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कार्यालयीन उद्देश्य के सभी पत्रादि "मुख्य विस्फोटक नियंत्रक" के पदनाम से भेजे जाएं 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

पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन

Petroleum and Explosives Safety Organisation

(पूर्व नाम - विस्फोटक विभाग)

(Formerly- Department of Explosives)

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Seminary Hills, Nagpur- 440006

संख्या / No: D-18019/Comp/Implementation

दिनांक /Nagpur, dated: 26th April, 2021

MEMO

Consequent to the second wave of COVID-19, the demand for medical oxygen has increased tremendously. There is huge stress on the mobility of liquid oxygen within the country as well as availability of gas cylinders. In order to ease the availability of medical oxygen, following relaxation in the Rules may be considered:

Renewal of licenses under the Gas Cylinders Rules, 2016

1. Cylinders due for testing as on 31st March 2021 or up to 30th June 2021 shall be deemed to be due for testing as on **30th June 2021**.

Renewal of licenses under the SMPV (U) Rules, 2016

1. All the cryogenic vessels for storage of liquid oxygen and for transportation of liquid oxygen, liquid nitrogen & liquid argon which are due for testing between 30th March 2021 to 30th June 2021 shall remain operational and may be filled with compressed gases as per the license. In all such cases the validity of the license and requirement of certificate under Rule 18 & 19 of the SMPV (U) Rules, 2016 shall be deemed to be extended till **30th June 2021**.
2. All the cryogenic road tankers for transportation of liquid oxygen, liquid nitrogen & liquid argon whose validity of license has expired in the financial year 2020-21 & 2021-22 (up to 30/06/2021 only) shall be deemed to be valid for transportation of **liquid oxygen only up to 30th June 2021**.

Conversion of Liquid Nitrogen / Argon tankers to Liquid Oxygen tankers

1. Liquid nitrogen / liquid argon tankers shall be permitted to transport liquid oxygen as per the requirements of the state and allocation as decided by the Central Government from time to time without seeking any approval / permission from PESO. The permission shall be **valid up to 30th June 2021**.
2. The standard operating procedure (copy enclosed) shall be strictly adhered.
3. The concerned filler of liquid oxygen shall ensure that the tanker shall be degassed and made free of liquid / vapour of nitrogen / argon before transportation of liquid oxygen. Due precautions shall be taken during purging and degassing of the tankers.

(M.K. Jhala)

Jt. Chief Controller of Explosives (H.O.D.)

To,

All the Heads of Circle, Sub Circle offices of PESO, NAPES-TS: (*Through PESO's support site and email only*).

Copy to:

1. Shri Sushil Satpute, Director, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Udyog Bhavan, New Delhi: 110 017: *For information with reference to DPIIT's email dated 26/04/2021.*
2. Shri S.S. Dhoke, Sr Technical Director, National Informatics Centre, Nagpur: *for modifications in the licensing module to suit the aforesaid relaxations.*
3. All the concerned stakeholders under the Petroleum Rules, 2002: *For information.* (Through PESO's website only).


Jt. Chief Controller of Explosives (H.O.D.)

Standard Operating Procedure for Conversion of Cryogenic tankers used for Nitrogen/Argon service to oxygen Service.

The basic principle is that a cryogenic transport tank should always be warmed up and purged with hydrocarbon-free nitrogen before being filled with oxygen. Any conversion shall be covered either by a Work Permit or a Management of Change (MOC) order.

(i) Operators shall ensure that the following are checked and documented:

- (a) Check the history of the equipment to confirm that there has not been any contamination of the tanker/tank container.
- (b) The inner vessel shall be designed and constructed for oxygen service, e.g. stainless steel or 9% nickel alloy.
- (c) All valves, pipe work, filling and sampling hoses, and pump assembly are of oxygen compatible materials.
- (d) The pump and its accessories are suitable for the required application after conversion, e.g. oxygen compatible gearbox oil.
- (e) Maximum design payload of the cryogenic vessel and tractor trailer. Generally, larger capacity trailer will have two or three sets of trycock for different products (LIN/LOX/LAR).
- (f) The addition of an emergency shut off valve is considered a best practice for LOX service.

(ii) Warming and purging

Containers and tankers have variations in piping but generally include the following circuits:

- top and bottom filling connections,
- pump suction, delivery and recycle lines,
- pressure build up circuit,
- relief and vent system, and full trycock and gauge connections.

It is to be ensured that no hydrocarbons remain are present in the inner vessel before the change of service to oxygen. Draw up detailed work practices for each individual type of tanker.

Warm up the tanker and all piping to a temperature of 15 °C using cold N₂ gas initially, then with warmed up N₂ gas to a maximum of 50 °C. During this process, ensure that the cryogenic transport tanker and associated parts shall not exceed

the maximum design temperature and the allowable rate of temperature increase.

The warming process can be expected to take 4 to 8 hours depending on the design and initial temperature of the individual cryogenic transport tanker. At the end of the warming process the tanker shall be left for a period (1 hour) to ensure that it has warmed up and then tested for hydrocarbons, if required.

(iii) Control of the use of adaptors:

After the purging of the cryogenic transport tanker, the loading and off-loading connector shall be replaced according to the desired product. The use of adaptors should be limited and if possible, eliminated. If adaptors are needed:

- (a) All adaptors shall have IDs legibly marked on a visible surface.
- (b) Adapters should be permanently constructed by means such as welding, silver soldering or brazing so that parts cannot inadvertently become detached while being used.
- (c) Worn out or damaged adapters shall be withdrawn from service, then either repaired or scrapped and deleted from the records by the authorized person controlling the adapter.
- (d) As a minimum, adaptors should be of compatible material, cleaned for Oxygen service and having a valid pressure test certificate.