

Pressure Systems Group Terms of Reference

Preamble

The Pressure Systems Group is a Technology Group of the Institution of Mechanical Engineers, constituted through its Technology Strategy Board and subject to the Divisions' and Groups' Policy Framework. The objectives, stakeholders and technical and product scope of the Pressure Systems Group are as follows. The role and composition of the Pressure Systems Group Board and the activities of the Group and Board are defined.

Objectives

- To provide a platform for communication and technological transfer through the Institution of Mechanical Engineers for the Group of Stakeholders, Members, and the wider community of engineers concerned with pressure systems and equipment.
- To co-ordinate activities and opinion relating to pressure equipment/pressure systems and establish the Pressure Systems Group of the Institution of Mechanical Engineers as a body of collective influence, both nationally and internationally.

Stakeholders

The Pressure Systems Group aims to include and consolidate the following key Stakeholders in pressure systems engineering.

- Owners, Users and Operators
- Regulators and government
- Manufacturers, Fabricators, Installers and Maintenance organisations
- Inspection and Competent Person organisations
- Designers, system suppliers and project managers
- Consultancy, Universities, other academia, and Research organisations
- Codes and Standards organisations (BSI, CEN, ASME)
- Related Engineering Institutions, Learned Bodies and other disciplines

Technical and Product Scope

The disciplinary areas of pressure systems, equipment, and components embrace: design methodology and materials selection; manufacture, fabrication and welding; assembly, installation and operation, decommissioning and reuse, assessment and re-qualification; fitness-for-service, fracture and failure analysis; legislation, standards and codes of practice.

The following key technologies have been identified as essential to future success in the pressure systems industry, and particular attention will be paid to these areas:

- Design and materials - Steel, non ferrous, non metallics, GRP, composite
- Fatigue; creep and creep fatigue; fracture; fitness-for-service assessment
- Stress analysis - static and dynamic; secondary stresses - residual, thermal, inertial;
- Welding; heat treatment and stress relief; forging, casting and fabrication processes

- Environmental effects - degradation, erosion/corrosion, stress corrosion;
- Inspection - pre- and in-service; risk based, remote visual, proof testing;
- Safety awareness; ageing management, life extension, repair and maintenance
- Legislation and regulations (PSSR, PED), codes and standards (BS, ASME, EN)

Pressure Systems Group covers all products connected with the containment of pressure and hazardous substances including the following.

- Pressure vessels and columns, reactors and heat exchangers
- Pipework and pipelines, flanges, bolting and connections
- Pressure relief devices, valves and pumps, seals
- Atmospheric and pressurised storage tanks, bullets
- Transportable pressure containers, gas cylinders and air receivers
- Boilers and fired heaters, steam equipment (autoclaves)

Pressure Systems Group Board

The Pressure Systems Group Board is the governing body of the Pressure Systems Group. It is comprised of representatives of the key Stakeholders and aims to reflect the wide spectrum of industries and interests of the pressure systems community and Institution Members.

In particular the Board invites representatives from the Health and Safety Executive (HSE), the Engineering Equipment and Materials Users Association (EEMUA), the Safety Assessment Federation (SAFed) and British Standards. It aims to have representation from the industry sectors where pressure systems are used (e.g. nuclear/ fossil power, boilers, petrochemical and refining, chemical, pharmaceutical, gas, and other process industry).

The Board provides strategic oversight of the Group's activities. It subscribes to the principles and objectives of the Institution and is not influenced by commercial or political interests. The Board aims to match the trends and developments in pressure systems technology.

Membership of the Board is voluntary and unremunerated. The Institution acknowledges the support of employer organisations in releasing individuals. Board Members are expected to act without commercial interests and for the wider good of the engineering community. Reasonable expenses for Board Members are payable by the Institution on request.

Composition of the Board

The composition of the Board shall, in line with Institution policy, contain representation from Stakeholders and Members across the spectra of engineering and experience. Taking note of the Institution's Policy Framework for its Divisions and Groups, the composition of the Pressure Systems Group Board shall **as a minimum** comprise:

- 1 Chairman
- 1 Vice Chairman
- 7 Ordinary members
- 2 Executives appointed by Institution HQ

The Board shall elect the Chairman and Vice Chairman from the Board membership by a two thirds majority. Chairman and Vice Chairman shall not serve for more than three years without being re-elected by the Board and the agreement of the TSB. Two terms of office is normally considered the maximum. Other elected members shall not normally serve for more than 6 consecutive years unless they are invited by the Board or appointed as Chairman and Vice Chairman. Members missing more than 75% of Board meetings over a two year period should be considered for re-election or removal. The total membership of the Board should be consistent with effective representation and working (typically around 20 members).

Membership of the Board is by agreement of current members. Anyone involved with pressure systems or equipment can express interest in being a candidate to join the Board. The Board may sometimes invite an application from someone with specific attributes. Candidates normally send a CV to the Board. If the Board feels a candidate is potentially suitable it will invite the candidate to attend up to three meetings. If during these meetings the candidate demonstrates a commitment and potential contribution to the activities of the Group, the Board will, by agreement, invite the candidate to join the Board as a full member.

Activities of the Group and Board

Activities of the Pressure Systems Group include events such as seminars, workshops and conferences (sometimes in conjunction with other engineering and learned bodies), educational and career-related activities, industry liaison, interaction with government, standards bodies (BSI) and other Institutions, and with international conferences and research forums (ICPVT, EPERC). Events are organised by a planning committee appointed from the Board to define the programme, invite speakers and review papers and presentations.

The Board shall hold at least three meetings per year to discuss the activities of the Group. The Board nominates candidates for the Donald Julius Groen Prize for Pressure Systems, and other major Institution prizes. External representations on behalf and in support of the pressure systems community may be made by the Board as appropriate.