



Pressure Systems

GUIDELINES

**Guidelines — Pressure Systems Safety Regulations
SI 2000 No 128
In-service Examination Requirements in
Written Schemes of Examination**

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1. INTRODUCTION AND DEFINITIONS

SAFed member companies are changing the terminology used for Written Schemes of Examination (WSE) and examination reports for pressure systems to reflect the terms used within the Pressure Systems Safety Regulations. These will comprise Out of Service and In-Service examinations and are defined in PSG 06 which should be read in conjunction with this document.

2. GUIDELINES

2.1 Requirement for an Out of Service examination

This should be clearly set out in the WSE with details of what type of examination needs to be carried out together with any special safety precautions necessary.

2.2 Requirement for an In-Service examination to complete an Out of Service examination

An In-Service examination will be required following an Out of Service examination if it is specified as a requirement in the Written Scheme of Examination. This should be completed as soon as practicable after an Out of Service examination or at a date specified by the Competent Person.

Note: An In-Service examination may be considered completed at the same time as the Out of Service examination where the competent person determines that there is no perceived benefit in seeing the system under working conditions and the protective devices have been certified separately or there are no protective devices fitted. If this is permissible then this should be included in the WSE.

2.3 Requirement for an Intermediate In-Service examination

An Intermediate In-Service examination between Out of Service/In Service examinations should be considered under the following circumstances:

- 2.3.1 Where equipment is given an extended period between Out of Service/In Service examinations e.g. shell steam boilers at ≥ 26 months interval.
- 2.3.2 Where an Out of Service examination is postponed.
- 2.3.3 Where protective devices require to be tested more frequently than the boiler/vessel on which they are fitted. In this case the date of next examination in accordance with Regulation 9(5) (c) specified in the examination report would be the date of the examination for the protective devices and under these circumstances it may be preferable to identify and report on the protective devices as a separate item.
- 2.3.4 Where there is aggressive wastage or other forms of external physical damage likely to occur that could be monitored at an In-Service examination. This examination will be used to establish whether deterioration has occurred and may include the use of other techniques such as NDT when specified in the WSE.
- 2.3.5 Where the item is particularly high-hazard so additional in-service surveillance is warranted.

There may be other circumstances where Intermediate In-Service examinations should be considered for inclusion in the WSE. Whenever Intermediate In-Service Examinations are included in the WSE they must be carried out within the timescales specified.

3. SCOPE OF THE IN-SERVICE AND INTERMEDIATE IN-SERVICE EXAMINATION

Although the specific requirements will be contained in the WSE, an in-service and intermediate in-service examination will typically have the following scope, where appropriate or practical:

- 3.1 Carry out the examination under normal operating conditions.
- 3.2 Check the external condition of the pressure system for leakage, physical damage, wastage, damage to insulation etc. This may include nondestructive testing when deemed necessary by the competent person.
- 3.3 Witness the functional tests of pressure, temperature, level or other controls and gauges.
- 3.4 Witness the setting and function of safety valves.
- 3.5 Confirm that safety valves have been replaced with suitably certified replacements when required by the WSE.
- 3.6 Witness the function of safety-critical instruments such as door safety devices and interlocks.
- 3.7 Check for possible adverse effects. e.g. vibration, excess pressure or temperature cycling, excessive temperature, water hammer, etc.
- 3.8 Confirm that normal maintenance such as cleaning, draining of air receivers etc. is being carried out.

4. FREQUENCY OF INTERMEDIATE IN-SERVICE EXAMINATIONS

When an Intermediate In-Service examination is required it will be necessary to determine the frequency based on the likelihood and consequences of deterioration occurring. The examination intervals should be regular (e.g. every 12, 14, 24 or 26 months, half the Out-of-Service interval, etc) and dependent on the equipment risk i.e. higher risk equipment may require more frequent examination. If the equipment is in such a condition that very short intervals are needed, practical measure should be made to reduce risk instead, as deemed necessary by the Competent Person.

5. EXISTING WRITTEN SCHEME OF EXAMINATION

The Written Scheme of Examination should only contain examinations as required by PSSR. This includes Intermediate In-Service examinations when considered necessary by the Competent Person. To reflect this existing WSEs may need to be modified or re-issued following the next scheduled examination. Any changes must be made in accordance with the Inspection Body's quality management system.

The following points should be noted:

- 5.1 Any contractual examinations not included in WSE should still be carried out, but these will no longer be part of the WSE and should be reported on non-statutory forms.
- 5.2 Input should be sought from the owner before any amendment is made to ensure the scope of the changes are accurate.
- 5.3 A written scheme review and amendment can be conducted at any time. However, any amendments cannot remove examinations due without that examination being carried out and cannot extend the date by which the next examination is due to take place as specified in the last written report.

6. REPORTING OF EXAMINATIONS

Reporting of In-Service and Intermediate In-Service Examinations should be carried out to the Inspection Body's quality management system in accordance with the PSSR Regulation 9. The date of the next in-service and out-of-service examinations must be noted on the report.

In-Service and Intermediate In-Service examinations reports should identify that the appropriate protective devices to comply with the PSSR Approved Code of Practice if the equipment falls within the scope of the PSSR.