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| <b>SAUDI ARABIAN OIL COMPANY (Saudi Aramco)</b><br><b>GENERAL INSTRUCTION MANUAL</b><br><b>ISSUING ORG.</b> DRILLING & WORKOVER<br><b>SUBJECT:</b> RIG SITE FLARE GUN AND COMMUNICATION EQUIPMENT | <b>G.I. NUMBER</b> 1852.01 <span style="color: blue;">Approved</span> |                               |
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## CONTENT:

This General Instruction contains policy for equipping a rig with a Flare Gun and standard Communication Equipment.

1. OBJECTIVE
2. BACKGROUND
3. FLARE GUN
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### 1.0 OBJECTIVE \*\*

The purpose of this policy is to ensure that every rig is fully equipped with a Flare Gun and Communication Equipment in case of an uncontrolled surface well flow (blowout) or other emergency.

**All rigs must have functional and dedicated flare gun on location, prior to commencing and during Drilling and Workover Operations.**

### 2.0 BACKGROUND

- 2.1 During Drilling and Workover operations, with a rig on the well, an uncontrolled surface flow (blowout) may occur, requiring immediate ignition of the well effluent to protect human life and company assets. In such a case, a Flare Gun is fired to ignite the effluent before spreading.
- 2.2 During the blowout emergency, it becomes imperative to have reliable means of communication at the rig site and with headquarters, especially when all power is turned off at the well site to avoid uncontrolled ignition. The use of mobile radios and portable communication devices (such as Walkie-Talkies) become essential in effective transmittal of instructions and expedient control of the well.

### 3.0 FLARE GUN \*

Drilling & Workover will have a Flare Gun on each rig site, as well as a minimum of 20 cartridges with long shelf life. The Flare Gun and cartridges will be locked up in a clearly marked wooden box in the Foreman's office, and the location of the key will be known only to the Foreman and the Contract rig Supervisor. The Foreman and Contract rig Supervisor should be proficient in operation of the Flare Gun.

Note: Foremen should ensure that the cartridge is compatible with the length of the gun barrel.

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## 4.0 COMMUNICATION EQUIPMENT

**Drilling & Workover, Area Information and Communications Operations Departments will work together to forecast, acquire and install the following communication equipment:**

- 4.1 One (1) Trunk mobile radio (*for on-shore rigs only*) in rig Foreman's vehicle to provide the capability to communicate with management, etc. in case of an emergency. The radio will only be used when at a safe distance from the well site in case of an un-ignited hydrocarbon accumulation since the vehicle and radios are both source of ignition.
- 4.2 One (1) Trunk desktop radio (*all rigs*) in every rig Foreman's office to enable communication with management, etc. if incase V-Sat communication is non functional or an emergency situation exists at the rig.
- 4.3 One (1) Trunk portable radio (*hand held*) for all rigs.
- 4.4 Six (6) VHF portable radios. The radios are needed on every rig site during an emergency or critical operation. The portable radios will be locked up in a clearly marked wooden box in the Foreman's office, and the location of the key will be known only to the Foreman and the Contractor Rig Supervisor. The foreman is responsible for the proper operation and charging of the radios. The radios must be rated for use in Class I, Div. I electrically classified areas (i. e. Explosion proof).
- 4.5 One (1) Base Station VHF System (Aviation Radio) for *Offshore Rigs only* to communicate with helicopter.
- 4.6 One (1) V-Sat unit at every rig to enable use of telephone / data (internet) communication at rig during normal non-emergency operations.
- 4.7 One (1) satellite phone at every rig as back-up communication to provide the capability to communicate with management, etc. if incase V-Sat communication goes down.

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