



खान सुरक्षा महानिदेशालय / Directorate General of Mines Safety

भारत सरकार / Government of India

श्रम एवं रोजगार मंत्रालय / Ministry of Labour & Employment



DGMS Technical Circular No. 01

of 2019

To

**The Owner/Agent/Manager of all Oil/Gas Mines**

**Subject:** Safe conduct of operations in Workover Oil/Gas Mines.

An enquiry conducted into a recent occurrence of a major accident in an onshore workover oil mine revealed that while a group of seven persons was engaged in workover operations without any statutory supervision in an area which was surcharged with hydrocarbon gas cloud created at the site due to workover operations, when there was a sudden fire because of ignition caused by a mobile telephone operation by one of them, which engulfed the area inflicting severe burn injuries to 06 (six) of them to which one succumbed instantly while the remaining 05 (five) persons succumbed during the course of treatment in hospital over the next 20 days.

The enquiry revealed that this accident would have been averted had

- a) a separator vessel been provided on stream during mud circulation operations as a part of well activation procedures to separate HC gas and other fluids flowing out as well produce and for safe conduit/handling and disposal of gas after burning in a suitable flare stack, thus effectively preventing the formation of HC gas cloud about the rig and the activation tank, as required by the provisions of Regulation 62(2)(c) and Regulation 129(7)(a) & (b) of the OMR, 2017 read with clause 14.11(f) of the Standing Operating Practices framed for workover operations onshore in January, 2012 by M/s ONGC,
- b) the workover operations for well activation been kept suspended in the absence of any direct supervision after the Installation Manager left the premises thus ensuring that well servicing operation is done only under the direct supervision of a competent person authorized for the purpose, as required under the provisions of Regulation 77(d) of the Oil Mines Regulations, 2017,
- c) the carrying and use of mobile telephone in workover areas by persons employed been prevented by effective supervision thus not negligently or willfully do anything likely to endanger life or limb in the mine or negligently or willfully omit to do anything necessary for the safety of the mine or of the persons employed therein, as required under provisions of Regulation 133 read with Regulation 96(3) of the Oil Mines Regulations, 2017, and


- d) the persons employed in workover operations been provided with Basic Vocational Training on various risks and dangers associated with workover operations, as required under Rule 6 of the Mines Vocational Training Rules, 1966.

Accordingly, a national level technical workshop titled "Safe Practices in Onshore Workover and Well Testing Operations" was organized by the Ahmedabad Asset of M/s ONGC Ltd under the aegis of this Directorate on the 29<sup>th</sup> of June 2019 at Ahmedabad and which was well attended by representatives from various oil/gas companies with operational mines. In accordance with the deliberations of the workshop and also detailed discussions with various stake holders, the following recommendations were arrived at in respect of any Workover Oil/Gas mine in operation.

1. It shall be ensured that person(s) deployed in the workover area within 30m from any tank, separator, oil well, oil/gas manifold at the installation including in Zone -2 hazardous area, do not carry/possess mobile phones, any electronic device, cigar, cigarette, biri/other smoking apparatus or any match or kind which is capable of producing a light, flame or spark, excepting intrinsically safe apparatuses or such devices which are housed in a flame proof enclosure.
2. Before employing any person at the installation, it shall be ensured that such persons have undergone adequate and appropriate training under the Mines Vocational Training Rules, 1966 on safe conduct of various operations. Such persons may also be imparted requisite training on behavioral safety.
3. It shall be ensured that no person is permitted to enter into any place in the workover area which is likely to contain dangerous levels of hydrocarbon gases, without wearing suitable fire-proof whole-body vests/jackets, to protect from sudden fire.
4. Whenever any operation connected to the conduct of workover are carried out, continuous presence of an official/Installation Manager shall be ensured at site for the purpose of proper management, control, supervision and direction of all workover operations.
5. Before commencement of operation at the installation, it shall be ensured by the Manager that a thorough Job Safety Analysis is carried out and various attendant issues arising thereof are addressed in accordance with law.
6. There shall be provided a system for effective handling, conduit and/or safe disposal of hydrocarbon gases through a properly constructed and maintained flare stack, thereby preventing accumulation and discharge into atmosphere.
7. A system of continuous monitoring and detection for hydrocarbon gases at all pre-defined locations by the Manager for the purpose, shall be provided in addition to monitoring by portable spot gas detection systems on hourly basis or at shorter intervals as may be decided by the Manager. A record of such monitoring/detection by portable spot gas detection systems shall be kept in a register kept for the purpose and shall be signed and dated by the person making the measurement. In case of the continuous monitoring and detection system, the measured readings may be kept in non-editable electronic form.

8. It shall be ensured that suitable protective systems such as Automatic Fire Detection and Suppression System (AFDSS), engine coolant temperature sensors, engine oil pressure gauge, over-heating tripping system and exhaust manifold & turbo charger guards, are provided and maintained on every internal-combustion (IC) engine. It shall also be ensured that the exhaust of every IC engine including exhaust pipe, muffler/silencer, are adequately insulated/protected to prevent contact with inflammable fluids.
9. It shall be ensured that every Draw Works is provided with a Fail-Safe braking system so as to get automatically applied in case of any pneumatic/hydraulic component failure.
10. It shall be ensured that equipment maintenance shall be carried out as per the procedure and schedule as per OEM guidelines/recommendations.
11. It shall be ensured that the entire workover area is kept under effective CCTV surveillance to monitor all operations closely.
12. Care shall be taken to ensuring that various SOPs made in connection with workover operations shall be in accordance with OMR 2017 and relevant OISD guidelines issued from time to time.

Therefore, in the interest of safety and specially in the wake of such accident as mentioned above, the Owner, Agent and Manager of all workover oil/gas mine are advised to strictly comply with the above recommendations.

  
30/10/24

(R. Subramanian)  
Director General of Mines Safety(Off)