

# THE DANGEROUS SUBSTANCES & EXPLOSIVE ATMOSPHERES REGULATIONS 2002

## PETROL FILLING STATIONS - AUTOGAS INSTALLATIONS

### Inspector's Aid Memoir Check List

#### Explanatory Notes

1. Initial and periodic surveys of autogas installations by Fire Safety Officers and LA Inspectors (at petrol filling stations) can only, for practical reasons, encompass the following features:
  - a visual survey of the unconcealed parts of the storage vessel(s), associated equipment/fittings and the dispenser;
  - compound security, means of escape, notices and fire-fighting equipment etc; and
  - the examination of documentation to ensure that there is an effective maintenance regime in place.

*NB:*

- i. Certain parts of the installation may be inaccessible when unannounced inspections are carried out, as the site operator may not hold the keys to dispenser and access chamber covers.*
  - ii. At sites where the storage vessels are buried/mounded, other than the dispenser(s), there will be little to inspect.*
2. Under DSEAR the site operator is responsible for the operation of the installation, including maintenance. However, in practice, other duty holders may carry out the maintenance work. For example on some sites it is not unusual for there to be two other duty holders involved by virtue of the storage vessels and the installation being owned by two separate companies.
3. The Written Scheme of Examination required under the Pressure Systems Safety Regulations is very specific and Section 8 requires that 'The Written Scheme' must cover the periodic examination of:
  - a) all protective devices;
  - b) every pressure vessel and every pipeline in which (in either case) a defect may give rise to danger.  
*(Note: Pipelines have a specific definition and there are none on LPG installations unless the pipework crosses a property boundary).*
  - c) those parts of the pipework in which a defect may give rise to danger
  - *NB: The term "danger" in the context of PSSR applies only to the release of pressure;*
  - *The Written Scheme may or may not be held by the site.*
4. PSSR, DSEAR and PUWER require that maintenance be carried out. This may be carried out independently from or as part of the work required by the 'Written Scheme'. As the operator is responsible to ensure this is carried out then there should be suitable records. If they are not immediately available on site then they should be readily available from a specified location; e.g. a head office.
5. LPGA CoP 20 gives recommendations for the maintenance of Autogas installations on which the notes in following table are based. The Code also recommends the site should also be carrying out routine checks of the main points of the installation, especially those parts that could affect the customer. e.g. nozzle, hoses, pullaway coupling, dispenser condition and emergency shut down system.
6. The following table also gives an indication of what should be included in the installation checks carried out by the site or contractors.

Item	Notes
<b>Electrical Installation</b>	
Electrical inspection schedule and/or maintenance records available.	See LPGA CoP 1 & 20 and Blue Book
<b>Storage vessels</b>	
Written scheme of examination and schedule of maintenance prepared.	Required under Pressure Systems (Safety) Regulations 2002. See table below.
Means of escape from vessel compound.	See LPGA CoP 1 (para 2.6.1)
Condition of compound and base including security fencing and any radiation wall(s).	
Vessel surroundings clear of flammable materials and excessive vegetation.	
Condition of paint/external surface protection.	Confirm no external corrosion started
Presence and legibility of signs on vessel/compound	Should be clearly legible when viewed from the limits of the relevant separation distance.
Emergency telephone number displayed and is correct	Required by emergency services. Should be clearly legible when viewed from the limits of the relevant separation distance.
Condition of all valves and fittings	Confirm no evidence of damage or severe corrosion. Moderate surface corrosion can be expected on some fittings and earth bonding points without impacting on overall integrity.
Condition of pump(s) and motors	Confirm no damage or severe corrosion
Emergency (pump) isolation switch installed in the compound.	For use by the tanker driver or engineer working in the compound.
<b>Pipework &amp; Ducting</b>	
Condition of exposed pipework.	Confirm no significant corrosion or mechanical damage. <i>Depressions in horizontal sections of pipe may be indicative of repetitive damage caused by people standing on the pipe to carry out work activities.</i>
Condition of flexible (under dispenser) pipe	Confirm no evidence of mechanical damage. See PETEL 65/54a. Check there are no leaks mechanical damage or corrosion.
Procedure in place for leak testing of installation.	Type of test and period between tests should depend on the type of installation.
Condition of seals in ducting.	Effectively sealed with mechanical or compound seals. See PETEL 65/54a. Builders (PE) expanding foam not allowed on it's own
Location of buried pipework	Should be marked on the forecourt or shown on a site plan available to contractors and the emergency services.

<b>Dispensers</b>	
<b>Item</b>	<b>Notes</b>
Shear couplings	Visual survey to confirm brackets are in place and secure. Check the thinned section to confirm no cracking
Dispenser hoses	These should receive an annual visual check and leak test at operational pressure
Pullaway	Many manufacturers recommend testing every 6 months. The period between testing should not exceed 12 months.
Nozzle	Must be checked for correct and safe operation at least once every 12 months. See below. Replace nozzle if any mechanical damage or leaking during normal operation.
DeVisser nozzles	Change seals during routine survey.
Gasguard nozzles	Recommended manufacturers checks to be carried out during the routine survey Changed after 24 months service for new or reconditioned. (Reconditioned nozzles should be to the factory standard.)
Emergency isolation valves (ROSOVs)	The system should be checked at least once a year to confirm correct operation.
<b>Fire precautions</b>	
Separation distances being maintained between vessel(s) and buildings/boundary/potential ignition sources.	See LPGA CoP 1
Separation distances being maintained autogas installation and other site features.	See LPGA CoP 20
Hazardous area classification	See LPGA CoP 1 & 20 Section 3 Blue Guide DSEAR
Water supply	See LPGA CoP 1
Fire extinguishers	See LPGA CoP 20 & Blue Book.

Summary from LPGA CoP 20			
Equipment	Annually <sup>2</sup>	Every 5 Years <sup>2</sup>	Every 10 Years <sup>2</sup>
Base and steelwork	Visual	-	-
Vessel <sup>1</sup>	Visual	-	Test
Vessel signs <sup>1</sup>	Visual		
Vessel fittings <sup>1</sup> : -			
- fill	Test	-	Change
- liquid out	Test	-	Change
- liquid return	Test	-	Change
- vapour return	Test	-	Change
- relief valve	Visual	-	Change
- pressure gauge	Visual	-	Change
- drain	Visual	-	-
Filter		Test	Change
Pump <sup>4</sup>	Test	-	Change
Internal bypass valve	Test	-	Change
External bypass valve	Test	-	Change
Hydrostatic relief valve	Visual	-	Change
Test point valves	Test		Change
Dispenser: -			
- filter	Test <sup>5</sup>	-	-
- measure	Test option <sup>4</sup>	-	-
- overall	Visual	-	-
Hoses <sup>6</sup>	Test	Change	-
Pull-away coupling	Test	-	-
Safe-break coupling	Visual	-	-
Nozzle	Test	Change	-
Underground pipework	Test period will depend on the type of pipework material and the standard of installation. The type of test and period between tests should be included in the site documentation.		
<p><i>Notes:</i></p> <p><sup>1</sup>Vessel maintenance is often carried out by the gas supplier. Some suppliers have a 20 year period between major overhauls.</p> <p><sup>2</sup>For guidance only, the intervals for each installation should be specified by the competent person drawing-up the Written Scheme of Examination and maintenance schedules</p> <p><sup>3</sup>Vessel signs should be changed when they are faded and/or cannot be read from the separation distance.</p> <p><sup>4</sup>The periods between pump and/or bypass valve changes will depend on the performance of the installation</p> <p><sup>5</sup>The periods between cleaning/changing depend on the performance of the dispenser and the type of filter.</p> <p><sup>6</sup>The BS for hoses requires a test at periods not exceeding 12 months for hoses &gt;25mm inside diameter.</p> <p>Procedures for testing for measure should take into account typical volumes dispensed and the flow rate applicable for the installation under normal conditions.</p>			