



Work Safety Alert

Furnace Explosion of a Boiler

1. **Date of Accident :** May 2016
2. **Place of Accident :** A boiler room located in a hospital
3. **Summary :**

The furnace of a boiler exploded during checking, testing and repair work.

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

To ensure the safety of workers/ employees engaged in boiler checking, testing and repair work, the contractors/ employers should provide and maintain a safe system of work which should include, but not limited to, the following:

- appointing a competent person to conduct task-specific risk assessments in identifying all potential hazards associated with boiler checking, testing and repair work;
- formulating safe work methods and procedures with due regard to the results of risk assessments;
- implementing safe working procedures for the work. The furnace should always be purged before starting the ignition process in accordance with the equipment manual/ maker's instruction;
- establishing special working procedures in the event of abnormal circumstances. For example, if the boiler ignition system fails to ignite, stop the fuel supply and purge the furnace again for the period recommended by the maker or for at least 10 minutes to remove any accumulation of flammable mixture, which could be explosive;



- before igniting the boiler, ensuring that there is no fuel leakage. Gas leakage would be indicated by the presence of bubbles while applying soap solutions to the joints. Portable gas leakage detector of appropriate type should be used, if necessary;
- appointing a Boiler Inspector (an Appointed Examiner under the Boilers and Pressure Vessels Ordinance, Cap.56) to inspect the boiler after the completion of extensive repair. The boiler should only resume operation with the satisfactory examination of Boiler Inspector;
- providing all workers/ employees and supervisor who are engaged in carrying out boiler checking, testing and repair work with necessary safety information, instruction and training; and
- establishing and implementing an effective monitoring and control system to ensure strict and full compliance with all the above safety measures by the workers/ employees.

5. Reference :

- [Five Steps to Risk Assessment](#)¹
- [Safe Systems of Work](#)¹
- [Code of Practice for Owners of Boilers and Pressure Vessels](#)¹
- [Code of Practice for Fossil-fuel Boilers](#)¹
- [Brief Accident Cases of Boilers and Pressure Vessels in Hong Kong](#)¹



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