

## **CIREG BEST PRACTICE GUIDANCE WATERGUARD PROCUREMENT GUIDE V5**

**Compliance completely covered by Waterguard.**

**Mitigate risks for one of the most prevalent causes of insurance claims.**

Full bore water leaks are becoming increasingly common, resulting in water damage becoming a major cause of loss during construction. These losses represent a substantial portion of Builder's Risk claims, therefore mitigation of water damage with the installation of a Waterguard system is important to reduce these claims and prevent unnecessary costs and project delays.

Version 5 of the Waterguard CIREG Best Practice Guidance includes revisions to system features due to project trials, resulting in the addition of scheduled override times and individual water allowances for each day to decrease site downtime due to false alarms. The Waterguard Puddle system has also been added as an option to detect pooling water in riser cupboards and around tanks.

Water is the new fire. Escape of water is at the top of the agenda for insurers involved in every stage of building and lack of protection is resulting in higher premiums or loss of cover. The 5<sup>th</sup> edition of the CIREG Best Practice Guidance document gives advice on the mitigation of escape of water risks on buildings under construction and refurbishment. The document includes comprehensive guidance for the implementation of a water management plan endorsed by The UK CAR Underwriters Group.

**System Specification Mitigation – An introduction to Waterguard products to achieve performance requirements.**

**Mitigation 6.1:** In all circumstances, there should be:

- A means for detecting that water is flowing when it should not be.
- A means for rapidly shutting down the system when such water flow is detected.

**Mitigation 6.2:** "Any temporary water supplies should be switched off outside working hours. A main valve should be readily accessible, and people designated to perform the task".

**Mitigation 6.3:** "A flow management device should be installed on the main temporary water supply and, if a booster set is required, between the booster pump and any water tank. This device should be set up to operate autonomously, shutting off the system outside of working hours, monitoring flow during operation and shutting off the system in the event of abnormal flow. The flow management device should be physically checked at least weekly to ensure that it remains fully operable".

**Mitigation 6.6:** On permanent water systems automatic flow monitoring and shutoff valves should be installed in the following locations as a minimum:

- At the mains water inlet
- Before any booster pump set – this is particularly important between booster sets and water storage tanks but should also be installed in any other plant rooms boosting water to higher levels.
- On each floor

**Mitigation 6.7:** All other systems, including LTHW, MTHW, chilled water, underfloor heating and irrigation should be fitted with automatic flow detection and automatic shutoff devices.

# Waterguard

**Mitigation 6.8:** Automatic flow monitoring and shutoff devices should also be installed on any automatic refill systems.

**Mitigation 6.9:** Installed Water Management Devices should, as a minimum, be capable of, and be programmed as follows:

- Set to shut off water supplies automatically outside working hours and weekends.
- Alert appointed persons when small flows are detected.
- Monitor normal water usage over a time period so it can then be programmed to allow water to be shut-off at a very precise, pre-determined flow rate outside of the normal usage parameters.
- Remote and audible signalling
- Battery back-up or, in the event of power failure, the device should automatically lock off the water supply.
- Linked to a manual isolation device on site.
- Remain fully operable until handover.

## **In Summary: The 3 Main Areas of Risk:**

1. The temporary supply
2. The permanent installations during the construction period
  - a. The domestic water supply.
  - b. Other systems containing water.
3. The permanent installation during the completed occupational phase

## **CIREG Compliance Procurement Guide: Waterguard Systems to Achieve Compliance.**

[The Waterguard SiteGuard](#) - This system can be used only on the temporary water supply before permanent works systems are installed. It will automatically shut off the site's temporary water supply when the site is closed, reinstating it when the site reopens. In certain circumstances during project phases, when any areas the temporary supply serves are left unoccupied during operational hours a SiteGuard is not recommended. Continuous monitoring will be required using the Waterguard SiteGuard+.

### **Guidance Notes:**

- **Isolation valves:**
  - Two isolation valves per SiteGuard. An unlimited amount of isolation valves can be connected to the SiteGuard via a Waterguard Valve Driver. Please note in this instance the valves will close sequentially and reopen simultaneously.

[The Waterguard Puddle](#) – The Waterguard Puddle is the latest innovation in multi zone specialist equipment designed to detect pooling water. Each system can monitor up to 5 water leak detection channels using various water sensing devices dependent on application. These include water sensing cable or tape and water sensing feet.

### **Guidance Notes:**

- **Booster/header tanks and riser cupboards:**
  - Water sensing tape can be secured around tanks to identify a burst early.
  - Can be used on complex sites in vulnerable areas such as riser cupboards to aid in identify a leaks location.
- **Isolation valves:**
  - **Option 1:** Up to 3 isolation valves can be connected to a single Puddle system.
  - **Option 2:** An alarm only system where water isolation is not possible, connection to the BMS and/or a warning beacon available for notification of a leak.

# Waterguard

[The Waterguard SiteGuard+](#) – This system has been specifically designed to accommodate the specialist requirements of water usage on construction sites. It will detect any minor and major water leak; measuring water volume in litres, shutting off the water supply when a user specified volume is exceeded within a selected time period. When installed with isolation valves this system fulfils the objectives of the CIREG guidance for permanent works water systems.

## Guidance Notes:

- **Automatic Isolation valves:**
  - Two flow meters and isolation valves per SiteGuard+ system. An unlimited amount of isolation valves can be connected via a Waterguard Valve Driver. Please note in this instance the valves will close sequentially and reopen simultaneously.
  - Isolation valves required after each flow meter and after any booster/header tanks.
  - Set to automatically isolate the water supply outside site normal operational hours.
- **Booster/header tanks and pumps:**
  - **Option 1:** Isolation valves after each.
  - **Option 2:** Isolate the power in the event of a leak. This can be done via a relay connection to the ALARM OUT terminal on the Series 7 or CHANNEL 2 when only one water meter is connected. 1 Amp mains powered relays available, current ratings required upon quotation or can be sourced independently.
  - **Option 3:** Installation of the Waterguard Puddle system.
- **System setup:**
  - Risk assessments and method statements must be undertaken to determine maximum water usage over estimated time.
  - Nominated water damage risk manager to input system parameters based on calculated estimated water usage, the SiteGuard+ allows for different water allowances for every day of the week.
- **Flushing the system:**
  - Must be considered within the site-specific water management plan.
  - To avoid site delays due to false alarms, preschedule up to 3 override periods per day to allow for unlimited water usage for up to 120 minutes or alternatively utilise the litre allowance limits on days of such activity. Considerations must be made to the added risks of the use of manual overrides and
- **Minimum flow accuracy:**
  - 15-54mm 1 litre pulse, 54-100mm 10 litre pulse, 100mm+ 100 litre pulse.
  - Each pulse is registered and logged with the SiteGuard+ to analyse usage.
  - Slow flow leaks / Larger water meters = Delayed leak detection.
- **Water quality maintenance:**
  - Sites can utilise the override function when turning over the water to maintain quality. This function can be prescheduled up to 3 times per day to allow for unlimited water usage for up to 120 minutes.

## The Water Management Plan - Identification, implementation, and maintenance of mitigation measures.

Part of the water management plan ensures mitigating measures in the form of water leak detection are sourced, installed, and maintained appropriately in order to automatically detect and isolate any burst pipe within the building. A competent **Responsible Person** should be nominated and overseen by the Principal Contractor for the management of the escape of water risk.

# Waterguard

Working with the Responsible Person, every aspect of every project is managed by one Waterguard account manager ensuring:

1. The correct **system specification** for the application  
No two sites are the same. Our Waterguard technical sales team and installation engineers can provide advice and support on our practiced systems. Having worked closely with the insurance industry to create the SiteGuard+ we can review drawings and schematics to design a fully compliant solution for any project. For large complex sites we can also liaise with the insurer to create an agreed solution.
2. The **efficient installation** of chosen system  
A Waterguard account manager will ensure the efficient installation, set up and smooth handover on every project. We have a dedicated installation helpline and in house training is available to contractors for the installation and operation of the SiteGuard+.
3. The **smooth handover** to occupant/manager  
**Commissioning:** It is important to test and then commission at the right time dependent on the individual project. On site commissioning and certification available at an extra cost.  
**Handover:** If requested we can liaise with the final occupant/property manager during and after handover to ensure the smooth transition between phases.

## Design Considerations

Although the Waterguard SiteGuard+ will fulfil the objectives of the CIREG guidance, considerations should be made for fit out stages and occupation when escape of water losses are most prevalent. The building occupancy, height, and susceptibility of its contents to water damage should be taken into account when selecting the appropriate system.

We have a range of practiced residential systems that protect properties by monitoring water usage from the incoming water, allowing continuous water flow for a limited time before the controller suspects a leak and automatically shuts off the water with a solenoid valve.

For further information on our CIREG compliant systems and project management services please contact the office on 01226 244200 or email your enquiry to [enquiries@waterguard.co.uk](mailto:enquiries@waterguard.co.uk).

The guidance in this document was written by Waterguard Services Limited and created based on Best Practice Guidance: Managing Escape of Water Risk on Construction Sites, Published by the Construction Insurance Risk Engineers Group 5th Edition November 2019. Endorsed by the UK CAR Underwriters Group.