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कार्यालयीन उद्देश्य के सभी पत्रादि "मुख्य विस्फोटक नियंत्रक" के पदनाम से भेजे जाए उनके व्यक्तिगत नाम से नहीं.

All communications intended for this Office should be addressed to the 'Chief Controller of Explosives' and NOT to him by name.



भारत सरकार

GOVERNMENT OF INDIA

वाणिज्य और उद्योग मंत्रालय

Ministry of Commerce & Industry

पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन

Petroleum and Explosives Safety Organisation

(पूर्व नाम - विस्फोटक विभाग)

(Formerly- Department of Explosives)

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पत्रांक / No. D-18019/SOP/Implementation

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### **SOP for Conversion of used LNG tankers for Oxygen service**

This has reference to suggestions submitted by industries, SOP has been revised accordingly.

Cryogenic transport tank used for transportation of LNG/ has traditionally not been agreed by PESO for their conversion to carrying and transport liquid Oxygen because of its inherent risk and against the international practice.

Due to extreme emergency requirement to transport liquid Oxygen, requests from Industries are received proposing conversion of LNG tanker to Oxygen service. It is informed that there are only 138 Nos. of LNG tankers in the country.

Since, such conversion is not a safe practice and not followed internationally, extreme precaution has to be taken by the applicant for such conversion. The conditions set forth by PESO has to be followed in view of the above extreme exigencies, and following steps to be observed by the user industry:-

1. Cryogenic transport tanker shall be warmed up and purged with hydrocarbon free Nitrogen and the discharged purged gas composition shall be monitored till the hydrocarbon vapour concentration is reduced to 0.01%.
2. Inlet of vapourizer coil/pump suction filter and any other points of the system must be examined to ensure absolute absence of hydrocarbon.
3. Conversion shall be undertaken under the supervision of competent and experienced person.
4. Warming of tanker shall initially be taken up with Nitrogen up to the temperature of 15°C using cold Nitrogen and then up to maximum 50°C. Care must be taken to ensure that tanker and associated parts are not exceeding maximum design temperature and with allowable rate of temperature increase.
5. Please ensure that all valves, piping works, filling and sampling hoses and pump assembly are made up to the Oxygen compatible material.
6. Purged gas analysis shall be carried out and samples to be taken for consistent concentration of hydrocarbon vapour less than 1PPM.

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7. **The completely purged LNG tanker must be used for filling once with liquid Nitrogen to ensure 100% hydrocarbon free vessel and also to ensure that filling and delivery hoses/assembly and faucet adopter are compatible for Oxygen delivery.**
8. Level of filling of Nitrogen/Oxygen shall be standardized for level volume/weight and suitable marking or interlock shall be provided.
9. The discharge and receipt of the product shall be replaced with the suitable adapter for Oxygen.

The above protocols are mandatory. PESO shall be informed while deciding LNG tanker for conversion and after completion of the above conditions, a declaration issued by the applicant shall be submitted to PESO for acceptance and issue of commissioning permission to use tanker for Oxygen service.

The authorized signatory shall be solely responsible and confirm in their declaration that above conditions has been complied with.



(M.K. Jhala )  
Jt. Chief Controller of Explosives (HOD)