

Industry Alert - Pressure Test Safety (July 2018)

Narrative:

During 2017 the Pressure Vessel Manufacturers forum (PVMf) became aware of an increase in the statistics relating to fatalities and serious injuries occurring during pressure test operations. As the topic was introduced to other groups it became quickly apparent that this was an industry-wide problem and that we were only seeing the tip of the iceberg.

Awareness:

The subject was formally raised with the Pressure Systems Group (PSG) at the IMechE where it received universal support from attendees across industry. The response was to organise a conference that took place in London during December 2017. The pressure equipment industry showed up in numbers and all attendees played their part in facilitating a full and open discussion about this difficult subject.

Outcomes:

The main feedback during and after the conference concentrated on two areas as follows;

- Absence - of standards or programmes for training, qualifying, certifying and maintaining competence levels for individuals involved in the planning and performance of pressure tests.
- Awareness - the existing guidance available to industry is the HSE guideline GS4. However, a percentage of individuals and companies are either not aware of this guideline or are choosing not to follow it – or work to an equivalent level of safety.

Planning:

The PSG has set up a working group with EEMUA and the PVMf to commence work on the two aspects shown above. Part of this work is generating a series of courses or modules through which individuals can receive training and be assessed as competent in the following skills;

- 1) Devising a SSoW for the complete performance of the test
- 2) Managing the test including risk assessments and live supervision during testing
- 3) Assembling and operating the equipment during pressure tests

We welcome the contribution and involvement of individuals from industry who can offer their expertise to our efforts.

Pressure Test Safety - Now:

The work we are planning to undertake will take time to be accomplished. During this time we want ensure that our industry is more aware of the problem of test safety and the approach we are making to improve the situation.

You can play your part by considering the following steps in your organisation/business;

1. Guidance – review GS4 and ascertain how well you follow or adhere to its recommendations.
2. Test Type – This relates to the way in which the test is conducted. Hydrostatic testing should always be the first consideration due to the reduction in stored energy, pneumatic testing should only be considered after critical review of the risks and should not be used for ease of execution only.
3. Safety from the system can be split into 2 main area's –
 - a. Separation of the system under test by the use of purpose built bunkers / test cells shall always be the first choice for testing. Separation of people from the test (i.e. use of bunkers / blast shields for test personnel) can be equally effective for protecting those under test, however the safety of persons outside of the test requires careful consideration via the use of exclusion zones.
 - b. Separation of persons for the equipment under test using exclusion zones provides lesser risk reduction than physical separation and key considerations such as access to key plant / equipment / test gages must be considered when undertaking risk assessments for conducting the test.
4. Policies and Procedures – Robust and detailed policies and procedures are key to ensuring successful completion of pressure testing. Considerations should be:
 - a. Test conditions, limits, set points to ensure safety
 - b. Overpressure protection requirements and set points
 - c. Competence requirements
 - d. Exclusion zone requirements
 - e. Safe access requirements
 - f. Equipment safety (i.e. use of whip checks etc.)
 - g. Depressurising Requirements
 - h. Test Fluid Quality, Supply & Disposal
5. Equipment certification – It is essential to ensure that all plant and equipment used under the test is fit for purpose and suitably rated for the intended duty. This can be confirmed by review of the certification of the equipment before the start of pressure tests.

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We welcome the contribution and involvement of individuals from industry who can offer their expertise to our efforts in the development of this programme. Please do send any queries/suggestions/offers of involvement to:

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