EPA Clarification Note on the Requirements for Underground Pipeline Testing at Industrial and Waste Licensed Sites

June 2019

Introduction

The current licence requirement for the integrity and water tightness testing of underground pipelines is as follows:

> The integrity and water tightness of all tanks, bunding structures, containers and underground pipes and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee prior to use (for green field sites) within X months of the date of grant of this licence. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. This testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.

The licence defines storm water as 'rain water run-off from roof and non-process areas'.

In 2004, the EPA published "IPC Guidance Note: Guidance Note on Storage and Transfer of Materials for Scheduled Activities". This guidance addresses the design, construction, operation, maintenance and testing of bunds and pipelines. Information on testing methodologies is provided in Appendix D. In October 2013 the EPA provided a BrightTALK presentation which outlined the minimum EPA requirements, and best practice for assessment and reporting on the integrity of retaining structures such as bunds and pipelines. This presentation remains available to the public on the BrightTALK website (https://www.brighttalk.com/channel/9897/environmental-protection-agency).

Drainage Networks

Foul Drains:

EPA experience at licensed sites has found that foul drains can be a source of groundwater contamination; bacterial and ammonia contamination are among the issues that have been observed from foul drains. Methodologies for leak testing of non-pressurised systems, such as sewage networks, are provided in the guidance note, and integrity and water tightness testing is a requirement of all licences which contain the above or similar condition.

Process Drains:

EPA experience at licensed sites has found that process drains can be a source of groundwater contamination. While not all material carried in process drains is hazardous, any leak of process material will introduce a parameter to groundwater in concentrations above natural background levels. In addition, the material carried in these drains rarely remains consistent in composition and can change as site processes evolve. On-going integrity testing of process drains is therefore required. Methodologies for leak testing of pressurised and non-pressurised systems are provided in the guidance note. Integrity and water tightness testing is a requirement of all licenses which contain the above or similar condition.

Storm Water Drains:

The scope of the above referenced guidance (as detailed in Section 2) covers pipelines which store or transfer potentially polluting substances, and states:

"Storage and transfer systems for substances which are not potentially polluting substances, such as uncontaminated surface water drainage or fire water storage are not seen as a pollution risk and therefore do not fall within the scope of this guidance note."

As outlined earlier, the EPA has defined storm water (i.e. uncontaminated surface water) as "Rain water run-off from roof and non-process areas." As such, storm water lines within process areas of the site fall within the scope of the guidance and the integrity testing requirements outlined in licences. This is appropriate and necessary to protect groundwater and to meet the requirements of the European Union (Groundwater) Regulations, 2010, which require operators "to prevent and limit the introduction of hazardous and non-hazardous material respectively into groundwater".

On-site monitoring programmes, for example TOC on storm water discharge point(s) and groundwater monitoring programmes, are reactive to contamination events and are not preventative; these would not meet the groundwater regulation requirements.

Storm water lines within process areas may transport potentially polluting substances for the following reasons:

1) Spillages can occur during the transport of material within or through process areas, and during the loading and unloading of materials.
2) Overflows from sumps to process area hardstanding can occur and subsequently flow to the storm water drainage network.
3) Leaks from process area infrastructure for example overhead gantries/ pipework, roof abatement systems, and cooling systems, can, and have led to polluting material entering the storm water network.
4) Storm water drains are commonly used for the routine discharge of bund water. Incidents have occurred where this material was contaminated and sent inadvertently to the storm water network.
5) The storm water network often forms part of the site's emergency containment infrastructure. Many Environmental Liability Risk Assessments (ELRAs) use the high level of containment on-site as a mitigation factor to reduce the cost and risk associated with environmental incidents.

The EPA is cognisant that integrity testing has cost implications for sites, and the planning and timing of testing can be discussed with individual inspectors within the constraints of the licence.

Storm water lines outside of process areas do not have the integrity testing requirement and fall outside the scope of the guidance document and licence conditions.

There are licensed sites which may have storm water networks that cannot be pressure tested for structural reasons (e.g. built to older standards). In these cases, discussion can be held with the EPA inspector to agree a visual inspection. All visual inspections must meet the requirement of Appendix G section 2.3.4.2 of the guidance document i.e. must be completed in accordance with EN 13508-2: (or latest updates). All CCTV reports must reference this standard and confirm compliance with the standard.