

Safety Alert

MMS

**U.S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region**

Safety Alert No. 273
23 October 2008

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Drilling Rig Generator Electrical Equipment Fire

Recently, an electrical arc occurred between three main bus bars and ground on a 600 volt alternating current, 3-phase main generator's Silicon Control Rectifier (SCR) Panel during jack-up drilling rig operations. The electrical arcing resulted in a fire and \$200,000 of damage to the SCR equipment and surrounding area, with no report of personnel injury or environmental pollution.

A Minerals Management Service (MMS) investigation into this incident revealed that the root cause of the electrical arcing was the lack of a proper Rig Contractor's inspection and maintenance program as follows:

- Soot and/or other contaminants were allowed to build up on the Rig's SCR Panel's main bus bars, thus allowing a conductive path for the electrical arcing and shorting to occur.
- According to the Rig Contractor personnel, an annual maintenance program that included cleaning of the main bus bars could have prevented the incident.

Therefore, the MMS recommends the following:

- Rig SCR Panels should be inspected on a regular basis and a maintenance program developed based on the results of the inspections. The maintenance program would ensure that internal parts of electrical equipment, including bus bars, wiring terminals, insulators, and other surfaces, may not be damaged or contaminated by foreign materials such as paint, plaster, cleaners, abrasives, or corrosive residues. Such a program may assist in eliminating any conductive path for the electrical arcing and shorting to occur between the SCR Panel bus bars as a result of soot and/or other contaminate build up.

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