

Post-construction/pre-commission guide for building projects to support application of infection prevention and control (IPC) standards and guidelines (V1.0) as of 09/12/2024

Purpose

This document is a guide to support individuals at the post construction/precommission stage of building projects (new constructions, renovations and maintenance works) to ensure infection prevention and control (IPC) best practice is considered.

It has been developed in response to HSE Antimicrobial Resistance Infection Control (AMRIC_ Action plan 2022-2025 (<https://bit.ly/3nWROS7>) iNAP2 Actions 3-07, 3-08, 3-09.

Standards

This document aligns with:

- National Clinical Guideline No. 30 – Infection Prevention and Control (IPC) <https://www.gov.ie/en/publication/a057e-infection-prevention-and-control-ipc/>
- Infection Control Guiding Principles for Buildings Acute Hospitals and Community Settings <https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/guidance/infectionpreventionandcontrolguidance/buildingsandfacilitiesguidance/Infection%20Control%20Guiding%20Principles%20for%20Building.pdf>
- Design recommendations in relevant health building notes (HBN) <https://www.england.nhs.uk/estates/health-building-notes/> and Health technical memoranda (HTM) <https://www.england.nhs.uk/estates/health-technical-memoranda/>

Scope

This guide is for use in healthcare settings where building projects (construction, renovation and maintenance) have reached post construction/precommission stage. It is recommended that this is used in advance of occupancy.

Approach to Infection Prevention Control in building projects

The National Clinical Guideline Infection Prevention and Control No. 30 (<https://www.gov.ie/en/publication/a057e-infection-prevention-and-control-ipc/>) advises establishing a multidisciplinary team, including infection prevention and control experts and Capital and Estates project staff who **must be consulted early in the planning and design phase** and then during all stages of the project as per HBN 00-09.

The Design phase of each project is essential in ensuring that the design of the facility is HBN compliant.

This document assists in ensuring that the facility been constructed in accordance with the previously agreed design as specified in the works contract.

The importance of a clean, safe environment for all aspects of healthcare should not be underestimated. It is important that healthcare buildings are designed with appropriate consultation, and the design facilitates good infection prevention and control (IPC) practices and has the quality and design of finishes and fittings that enable thorough access,

Use of this guide

Healthcare providers have a duty of care to ensure that appropriate governance arrangements are in place to address IPC requirements and are managed effectively throughout the various stages during the whole building lifecycle.

This guide is for use by (this list is not exhaustive):

- Healthcare facility managers
- Capital and Estates
- Maintenance teams
- IPC teams
- Those responsible for environmental hygiene
- Others as required by local governance arrangements.

Where any deficiencies are identified and cannot be addressed locally through this document, local risk assessment and risk management processes should be followed and escalated via local governance structures [https://assets.hse.ie/media/documents/ncr/hse-enterprise-risk-management-policy-and-procedures LTbtL8d.pdf](https://assets.hse.ie/media/documents/ncr/hse-enterprise-risk-management-policy-and-procedures_LTbtL8d.pdf)

Form

This form may be completed to support a multidisciplinary approach, to ensure that IPC guiding principles and recommended relevant building design standards have been achieved prior to occupancy.

Project Name:		Location:				
Date:						
Names and Grades of staff completing this document:						
	Area	Responsible person(s)	Y	N	N/A	Comments
Post construction – Cleaning	<p>Before hoarding (where applicable) removal, the job site clear of dust, debris, waste and construction equipment</p> <p>Construction Clean:</p> <p>Construction area has been cleaned including internal hoarding, all vertical and horizontal surfaces cleaned (with a HEPA filter-equipped vacuum cleaner, a wet mop, or both, as necessary) and all construction waste has been removed safely, minimising dust generation.</p>	Engineering/operations/maintenance staff/contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<p>Post Construction/ Return to Service Clean:</p> <p>A supervised facility clean of the construction area has been completed before building occupants are allowed to occupy the new space using an approved cleaning procedure (refer to local PPPGs)</p>	Cleaning services department & MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<p>A supervised audit post cleaning procedures has been completed, using a local designated & approved local environmental audit tool</p> <p>(If the audit process identifies any deficiencies repeat the clean and audit process and escalate via local governance structures)</p>	Cleaning services department & MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pre-commissioning	Has cleaning of heating, ventilation, air conditioning (HVAC) systems, ductwork been performed (if applicable)	Engineering/operations/maintenance staff/contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Finishes	Area is dust free (all horizontal surfaces, walls, ledges, inside of cabinets, drawers, tops of clocks etc.)	Engineering/ operations/ maintenance staff/ contractor/ Hygiene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hand hygiene (Alcohol Based Hand Rub) dispensers filled in date and functioning and properly located at point of use	MDT / Cleaning services department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Soap dispensers filled and functioning and properly located	MDT / Cleaning services department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hand drying paper towels available and properly located	MDT / Cleaning services department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Provisions for sharps bins, correctly placed in line with recommended policy	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Appropriate type and placement of correctly labelled waste bins	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Are there facilities and processes in place to dispose of/segregate, store and transport waste (healthcare risk waste and non-healthcare risk waste) generated within the facility?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Dispensers for personal protective equipment supplies have been appropriately placed (Readily accessible in patient-care areas/clinical areas)	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Appropriate storage is available for the following items: Movable equipment (including hoists/ Patient slides, weighing scales, equipment relevant to the specific department) Clean patient items Clean linen Sterile items (e.g. IV fluids/sterile equipment/dressings) Commodes Bedpans Consumables Other items as relevant to specific area	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Integrity of walls are maintained (e.g. not stained or damaged and are of a cleanable material)	Engineering/ operations/ maintenance staff/ contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Infrastructure	Surfaces in patient care/procedure/service areas are appropriate (e.g. smooth, non-porous, water resistant) and are of a cleanable material	Engineering/ operations/ maintenance staff/ contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Floor coverings/furnishings are intact and impervious to fluids and are of a cleanable material	Engineering/ operations/ maintenance staff/ contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Area surfaces are free of fissures or open joints and crevices that retain or permit collection of debris	Engineering/ operations/ maintenance staff/ contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	If the water supply has been disrupted affected/shutdown: maintenance/contractor has flushed water through all taps and water sampling has occurred (as per the Guidelines for the Control of Legionella) as necessary, with results within acceptable levels (<10 cfu/ml). Check if further action is required, i.e. superheated or hyper-chlorinated, as determined by the MDT. Note that if any further action is required as determined by the MDT, there may be additional cost considerations	Engineering/ operations/ maintenance staff/ contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	If the water supply has been disrupted affected/shutdown: Plumbing, if affected, has this been checked for leaks. Refer to HBN 00-10 Part C and HTM 04-01	Engineering/ operations/ maintenance staff/ contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hand washing sinks/faucets for staff used comply to HBN 00-10 Part C and HTM 04-01 (as appropriate) Shower outlets are properly located and functioning i.e. of a type that can easily be removed for cleaning etc.	Engineering/ operations/ maintenance staff/ contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Light fittings are easy to clean and unlikely to accumulate dust	Engineering/ operations/ maintenance staff/ contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Where ceiling tiles are in place, they are well approximated and not stained or damaged and are of a cleanable material)	Engineering/ operations/ maintenance staff/ contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Heating: Radiators are accessible and cleanable and designed to accumulate minimum amounts of dust. Covers are removable to aid cleaning (as appropriate)	Engineering/ operations/ maintenance staff/ contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Heating, ventilation, air conditioning (HVAC) systems are clean, function restored, balanced and verified. Refer to HTM 03-01: (Parts A and B) Specialist ventilation for healthcare premises	Engineering/ operations/ maintenance staff/ contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Correct room pressurization (negative or positive) in isolation facilities	Engineering/ operations/ maintenance staff/ contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All mechanical spaces, including ceiling space are cleared of dust and debris.	Engineering/ operations/ maintenance staff/ contractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Patient area (inpatient/treatment rooms/clinical support spaces, toilet/bathroom facilities etc.) comply to the standards Refer to relevant HBN standard 00-03	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Public toilet facilities/baby changing facilities comply to the standards Refer to relevant HBN standard 00-03	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
General corridor areas comply to the standards Refer to relevant HBN standard 00-03	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clean Utility room comply to the standards Refer to relevant HBN standard 00-03 (e.g. Layout, storage etc.)	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dirty Utility Room comply to the standards Refer to relevant HBN standard 00-03 (e.g. segregation of clean/dirty areas and flow, equipment etc.) Commissioning of equipment (e.g. bedpan washer/macerator) has been completed	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A separate cleaner's room: (The room layout recommended is a wet zone with a combined bucket sink and hand rinse basin (janitorial unit) and a separate sink). Refer to HBN 00-03 Clinical and clinical support spaces and HBN 00-10 part C Sanitary assemblies for further detail including storage of items and comply to the standards	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Changing rooms/staff toilet facilities comply to the standards as per HBN 00-02 Sanitary Spaces	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Others (as required)	Facilities and processes in place to dispose of/segregate, store and transport waste (healthcare risk waste and non-healthcare risk waste) generated within the facility	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Arrangements are in place for the segregation of used linen, storage and transport of same from the clinical area to the laundry processing area or service	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	When commissioning a new or refurbished operating theatre or pharmacy clean room: air sampling and particle counts have been performed and results are within acceptable limits (where applicable).	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Ventilation requirements for the designated healthcare areas (i.e. treatment rooms, procedure room, minor operations, dental, decontamination rooms) where specific air changes per hour are required have been certified and validated Refer to specific guidance & HBN standards as relevant	MDT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	List other areas/items as relevant to facility:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Glossary of terms

Commissioning (commissioning process): a systematic verification, documentation, and training process applied to all activities during the design, construction, static verification, start-up, and functional performance testing of equipment and systems in a facility to ensure that the facility operates in conformity with the owner's project requirements and the basis of design in accordance with the contract documents.

Multidisciplinary team (MDT): a group comprising representatives from various disciplines in the health care facility that works with the project management team and others to ensure that the appropriate infection prevention and control measures are followed during construction activities.

Construction: major and minor facility activities that disturb or modify facility structures and systems, the term includes not only construction but also renovation, maintenance, and repair work.

Construction clean: cleaning performed at the end of a workday by construction workers that removes gross soil and dirt, construction materials, and workplace hazards.

Note: Cleaning to the "construction clean" level may include sweeping and vacuuming, but usually does not address horizontal surfaces or areas adjacent to the job site.

Cleaning services: (e.g., general housekeeping, waste management, and hazardous material cleanup).

Maintenance: a type of construction activity conducted to preserve the condition and functionality of a physical element of a health care facility. See Construction

Note:

- 1) Maintenance can be performed by an equipment supplier, contractor, or facility-based operation and maintenance staff.
- 2) The term "maintenance" also covers repairs.

Return to Service Cleaning: the thorough cleaning of a clinical space following construction and before the space is used for patient care, medical equipment, or the storage of clean or sterile supplies, in order to remove contaminating micro-organisms that could be acquired by subsequent occupants or staff