

Safety Alert

MMS

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

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Compressor Starter Exhaust Flash Fire

Recently personnel were diagnosing problems with the fuel/air management system on a gas compressor. When the compressor's starter would not turn rapidly enough to start the engine, one of the mechanics believed there may be excessive pressure from a restriction in the exhaust piping and he disconnected the exhaust piping from the starter. Fuel gas was being used as the starting media. The mechanic then attempted to start the compressor utilizing a manual starter valve. When the start valve was opened, gas vented from the disconnected starter exhaust vent. A flash fire occurred, burning the mechanic's face and right hand.

A Minerals Management Service (MMS) investigation into this incident revealed the following findings:

- Evidence indicates that a possible ignition source was a spark generated from the engagement of the starter bendix and the engine flywheel.
- A Job Safety Analysis (JSA) was prepared by one of the mechanics; however, the JSA did not identify any site-specific hazards and only addressed diagnosing the fuel/air management system problem; the JSA did not address the disconnection of the starter exhaust piping.
- Personnel involved in the compressor project failed to exercise Stop Work Authority (SWA) when the job scope changed from diagnosing the fuel/air management system problem to diagnosing the starter problem.

Therefore, the MMS recommends the following:

- When using fuel gas to start prime movers, always ensure that the exhaust gas is vented to a safe location.
- Site-specific JSAs should be conducted that accurately reflect the job at hand. When the scope of work changes, the JSA should be reviewed and changed accordingly. Refer to Safety Alert #276 for additional information regarding JSAs.

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