Uisce Éireann

Physical Site Security Specification

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Revision History

Revision Number	Description of Change	Author(s)	Approved By	Date of Approval
1.0	First Release of document	Bill Nolan	WTEF	06/07/2016
2.0	Additional Signage requirements. Fence spec amendment.	Bill Nolan	WTEF	19/07/2016
3.0	Fence spec updated	Bill Nolan	WTEF	14/03/2017
4.0	Update Title and template	Bill Nolan	WTEF	18/06/2018
5.0	Revision of site categorization. Revision of specified fencing, doors, locks kiosks, manual gates, automatic gates, CCTV, and alarms.	Ross Pegley & Diarmuid O'Neill	National Security Manager John O Donoghue	27/02/2019
6.0	Updated electronic security requirements, hatch standard, Kiosk Standard and other minor adjustments to elements of the document	John O'Donoghue	WTEF	28/04/2023

Reviewed by

Revision	Name	Position	Review date
1.0	WTEF	Asset Management	06/07/2016
2.0	WTEF	Reviewed notification of change provided by Bill Nolan by email during approval stage.	19/07/2016
3.0	WTEF	Reviewed notification of change provided by Bill Nolan by email during approval stage.	14/03/2017
4.00	WTEF	Update Title.	18/06/2018
5.00	National Security Manager	Review and approved for issue to WTEF	27/02/2019
6.00	WTEF	Updated electronic security requirements, hatch standard, Kiosk Standard, and other minor adjustments to elements of the	28/04/2023

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1.0 PURPOSE

This document outlines the Physical Site Security standards and specifications that are to be put in place at all Uisce Éireann assets that are constructed or undergo upgrade to all or part off the plant.

2.0 CONFORMITY WITH STANDARDS AND DEROGATIONS

The standards and specifications listed in this document have precedence over any other physical or electronic security standards or specifications issued prior to the date of issue of this document. For any clarifications, derogation or enhancement of standards or specifications listed in this document requires prior approval of the Uisce Éireann, National Security Manager.

3.0 GENERAL

The Physical site security specifications aligns with the overarching Physical Security Policy Uisce Éireann assets have been divided into four security categories with each category varying in terms of their security requirements. These categories and the criteria to determine which category a site fits into are described in Section 5.

Section 6 describes the minimum-security measures required for each category of site.

✓ indicates the appropriate measure to be used for the relevant security category.

4.0 DEFINITIONS AND ABBREVIATIONS

- Perimeter Fence: is a structure that circles the perimeter of an area to prevent access.
- Boundary Fence: a fence that delineates the boundary line between two properties.
- Secondary Compound Fence: a secondary fence creating a compound around a specific asset within a site.
- LPS SR categorization and role of: Loss Prevention Certification Board Loss Prevention Standard
- BRE Global: BRE Global is an independent, international certification body, offering certification of fire, security and environmental products and services
- ARC – Alarm Receiving center
- UÉ SOC- Uisce Éireann Security Operations Centre

5.0 SECURITY CATEGORIZATION OF UISCE ÉIREANN SITES

5.1 - Categorization of Water Sites

Security Categorisation of Water Sites			
Basic	**Basic +**	**Enhanced**	**Enhanced +**
• Water Pumping Stations (including abstraction points) pumping less than 5 Ml/day	• Water Pumping Stations (including abstraction points) pumping 5 Ml/day or greater	• Water Treatment Plants producing 5Ml/day or greater	• Assets to be determined by Uisce Éireann Critical Security Threats Forum
• Closed Reservoirs storing less than 5 Ml	• Closed Reservoirs storing 5Ml or greater	• Open treated water reservoirs	• List of Sites Maintained by The National Security Manager
• Abstraction Points	• Water Treatment Plants producing less than 5 Ml/day	• Small/medium Stores/Depots	
• UÉ Sampling Hubs			
• Impounded Reservoirs			

5.2 - Categorization of Wastewater Sites

Security Categorisation of Wastewater Sites			
Basic	**Basic +**	**Enhanced**	**Enhanced +**
• Wastewater Pumping Stations with a power requirement of 20KW or less	• Wastewater Pumping Stations with a power requirement of 20KW or greater.	• Wastewater Treatment Plants serving 5,000 PE or greater	• Assets to be determined by Uisce Éireann Critical Security Threats Forum
• Integrated Constructed Wetlands	• Wastewater Treatment Plants serving less than 5,000 PE		• List of Sites Maintained by The National Security Manager
• UÉ Sampling Hubs			
• Underground wastewater facilities.			

5.3 – Non-Network/One off Assets

All Non-Network assets e.g., Labs, depots, distribution centers, wind/solar renewable sites and Bio solid sites require specific tailored security designs. Engagement and approval for same designs will be required from the Physical Security team.

6.0 SECURITY SPECIFICATIONS

6.1 – Fencing

General remarks & exceptions:

1. If the site boundary is same as building boundary, no fence is required.

2. Where the perimeter fence of the site coincides with the property boundary line the standard of the fence will be based on the perimeter fence requirements rather than the boundary fence requirements.

3. Basic sites do not require a perimeter security fence apart from the following exceptions

    a. For ICWs with an open primary settlement pond, an elevated level of perimeter fence protection is required, 2.4m Uisce Éireann standard.

    b. Where assets / equipment on a basic site (Water and Wastewater) are not contained within a locked access hatch, kiosk or 2.4m compound fence, the 2.4m Basic Plus fence standard will apply.

4. Anti-burrow (concrete plinth) measure to be used depending on the site-specific risks and history and is applicable to all asset classifications. Furthermore, it may be installed in all or part of a site perimeter.

5. In situations where the site footprint is substantially greater than the operational footprint the perimeter fence can be located around the operational area as appropriate, and the fencing of the boundary as per boundary specification.

6. Other Design Requirements

    a. No planting should be within 2m of the perimeter fence to allow for inspections of same.

    b. For new builds it is recommended that the site has a boundary fence and that the perimeter fence is situated 2m internal to the boundary fence to allow for maintenance.

Boundary Fence	Basic	Basic +	Enhanced	Enhanced +
1.2m fence or similar approved	✓	✓	✓	✓

1. The main function of the boundary fence is to provide boundary definition and a deterrent to livestock trespass.

2. The fence type should be commensurate with the environment e.g., Hedgerow or stock fence for rural environments (other than the roadside) and in urban environments welded mesh, post and rail, wall etc.

3. Where protection against livestock or boundary definition is not required no fence needs to be install

4. Fence may be any of the following:
    a. Timber post and rail to BS EN 1722 7 2006
    b. Concrete post and rail
    c. Stock fence
    d. Weld Mesh 868 200mm x 50mm aperture to BS EN 1722 14 2017
    e. Hedgerow

Perimeter Security Fence	Basic	Basic +	Enhanced	Enhanced +
2.4m Fence or similar approved		✓	✓	✓

1. Palisade Fence - Default Preferred Security Fence Standard
    a. Type: 3mm x 17 pales per section, welded constructed to: BS EN 1722 12 2016
    b. Specs: Fillet welded pales, Galvanized and PVC coated BS EN 1722 12 2016
    c. Features: Anti-climb
    d. Enhanced panel connection to the post
2. Palisade Fence - For sites with exceptional local conditions or security risks only.
    a. Type: High Security 3.5mm x 23 palings welded. Constructed to BS EN 1722 12 2016
    b. Specs: Fillet welded pales, Galvanized and PVC coated BS EN 1722 12 2016
    c. Features: Anti-climb
    d. Enhanced panel connection to the post
3. 358 Security Mesh Fence - An alternative in the event of a planning issue
    a. Type: Prison Mesh 358 12.5mm x 76mm aperture to BS EN 1722 14 2017
    b. Specification: Galvanized and PVC coated BS EN 1722 12 2016
    c. Features: Anti-climb
4. Block Wall - Where local conditions or planning issue preclude security fences
    a. Type: Block wall

6.2 – Gates

Manual Gates	Basic	Basic +	Enhanced	Enhanced +
Suitable to match the boundary / perimeter fence specification	✓	✓	✓	✓

Notes:

1. The gates will have sufficient width to accommodate maintenance vehicles, tankers etc
2. The gates will have the following security features:
    a. The gate hinges shall be designed such that it is impossible to remove the gate by lifting when it is a closed & locked position.
    b. The gate locking mechanism shall include a shroud cover protecting the padlock and slip bolt from attack
    c. The slip bolt shall be of high carbon steel
    d. The drop bolts shall be fitted to each gate in such a way that they cannot be removed but allow the gate to be secured in in both an open position and using one of the drop bolts to lock in a closed position.
    e. Drop bolts shall be a minimum of 650mm in length and when deployed contained in a steel retainers imbedded in concrete to allow for the gate to be lock in an open and closed position.
    f. The design shall include a robust metal stay attached to one leaf of the gate such that it prevents the drop bolt on the other leaf from being activated while the gate is in a lock position and to ensure that the operator cannot lock the gate unless the drop bolt is engaged in a receiver.
    g. A robust crash plate shall be installed on one of the leaf's to prevent the other leaf from swinging past the close point of the gate.

Automatic Gates	Basic	Basic +	Enhanced	Enhanced +
Installation subject to a risk assessment completed by UÉ Security team				✓

1. Automated gate with access control remotely operated by UÉ SOC. See section 6.74
2. Preferred type - cantilever sliding gate if site dimensions allow.
3. Gate design shall adhere to the requirements of the Health & Safety Authority current "Guidelines on the Safety of Powered Gates" 2015
4. Minimum Gate Requirements:
    a. Containment of control equipment in secure kiosk to LPS SR2 standard and located inside the gate
    b. Protect against lifting and forced opening
    c. Keypad and intercom to be vandal resistant
    d. External grade electronic locking system
    e. CCTV surveillance to be provided by fixed camera
5. Manual pedestrian gate to allow access in the event of a power failure

6.3 – Security Doors

General Remarks:

a. All doors installed are to be in compliance with Building Regulations
b. An SR3 or SR4 door may be used in situations where the risk assessment deems it necessary.

Internal Doors	Basic	Basic +	Enhanced	Enhanced +
1. For all internal doors from accommodation areas to operational areas e.g., Rooms housing critical plant such as control panels rooms, SCADA control rooms, chemical dosing rooms, etc. LPS Certified SR2 2. All other internal doors can be to PAS 24 standards	✓	✓	✓	✓
External Doors	**Basic**	**Basic +**	**Enhanced**	**Enhanced +**
1. The following external doors shall be LPS Certified SR2 a. External doors leading to operational areas . Rooms housing critical plant such as control panel rooms, SCADA control rooms, chemical dosing rooms, Storerooms, garages etc.	✓	✓	✓	✓

6.4 – Windows & Ventilation Grills

General Remarks:

a. All operational buildings to be designed with **minimum** window openings to reduce entry/exit points and to provide window grills where necessary to mitigate risk

Windows	Basic	Basic +	Enhanced	Enhanced +
All external windows to LPS SR2 or EN 1627 RC3 or equivalent or fitted with security window grills to same standards	✓	✓	✓	✓

Ventilation Grills	Basic	Basic +	Enhanced	Enhanced +
Ventilation grills with an opening greater than 250mm squared must have an external grill as standard	✓	✓	✓	✓

6.5 – Access Hatches

6.5.1 Hatches-Water Assets	Basic	Basic +	Enhanced	Enhanced +
Access hatches to potable water will be to LPS1175 SR4 standard using high security locks.	✓	✓	✓	✓
Access hatches to control equipment valves, pumps and dosing to LPS1175 SR2 standard using high security locks.	✓	✓	✓	✓
Vents Security rated steel cowls for aperture/vent to the matching access hatch SR standard.	✓	✓	✓	✓

6.5.2 Hatches-Waste Water Assets	Basic	Basic +	Enhanced	Enhanced +
Lockable/secure access hatches to LPS1175 SR1 Standard using high security locks	✓	✓	✓	✓

6.6 – Control Kiosks

General Remarks:

a. A kiosk is any standalone structure / enclosure containing equipment for process control e.g., chemical dosing, UV treatment, pumps etc.

Control Kiosks	Basic	Basic +	Enhanced	Enhanced +
Kiosks to SR2 standard with either Single or double steel doors with multiple locks to LPS 1175	✓	✓	✓	✓

6.7 – Electronic Security Systems

General Requirement

1. All electronic security systems deployed on Uisce Éireann site shall be monitored and managed by Uisce Éireann's physical security team through a dedicated Security Operations Centre (SOC) and additionally intruder alarm systems shall be monitored by Uisce Éireann designated 3rd party Alarm Receiving Centre (ARC) as a backup to the SOC. All systems installed will be commissioned and connected back to the SOC .

2. Bespoke system specification required for each site based on the UÉ Assessment and all security designs to be approved in advance with UÉ Physical Security Team

6.7.1 – Electronic Security CCTV

CCTV Systems	Basic	Basic +	Enhanced	Enhanced +
CCTV system to provide remotely monitored security surveillance, detection, verification, and response to intrusion on a site through a combination of the following measures: a. CCTV with video analytics for detection and verification of intrusions to the site at key access points and vulnerable areas. b. Public Address to warn off trespassers and intruders c. Monitored by Uisce Éireann SOC d. Internal CCTV to cover critical areas (system requirement compatible with Milestone (e.g., SCADA rooms, electrical control panel, etc.)- Subject to specific risk assessment.				✓
CCTV systems to providing security surveillance and recording of activity at key site locations: a. Vehicle entrance / exits b. Building access points including roller shutters c. General surveillance of operational areas d. CCTV system to facilitate dial in by UÉ SOC to verify security incidents			✓	

CCTV Systems requirements:

- CCTV control equipment shall be server based and will run Milestone XProtect Professional + CCTV Software
- CCTV Cameras - IP Based Technology with built in advanced Video Analytics provided by fixed cameras to NDAA approval and compatible with Milestone Software.

Design Requirements:

1. System design in accordance with the requirements of PSA 2006:12 and SR40
2. Design and installation to be carried out by a Private Security Authority Licensed contractor – CCTV Systems
3. System design in accordance with requirements of the Data Protection Acts and published guidance provided by the Private Security Authority and the Office of the Data Commissioner. The camera control system will provide a means to restrict intrusive surveillance of private and/or neighbouring areas.
4. IP Based Technology with built in advanced Video Analytics Detection and verification provided by fixed cameras to NDAA approval
5. System design must allow for maximum of 30 days retention of recorded images and have the facility to download copies of images to a USB device.
6. All CCTV network cabling will be of CAT 6 Shielded type, for cable runs of 90m or less. For backbone cabling or runs of over 90m, Shielded Fibre cable will be required. Stainless lockable cabinets for external containment of CCTV hardware
7. External POE switches to be of a hardened type
8. System will have a UPS unit to allow for a minimum of 30 minutes of operation during mains failure.
9. External IR lamps to be incorporated in the design for low light areas
10. Cameras - Vandal Proof -IK08 / IK10
11. All CCTV poles to be of a "Drop down" type to facilitate ongoing maintenance and cameras to be attached using the manufactures recommended bracket.

6.7.2 – Electronic Security Intruder Detection Systems

Building Intruder Detection Systems	Basic	Basic +	Enhanced	Enhanced +
Building perimeter protection provided by: a. Appropriate open/close contacts on all external doors and roller shutters. b. Appropriate open/close contacts on any accessible windows, sky lights, louvres etc. c. Building trap protection provided by dual technology detectors with secondary movement detection internal to all external doors, roller shutters, accessible windows, and sky lights etc.			✓	✓

Building Intruder Detection System general requirements:
System requirements

- Control Panel -Honeywell Galaxy range with built in integration to Honeywell's MaxPro Software solutions.
- Peripheral devices – Compatible with Honeywell Galaxy alarm panel

Design requirements:

1. System design in accordance with the requirements of - IS EN 50131, IS EN 50131-7 and SR40
2. Design and installation to be carried out by a Private Security Authority Licensed contractor – Intruder Alarm Systems
3. Security Rating – Minimum Grade 3. Higher grades at the direction of Uisce Éireann Physical Security Department.
4. Environmental standards – In general all indoor components will be Class II and outdoor components Class IV. Note where indoor conditions are an issue Class III components are to be used.
5. All detection devices to be hard wired
6. Detection units – specifically door/window contacts to be a correct colour match
7. All external warning devices to be positioned on the front of the building or clearly visible, to indicate building is protected.
8. All cabling to be installed using mechanical containment as per I.S. 10101:2020

6.7.3 – Electronic Security Access control

Access Control Systems - Buildings	Basic	Basic +	Enhanced	Enhanced +
To be installed on key access points identified by UÉ Physical Security Team				✓

Building Access Control Systems – General Requirement:

- Buildings- Vanderbilt ACT Access Control, Enterprise version

1. The system shall be designed, supplied, installed, tested, and commissioned in its entirety in accordance with I.S. EN 50133 and SR40.
2. Design and installation to be carried out by a Private Security Authority Licensed contractor – Access Control Systems
3. All readers to be Mifare "Proximity" type
4. All request to exit / egress buttons to be stainless-steel
5. All emergency break glass units (BGU's) to be minimum double pole to allow for monitoring and have an LED indicator (green for healthy / red for pressed)
6. All doors shall unlock in the event of the fire alarm activating.

6.7.4 – Electronic Security Access control gates

Access Control Systems - Gates	Basic	Basic +	Enhanced	Enhanced +
				✓

Gate Access Control Systems – General Requirement:

- IP Intercom compatible with Zenitel IK 10 rated series intercoms
  - Access control Vanderbilt ACT1500 door controller & JCM receiver

1. The system shall be designed, supplied, installed, tested, and commissioned in its entirety in accordance with I.S. EN 50133 and SR40.
2. Design and installation to be carried out by a Private Security Authority Licensed contractor – Access Control Systems
3. All readers to be Mifare "Proximity" type with keypad
4. Long range Radio Frequency receiver compatible with ACT Vanderbilt

6.8 – Site Signage

Site Signage	Basic	Basic +	Enhanced	Enhanced +
a. Site name and details b. Public Liability Signage c. No Unauthorised Entry Signage. d. Visitors to site Signage e. CCTV signage GDPR (If CCTV is installed)	✓	✓	✓	✓

6.9 – Specific Security Measures for Impounding Reservoirs & at raw water abstraction point

Impounded Reservoirs & Raw Water Intakes	Basic	Basic +	Enhanced	Enhanced +
a. Walkways to draw-off towers secured by lockable gates with side fans to prevent gate bypass	✓	✓	✓	✓

7.0 REFERENCED DOCUMENTS

Document	Location
ÚÉ.PD.102: UÉ-Physical Site Security Policy	http://thezone/Shared%20Documents/2023/2023%20batch%202/22.%20PD%20102%20-%20Security%20Policy%20-%20Rev%201%20-%20signed.pdf