

## SCHEDULE 2

### Essential Safety Requirements

## PART 5

### SPECIFIC PRESSURE EQUIPMENT REQUIREMENTS

**32.** In addition to the applicable requirements of Parts 1 to 4, the requirements in this Part apply to the pressure equipment covered by paragraphs 33 and 34.

#### **Fired or otherwise heated pressure equipment with a risk of overheating as referred to in regulation 6**

**33.**—(1) The requirements in sub-paragraph (2) apply to fired or otherwise heated pressure equipment with a risk of overheating as referred to in regulation 6, including—

- (a) steam and hot-water generators as referred to in regulation 6(b), such as fired steam and hot-water boilers, superheaters and reheaters, waste-heat boilers, waste incineration boilers, electrode or immersion-type electrically heated boilers, pressure cookers, together with their accessories and where applicable their systems for treatment of feedwater and for fuel supply;
- (b) process-heating equipment for other than steam and hot water generation falling under regulation 6(a), such as heaters for chemical and other similar processes and pressurised food-processing equipment.

(2) Pressure equipment of the type referred to in sub-paragraph (1) must be calculated, designed and constructed so as to avoid or minimise risks of a significant loss of containment from overheating; in particular it must be ensured, where applicable, that—

- (a) appropriate means of protection are provided to restrict operating parameters such as heat input, heat take- off and, where applicable, fluid level so as to avoid any risk of local and general overheating;
- (b) sampling points are provided where required to allow evaluation of the properties of the fluid so as to avoid risks related to deposits and/or corrosion;
- (c) adequate provisions are made to eliminate risks of damage from deposits;
- (d) means of safe removal of residual heat after shutdown are provided;
- (e) steps are taken to avoid a dangerous accumulation of ignitable mixtures of combustible substances and air, or flame blowback.

#### **Piping as referred to in regulation 6(c)**

**34.** The design and construction of piping referred to in regulation 6(c) must ensure that—

- (a) that the risk of overstressing from inadmissible free movement or excessive forces being produced, e.g. on flanges, connections, bellows or hoses, is adequately controlled by means such as support, constraint, anchoring, alignment and pre-tension;
- (b) that where there is a possibility of condensation occurring inside pipes for gaseous fluids, means are provided for drainage and removal of deposits from low areas to avoid damage from water hammer or corrosion;
- (c) that due consideration is given to the potential damage from turbulence and formation of vortices; the relevant parts of paragraph 11 are applicable;
- (d) that due consideration is given to the risk of fatigue due to vibrations in pipes;

**Status:** This is the original version (as it was originally made).

- (e) that, where fluids of Group 1 are contained in the piping, appropriate means are provided to isolate 'take-off' pipes the size of which represents a significant risk;
- (f) that the risk of inadvertent discharge is minimised; the take-off points must be clearly marked on the permanent side, indicating the fluid contained;
- (g) that the position and route of underground piping is recorded in the technical documentation to facilitate safe maintenance, inspection or repair.