



DATA SHEET: BATTLE LANTERN RECHARGEABLE CONVERSION KITS
(IAW MIL-DTL-16377/53C of 9/27/2005)

1. Background: All ships and craft of the U.S. Navy, U.S. Coast Guard, U.S. Army, and many NATO Allies are equipped with the familiar yellow Battle Lantern; bulkhead mounted, hard-wired to 110VAC through a normally open (relative to the battery) mechanical relay and/or the portable, self contained, battery powered model. These legacy lanterns are powered by two 6vDC non-rechargeable, carbon/zinc/chlorine dry cell batteries (BA-200/U). These batteries, when factory fresh, have a short burn time and must be replaced at frequent intervals consuming significant man hours of ship's company personnel and must be stocked in large volume in supply storerooms at favorable temperatures. Each battery weighs in excess of one pound and must be retained on board and disposed of in accordance with restrictive regulations.

2. Solution: Based in part on the successful March '03 testing of the SEACOAST supplied fully modified LED/Rechargeable Battle Lanterns onboard USS MCFAUL (DDG-74), NavSeaSysCom updated the electrical/electronic, material, and performance requirements for the legacy Battle Lantern in the newly revised MILSPEC, MIL-DTL-16377/53C of 27 September 2005. It revises the specifications for the rechargeable components and incorporates the use of solid state Light Emitting Diode (LED) emitters as a source of illumination for the lanterns. Additionally, this new Spec introduces the rechargeable option to the Portable Battle Lantern in both the new LED light configuration as well as the legacy incandescent lamp. NSWC SSES PHIL message: IN SERVICE ENGINEERING ADVISORY 026-05 R141828Z OCT 05 re-affirmed Seacoast Development Group, Inc. (SDG) as qualified vendor for all variations of the Battle Lantern Battery re-charging conversion (*Retrofit*) Kits.

Upgrading the Battle Lanterns with the installation of these new kits allows DC personnel to be available for other duties and, more importantly, the lamp or LED Assembly will **continue to operate in emergency (or training) situations for a period of four to seven hours with the lamp and ~32 hours with the LED Assembly**. The kit eliminates/reduces the requirement to stock, frequently replace, and dispose of the current non-rechargeable dry cell(s). Present disposable dry cell logistics should call for an inventory of batteries in stock, batteries in use, and those stored aboard for disposal after their useful lives. Rechargeable technology can now reduce battery requirements to only those lanterns in-use and nominal spares in stock. These conversion kits provide for the most reliable battle lantern available and approved for use by the NAVY by (1) significantly enhanced operation in real world emergencies and training and (2) decreasing PMS time, i.e., battery replacement and the replacing/repairing of malfunctioning (Ships' Safety Bulletin, November 1992) or corroded relays. SEACOAST'S conversion kit's charger/control module is, by design, wholly integrated and **incorporates the relay as a function of the internal electronic package, thus removing the mechanical relay problems as required for compliance with the new MILSPEC: MIL-DTL-16377/53C**. The new Smart Top Plate/Smart Handle incorporates a red/green charge status indicating LED, and a one-way venting safety valve. The Magnetic Test Switch for the bulkhead-mount lantern is mounted in the Smart Top Plate, SEACOAST utilizes a hermetically sealed magnetic (non-sparking) switch, providing for instant operational testing. To ensure the unit to be free of internal spark sources, all electronic components are required to be sealed against gasses and moisture. The Conversion Kits include a charger/control module, new Smart Top Plate/Smart Handle with indicating LED, vent, and switch, One rechargeable battery (P/N: BLB-65S) is supplied with **Complete Kits** (Manufacturer P/N **BLK-1TS/BLK-PR**). *Replacement batteries are in stock and available for purchase separately from SEACOAST in the event that the Supply System indicates NIS.*

3. Modification Details: Modification consists of the removal of the existing dry cell batteries, cleaning the cavities and electrical contacts, and inserting the charger/control module, rechargeable battery and associated parts. Electrical hook-up is straight-forward following detailed instructions in the manual. It will recharge from complete discharge to 100% full charge in 12-16 hours. Proportionately shorter charge times are required for less discharge. The battery does not take on a memory set, rather, it is designed for discharge and recharge at

any point on the cycle. Red/Green LED indicator displays the status of charge at all times. When not activated, a lantern that is equipped with a SEACOAST Kit is in a 'cyclic charge' status with the electronic Charger/Control Module maintaining the full charge status of the unit. The battery supplied by SEACOAST is designed with a four (4) year operational life which is somewhat reduced when lanterns are frequently taken down and up the discharge/charge cycle. It is anticipated that the battery should last for an overhaul cycle with regular use and be replaced as a part of the repair availability or every three years. The charger/control module is waterproof and submersible even while in use (there is no shock hazard).

4. **Availability:** All versions of the Battle Lantern, complete or Upgrade/Mod Kits, component parts and batteries including "THE GORILLA LIGHT" (which is the battle lantern available for Public Use), are available for open purchase procurement from SEACOAST DEVELOPMENT GROUP, INC. CAGE Code **ORK00**

Phone: (800) 645-4832; (757) 495-5980; FAX: (757) 495-6614
 Email: Admin@NavyLanterns.com or SDG@High-Performance.com

Mfg. PART #

Description

Rechargeable Conversion Kits

BLK-1TS Upgrade SYM 101.2 to 101.3	Battle Lantern, Bulkhead-mount, Rechargeable Conversion Kit, contains one Rechargeable Retrofit Kit (w/ <u>Smart Top Plate/Magnetic Test Switch</u>) IAW M16377/53C-008 & 1 rechargeable Battery -009 (6v5Ah), P/N BLB-65S
BLK-PR Upgrade SYM 100.2 to 100.3	Battle Lantern; Portable, Rechargeable Conversion Kit, contains one Rechargeable Retrofit Kit (w/ <u>Smart Handle/sealed Toggle Switch</u>) IAW M16377/53C-008 & 1 rechargeable Battery -009 (6v5Ah), P/N BLB-65S and removable charging cable.
BLB-65S	Battery (Replacement); IAW M16377/53C-009, Rechargeable storage battery, 6v5Ah, sealed, absorbed electrolyte, non-spillable (rated as non-hazardous for shipping)
STP-1TS	Smart Top Plate w/factory installed Magnetic Test Switch to Upgrade BLK-1 (no test switch) to BLK-1TS to comply with current requirement.

5. Telephone calls are encouraged should additional information be required regarding installation or for the purchase of Kits, complete lanterns, spare parts and batteries.

Anticipated delivery date: 30 days or less after order.

NOTE: Government credit cards accepted.