

OFFICE OF MEMBER (DRAINAGE)

DELHI JAL BOARD

GOVT. OF NCT OF DELHI

NO. DJB/M(Dr.)2012/89445

Dated: 23-8-12

INSTRUCTIONAL ORDER

Protection & safeguard of its workers working in hazardous conditions like cleaning of sewers etc. is obligatory on the part of DJB. To avoid accidents due to suffocation, drowning, physical injuries and exposure to toxic material in the sewerage system, it is essential that adequate safety measures are in place & proper precautions are taken. To ensure that all safety measures are taken, several instructional orders have been issued from time to time.

The following guidelines/precautions are being reiterated and must be religiously followed to avoid any accident:-

1. No man entry should be allowed in the manhole without issue of Work Permit by the competent authority.
2. All Safety Equipments like Helmets, Gum Boots, Hand Gloves, Full Body Suit, Hand Blowers, Gas Detector, Folding ladder, Resuscitation apparatus, safety belt, oxygen cylinder etc. must be available in adequate numbers and maintained in working condition by the Store in Charge.
3. As far as possible, Mechanised cleaning operations should be carried out. Deep Pit Work Stations should be procured in adequate numbers by the Executive Engineers as per their requirement. Work Permit System must be followed regularly.
4. Man entry should be allowed only after checking that the level of poisonous gases in the manhole is within the permissible limits. Proper level of gases must be checked by the Gas Detector. The permissible limits of various gases are tabulated:-

S.No	GAS	MAXIMUM LIMIT FOR 1 HOUR EXPOSURE	MAXIMUM LIMIT FOR 8 HOUR EXPOSURE
1.	CO	0.04% by volume in air	0.005% by volume in air
2.	H ₂ S	0.02% by volume in air	0.001% by volume in air
3	CH ₄	Probably no limit provided oxygen percentage is sufficient	1% by volume in air
4	O ₂	Oxygen level should be 19.5 – 21% by volume in air	

It would be safer to consider limits of 8 hours exposure.

5. Ventilation of the manhole must be maintained by opening 2-3 manholes upstream & downstream sides. Blowers, if necessary, must be operated at least 30 minutes before start and during cleaning operations.
6. The workers should not be allowed to work in sewer for more than 15 minutes in a single stretch. It should be ensured that all required safety equipments are available and are being used by the sewer workers.
7. In peak summer season, man entry in sewer manholes may not be allowed between 11 AM and 4 PM.
8. The equipments required in case of rescue of the worker should be available outside the manhole/work area.
9. First Aid Box with all required medicines (with in expiry date) must be readily available in case of any emergency.
10. Dos and Don'ts for safe working in each unit should be displayed. Printed or written operating and maintenance schedules should be displayed near to each equipment in the language understood by all operating staff.
11. Proper ventilation is required to be made in raw sludge pump houses and return sludge pump houses and other buildings in the plant. Units should have sufficient number of exhaust fans.
12. Smoking or carrying open flames in and around digesters and gas holders should be prohibited.
13. All electrical installations, wirings etc. shall be provided and maintained as per Indian Electricity Rules and standards approved by the department.

Safety of the sewer workers is the collective responsibility of DJB. The Safety & Disaster Management Cell conducts regular awareness programme/training to educate the sewer worker about the hazards of working in sewers. It is obligatory on the part of every office of DJB involved in sewer cleaning/hazardous operations to ensure that the sewer workers are working in safe working environment. It is instructed that the safety guidelines and instructional orders be followed in true spirit by all concerned.

Sd/-
MEMBER (DRAINAGE)

All Executive Engineers

Copy To:

- 1 CEO, for kind information
- 2 All Chief Engineers; to ensure implementation of the guidelines/ instructions.
- 3 All SEs; ----do----
- 4 Director(S&DM)
- 5 Joint Director(Safety)/Joint Director(DM)
- 6 All Dy. Directors (S&DM)


MEMBER (DRAINAGE)