



Work Safety Alert Overcome by Smoke in Underground Pipe Work

1. **Date of Accident :** February 2014
2. **Place of Accident :** A water treatment plant
3. **Summary :**

Three workers, while spraying flammable substances inside an underground pipe, were overcome by smoke emitted arising from flame cutting work being carried out by other workers some distance away.

4. **Work Safety Alert for Contractors/Employers :**

Contractors/employers undertaking underground pipe works should:

- appoint a competent person to conduct task-specific risk assessments, taking into account the nature of the work, diameter of the pipe, emergency situations and rescue operation before the commencement of the work;
- avoid man-entry into the pipe as far as practicable;
- avoid use of flammable substances inside the pipe;
- avoid the use of naked flame inside the pipe; and
- where the above avoidance measures are not practicable, formulate and implement an effective safe system of work, which should fully comply with the Factories and Industrial Undertakings (Confined Spaces) regulation and include the following:
 - implementing a permit-to-work system, having all necessary safety precautions taken and certified in writing with the period during which workers may remain safely inside the pipe specified, before



any workers are allowed to enter into the pipe;

- taking effective steps such as blanking off the pipe to prevent ingress of any hazardous gases, fume or vapours into the pipe;
- providing forced ventilation to remove any hazardous substances and to maintain sufficient fresh air supply while at work;
- where use of flammable substance is inevitable, strictly forbidding smoking, use of naked flame or any other processes likely to ignite the flammable substances;
- ensuring that only certified workers are allowed to enter the pipe for work and providing them with adequate information, instruction and training;
- ensuring that workers entering the pipe use suitable personal protective equipment as appropriate, including approved breathing apparatus and safety harnesses connected to lifelines that are strong enough to enable each of them to be pulled out;
- stationing a stand-by person outside the pipe to maintain communication with the workers inside;
- ensuring effective communication among the workers working inside and outside the pipe;
- exercising effective monitoring and supervision to ensure that the above safety measures are strictly followed; and
- formulating and implementing proper emergency procedures to deal with any serious and imminent danger to workers inside the pipe.



5. Reference :

- [Five Steps to Risk Assessment](#)¹
- [Safe Systems of Work](#)¹
- [A Brief Guide to the Factories and Industrial Undertakings \(Confined Spaces\) Regulation](#)¹
- [Code of Practice – Safety and Health at Work in Confined Spaces](#)¹
- [Safe Work in Confined Spaces](#)¹

DISCLAIMER

This Work Safety Alert (“the Alert”) is issued at the earliest possible opportunity after a serious accident with a view to drawing the attention of interested parties to the general safety precautionary measures necessary to protect people engaging in similar work activities. The material contained in the Alert constitutes general guidance only. It does not reduce, limit, or replace, any legal obligations upon any person to comply with any statutory duties under relevant legislation. Users such as Managers and Supervisors should make their own evaluation of the information contained in the Alert to determine if it can be applied to their own situations and practices. The Labour Department does NOT accept any responsibilities for any loss or damage resulting from the use of or failure to use of the information on the Alert.

¹ Click to view the document