



M/s Oil/Petrochemical Industries &  
Private Authorised Examiners

Dear Sir

### **Requirement for Testing of Safety Valves of Steam Boilers during Statutory Examinations**

This circular sets forth the guideline for testing of safety valves of steam boilers in compliance with Regulation 28(16)(b) of the Workplace Safety and Health (General Provisions) Regulations.

- a) All safety valves of direct-fired or utility steam boilers shall be in-situ pop tested as attached to the said boiler, during registration as well as during re-inspections;
- b) The safety valves of unfired steam boilers may be tested using assisted lifting test if the owners of the steam boilers concerned had determined that they are unable to carry out in-situ pop testing practicably. There is no need to apply to the Department for approval and the owner shall ensure the requirements stated in Appendix 1 are complied with. The authorised examiner shall check on the compliance of Appendix 1 as part of his inspection and indicate the compliance in his report of examination.
- c) The safety valves of unfired steam boilers may be tested using bench/shop testing if the owners of the steam boilers concerned had determined that they are unable to carry out in-situ pop testing or assisted lifting test practicably and an approval has been given in writing by the Commissioner for Workplace Safety and Health. The owner shall ensure the requirements stated in Appendix 2 are complied with. The authorised examiner shall check on the compliance of Appendix 2 as part of his inspection and indicate the compliance in his report of examination.

2. The inspection and testing of safety valves are to be carried out at every statutory examination of the steam boiler to which they are attached. The tests need not be carried out annually if the steam boiler has been granted extension of inspection beyond 12 months, provided that the steam boiler is fitted with a system, independent of the safety valves, to prevent overpressure of the boiler.

COMMISSIONER FOR WORKPLACE SAFETY AND HEALTH

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**Appendix 1****Requirements for Assisted Lifting Test of Safety Valves**

- (i) The assisted lifting test of the safety valves shall be carried out by testing companies using the assisted lifting test system approved by this Department. The conditions stipulated by this Department in its approval of the tests are to be strictly adhered to. The testing company shall be an SAC-SINGLAS accredited testing company and the reports of the tests shall be documented and endorsed in accordance with SAC-SINGLAS requirements;
- (ii) The testing shall be carried out in the presence of the Authorised Examiner appointed/engaged to inspect the pressure vessel for which the safety valve is being installed;
- (iii) The capacity calculations for each unit of safety valve, taking into consideration the operation and valve discharge conditions, shall be made available for the inspection and checking by the Authorised Examiner;
- (iv) The safety valve setting report shall be endorsed by the Authorised Examiner, and the report shall bear the pressure vessel registration number and all valve specifications and unique identification number;
- (v) Any subsequent change in the installation of the safety valve that could adversely impact the safe operation of the safety valve shall be re-evaluated and reported to the Commissioner for Workplace Safety and Health; and
- (vi) The above conditions shall be included in the valve integrity documents of the owner of the pressure vessel.

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**Appendix 2****Requirements for Bench/Shop Testing of Safety Valves**

- (i) Applications for shop testing of safety valves shall be made in writing to the Commissioner for Workplace Safety & Health and only upon approval by the Commissioner in writing shall the shop testing of safety valves be carried out;
- (ii) The boiler to which the safety valve is to be attached for the purpose of preventing the boiler from being subjected to a pressure greater than its safe working pressure, shall be fitted with an independent system to prevent overpressure of the boiler;
- (iii) The shop testing of the safety valves shall be carried out by a testing laboratory that is accredited by the Singapore Accreditation Council under the SAC-SINGLAS Scheme;
- (iv) The testing shall be carried out in the presence of the Authorised Examiner appointed to inspect the pressure vessel for which the safety valve is being installed;
- (v) The capacity calculations for each unit of safety valve, taking into consideration the operation and valve discharge conditions, as well as the hot/cold setting co-relations shall be made available for the inspection and checking by the Authorised Examiner;
- (vi) The safety valve setting report shall be endorsed by the Authorised Examiner, and the report must bear the pressure vessel registration number and all valve specifications and unique identification number;
- (vii) Any subsequent change in the installation of the safety valve that could adversely impact the safe operation of the safety valve shall be re-evaluated and reported to the Commissioner; and
- (viii) The above conditions shall be included in the valve integrity documents of the owner of the pressure vessel.

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