



# UNITED STATES COAST GUARD

U.S. Department of Homeland Security

## **MARINE SAFETY ALERT**

Assistant Commandant for Marine Safety, Security and Stewardship

April 16, 2009  
Washington, DC

Alert 01-09

### **Electrical Shock Hazards**

Earlier this year an engineer working onboard a chemical tank ship was electrocuted. The incident occurred while several engineers were preparing to test a circuit breaker. The engineer apparently made contact with the unprotected stripped ends of a conductor plugged into a live 480 volt power supply on an electrical test bench. The investigation is currently ongoing and is examining the other circumstances surrounding the casualty. However, important safety concerns have been noted. This alert serves as a reminder to the maritime industry about the dangers of working with electrical equipment.

With respect to this casualty, the corded three-conductor power supply line being used to connect to the breaker, also called a pig tail, should not have been energized until it was connected. Further, depending on the type of equipment it was being used with, its ends should have had high voltage insulated alligator clips or it should have been wired securely into the electrical component prior to testing. Under no circumstances should the ends have been handled with the power turned on.

The Coast Guard ***strongly recommends*** that all vessel owners and operators ensure that:

1. Circuits are de-energized prior to performing any work whenever possible.
2. Employees having electrical maintenance and repair responsibilities are fully trained regarding all safety precautions needed when working with potential electrical hazards.
3. Individuals wear appropriate safety gear - insulated shoes, dry clothing, hard hat, rubber gloves, and other required protective equipment.
4. Appropriate supervision is provided.
5. Procedures for the use of test panels and connectors and are found in the Safety Management System or other operating manuals and readily available.
6. Safe electrical equipment inspection, maintenance and repair procedures are available and followed closely.
7. Test equipment is properly maintained according to original plans.
8. Tools used in the repair of live equipment are properly insulated.
9. Test benches are both properly insulated and grounded in the appropriate areas.
10. Flooring and other surrounding areas of test benches are properly insulated and dry.

This safety alert is provided for informational purpose only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Investigating Officers at MSU Galveston and the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC.

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