 A-1 (Clean and Inspect Shore Power Cable Connection Box Enclosure).
- FFG 7 Class Perform PMS IAW 3211/001 R-1 (Clean and Inspect Shore Power Receptacles; Measure Insulation Resistance, Inspect Shore Power Cables; Measure Insulation Resistance, and Test Interlock Switches).
- LHA 4 and LPD 15 Perform PMS IAW EL-038/001 A-1 (Lubricate Shore Power Stowage Reels).
- LHA 4 and LPD 15 Perform PMS IAW EL-038/001 R-1S (Clean/Inspect/Lubricate Shore Power Terminal Box and Cable clamps) – applicable to Phenolic type plugs.
- LHA 4 and LPD 15 Perform PMS IAW EL-038/001 R-2 (1. Clean/Inspect Shore Power Cable; 2. Measure Insulation Resistance of Shore Power Cable) – applicable to Phenolic type and Viking type plugs.





- LHA 4 and LPD 15 Perform PMS IAW EL-038/001 R-3 (1. Clean/Inspect Shore Power Connection Receptacles; 2. Test Interlock Switches and Indicating lamps) – applicable to Viking type plugs.
 - Rigging and Unrigging of Shore Power will be conducted IAW the following:
 - ❖ EOSS (C. P. NO. “SPRU”).
 - ❖ NSTM 320 Para 320-2.2.7.2



SPLIT CABLE JACKET



RECEPTACLE DOOR MISSING SEAL



BROKEN INDICATING LIGHT LENS

ENSURE ALL CALIBRATION LABELS ARE LEGIBLE AND IN PERIODICITY

REFERENCES

- MIP 3211/001, Shore Power. (FFG 7 Class)
- MIP EL-038/001, Shore Power. (LHA 4 and LPD 15 Class)
- NSTM Chapter 320, Electric Power Distribution Systems.
- Engineering Operation Sequencing System (EOSS). (C. P. NO. SPRU)

DEGAUSSING SYSTEM

Issue: Personnel not familiar with PMS checks

DEGAUSSING SWITCHBOARD

- FFG 7 class, Measure Degaussing Coil Insulation Resistance IAW PMS 4751/002 M-1.
- FFG 7 class, Conduct Automatic Degaussing Linearity Test IAW PMS 4751/002 Q-2.
- LPD 17 class, Test Magnetic Signature Control System IAW PMS 4751/009 R-1.
 - Perform 24 hours prior to entering littoral waters.
- LSD 41/49 class, LHD 1 class, LPD 4 class, DDG 51 class and CG 47 class; Measure Degaussing Coil Insulation Resistance of Energized/Un-energized Equipment IAW 4751/003 M-2.
- LSD 41/49 class, LHD 1 class, LPD 4 class, DDG 51 class and CG 47 class; Conduct Degaussing System Operational Test IAW PMS 4751/003 Q-1R.





➤ Accomplish this maintenance requirement when any of the following periodicities or situations occur:

- Quarterly
- 48 hours prior to deployment
- CG 47 Class, Inspect Degaussing Coil Connection/Through Box IAW PMS 4751/003 A-2.
- All class, Inspect Degaussing Folder IAW NSTM 475 (475-6.7 Ships Degaussing Folder).

*****Note: Ensure that the equipment Technical Manual and NAVSEA Technical Manuals are utilized so that maintenance persons become familiar with the degaussing system and its components.*****

REFERENCES

- MIP 4751/002, MCD Automatic Degaussing (FFG 7 Class)
- MIP 4751/009, Automatic Degaussing System (LPD 17 Class)
- MIP 4751/003, Automatic Degaussing (LSD 41/49, LHD 1, LPD 4, DDG 51 and CG 47 Class)
- NSTM 475, Magnetic Silencing

NAVIGATION LIGHTING

Issue: Personnel not familiar with PMS checks, properly conducting ground indication checks.



NAVIGATION LIGHTING
TELLTALE PANEL

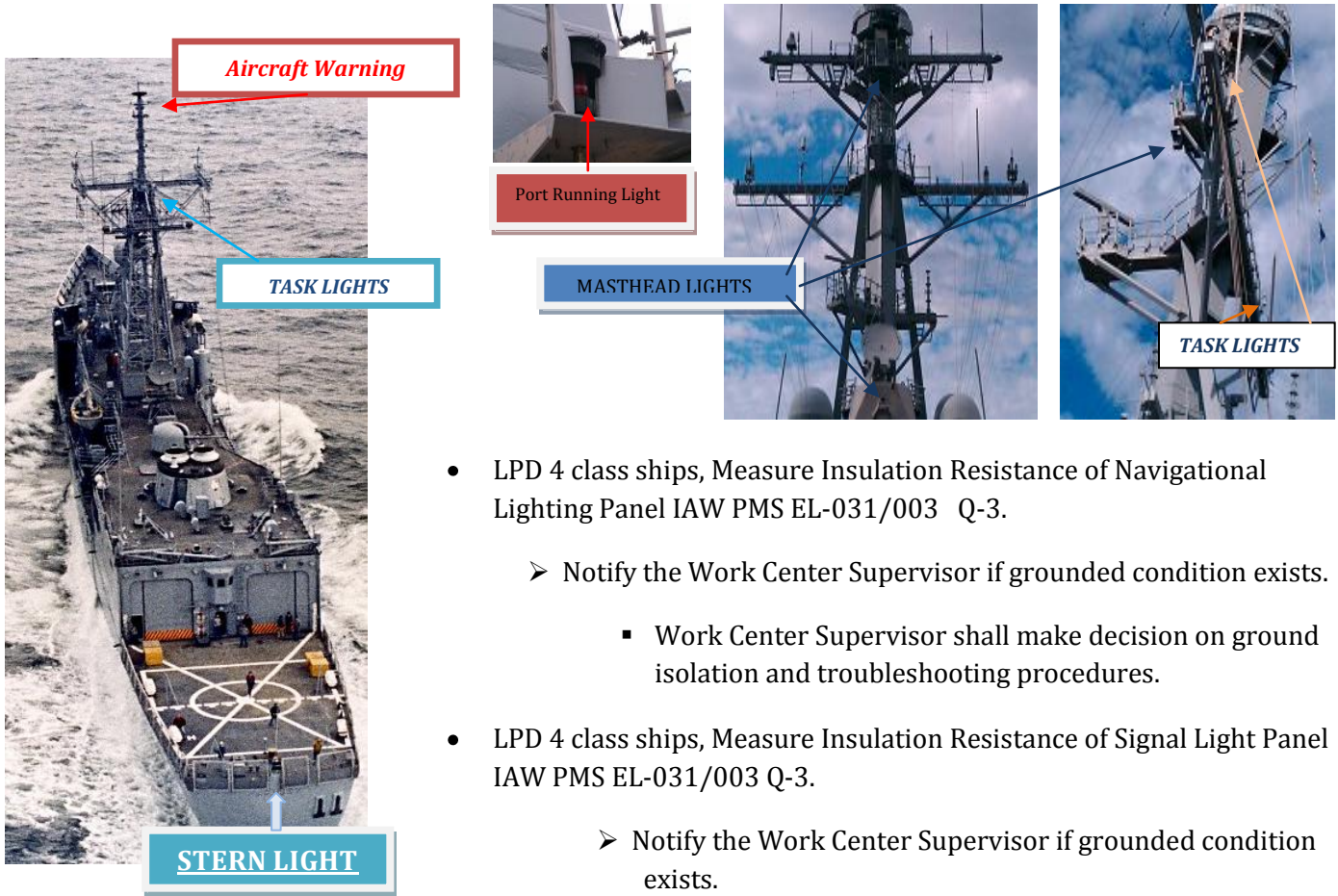


SIGNAL AND TASK
LIGHTING PANEL

- LPD 4 class ships, Test Navigation and Signal Lighting Panel IAW PMS EL-031/003 R-1 and R-2.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Prior to getting underway
- LPD 4 class ships, Test Running Light Telltale Panel IAW PMS EL-031/003 R-3 and R-4.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Prior to getting underway



- Prior to any special underway details/evolutions requiring navigation lights.



- LPD 4 class ships, Measure Insulation Resistance of Navigational Lighting Panel IAW PMS EL-031/003 Q-3.
 - Notify the Work Center Supervisor if grounded condition exists.
 - Work Center Supervisor shall make decision on ground isolation and troubleshooting procedures.
- LPD 4 class ships, Measure Insulation Resistance of Signal Light Panel IAW PMS EL-031/003 Q-3.
 - Notify the Work Center Supervisor if grounded condition exists.
 - Work Center Supervisor shall make decision on ground isolation and troubleshooting procedures.
- CG 47 and DDG 51 class ships; Measure Insulation Resistance of Navigation and Signal Light Circuits IAW PMS 4221/001 S-1.
- CG 47 and DDG 51 class ships; Test Running Light Telltale Panel IAW PMS 4221/001 R-2.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Prior to getting underway
- CG 47 and DDG 51 class ships; Test Running Light Telltale Panel IAW PMS 4221/001 R-3.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Prior to getting underway



- Accomplish 96 hours before getting underway
- FFG 7 class ships; Measure Insulation Resistance of Navigation and Signal Light Circuits IAW PMS 4221/001 S-1.
- FFG 7 class ships; Test Signal and Navigation Lights IAW PMS 4221/001 R-1.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Prior to getting underway
- FFG 7 class ships; Test Running Light Telltale Panel IAW PMS 4221/001 R-2.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Prior to getting underway
- LHA 1 and LHD 1 class ships; Measure Insulation Resistance of Navigation and Signal Light Circuits IAW PMS 4221/001 S-1.
- LHA 1 and LHD 1 class ships; Test Signal and Navigation Lights IAW PMS 4221/001 R-1.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Prior to getting underway
- LPD 17 class ships; Measure Insulation Resistance of Navigation and Signal Light Circuits IAW PMS 4221/001 S-1.
- LPD 17 class ships; Test Signal and Navigation Lights IAW PMS 4221/001 R-2.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Prior to getting underway
- LHA 41/49 class ships; Measure Insulation Resistance of Navigation and Signal Light Circuits IAW PMS 4221/001 S-1.
- LHA 41/49 class ships; Test Signal and Navigation Lights IAW PMS 4221/001 R-1.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Prior to getting underway
- LHA 41/49 class ships; Test Running Light Telltale Panel IAW PMS 4221/001 R-2.



- Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Prior to getting underway
- LHA 41/49 class ships; Test Running Light Telltale Panel IAW PMS 4221/001 R-3.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Prior to getting underway
 - Accomplish 96 hours before getting underway

REFERENCES

- MIP EL-031/003, Navigation Lighting (LPD 4 Class)
- MIP 4221/001, Navigational Lighting (CG 47, DDG 51, FFG 7, LHA1, LHD 1, LPD 17 and LHA 41/49 Class)
- NSTM 422, Navigational and Signal Lights

GENERATOR MAINTENANCE (REVERSE POWER AND DEAD BUS PICK-UP)

Issue: Personnel not familiar with equipment operation and PMS

- PC1 class ships; Test Generator Set Solid-State Reverse Power Relay IAW PMS 3112/016 A-2R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - After the end of CNO availability
- PC1 class ships; Test Dead Bus Pickup IAW PMS 3202/010 A-4.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
- LSD 41/49 class ships; Test Generator and Switchboard Dead Bus Start Circuit IAW PMS 3202/005 A-9 and A-10.
- LSD 41/49 class ships; Test Generator Set Solid-State Reverse Power Relay IAW PMS 3112/003 A-7.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
- FFG 7 class ships; Test Generator and Switchboard Dead Bus Start Logic IAW PMS 3240/002 A-6R.



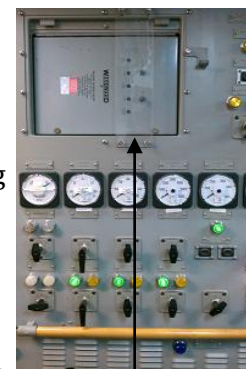
- Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - Prior to deployment
- FFG 7 class ships; Test Generator Reverse Power Relay IAW PMS 3240/002 R-7.
- Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Prior to deployment
 - Prior to end of CNO availability
- FFG 7 class ships; Test Generator Reverse Power Relay IAW PMS 3112/020 A-6 and A-13.
- LHD 1 class ships; Test Generator Reverse Power Relay IAW PMS 3121/003 A-7R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - While in a CNO availability
- LPD 17 class ships; Test Generator Set Solid-State Reverse Power Relay IAW PMS 3112/017 A-6.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
- LPD 17 class ships; Test Generator and Switchboard Dead Bus Start Circuit IAW PMS 3202/005 A-9 and A-10.
- CG 47 class ships; Test Generator and Switchboard Dead Bus Start Logic IAW PMS 3202/047 A-9R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - Prior to deployment
- CG 47 class ships; Test Generator Reverse Power Relay IAW PMS 3202/047 R-6.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Prior to deployment
 - After the end of CNO availability

ROTARY DISK REVERSE POWER RELAY





- CG 47 class ships; Test Manual Load Shed IAW PMS 3202/047 24M-3.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Every 24 months, preferably in port
- CG 47 class ships; Perform Dynamic Test of Fault Current Detector IAW PMS 3202/047 18M-6R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Every 18 months
 - Prior to deployment
- CG 47 class ships; Perform Dynamic AND Static Test of Fault Current Detector Frequency Detector Channel IAW PMS 3202/047 18M-5R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Every 18 months
 - Prior to deployment
- DDG 51 class ships; Test Generator and Switchboard Dead Bus Start Logic IAW PMS 3241/051 A-10 and A-16.
- DDG 51 class ships; Test Generator Reverse Power Relay IAW PMS 3241/051 A-18.
- DDG 51 class ships; Test Generator Set Reverse Power Function of MFM I and MFM III IAW PMS 3241/051 A-17R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - 30 to 60 days prior to deployment
- DDG 51 class ships; Test Automatic Paralleling Device(APD) in Permissive Mode IAW PMS 3241/051 A-8R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - Prior to deployment
- DDG 51 class ships; Test Automatic Paralleling Device (APD) in Permissive Mode IAW PMS 3241/051 A-9R.



DDG Class APD Panel



- Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - 30 to 60 days prior to deployment
- DDG 51 class ships; Test Automatic Paralleling Device(APD) at EPCC IAW PMS 3241/051 A-9R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - 30 to 60 days prior to deployment
- DDG 51 class ships; Test Fault Current Detector IAW PMS 3241/051 A-11R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - Prior to deployment
- DDG 51 class ships; Test Fault Current Detector IAW PMS 3241/051 A-12R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - 7 days prior to deployment
- DDG 51 class ships; Test Operation of Forward(Over) Power Function of MFM I IAW PMS 3241/051 A-14R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - Prior to deployment
- DDG 51 class ships; Test Setpoint of Forward (Over) Power Function of MFM I IAW PMS 3241/051 A-14R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - Prior to deployment
- DDG 51 class ships; Test Setpoint and Operation of Forward Fault Current Function of MFM I and MFM III for Main Bus Cross-tie Circuit Breakers IAW PMS 3241/051 A-15R.



- Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - 30 to 60 days prior to deployment
- DDG 91 through DDG 102 ships; Test Setpoint and Operation of Forward Fault Current Function of MFM III S – S Longitudinal-tie IAW PMS 3241/051 A-15R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - 30 to 60 days prior to deployment
- DDG 51 class ships; Test Setpoint and Operation of Forward(Over) Power Function of MFM I and MFM III IAW PMS 3241/051 A-24R.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Annually
 - 30 to 60 days prior to deployment
- DDG 51 class ships; Test Manual Load Shedding IAW PMS 3241/051 18M-3.
 - Accomplish this maintenance requirement when any of the following periodicities or situations occur:
 - Every 18 months

REFERENCES

- MIP 3112/016 (PC1 Class)
- MIP 3112/017 (LPD 17 Class)
- MIP 3112/003 (LSD 41/49 Class)
- MIP 3112/020 (FFG 7 Class)
- MIP 3121/003 (LSD 41/49 Class)
- MIP 3202/005 (LSD 41/49, LPD 17 Class)
- MIP 3202/010 (PC1 Class)
- MIP 3202/047 (CG 47 Class)
- MIP 3240/002 (FFG 7 Class)
- MIP 3241/051 (DDG 51 Class)