

Quick Reference Guide - Safety in Design Workshop

This Quick Reference Guide has been developed in association with the Design Risk Management Guidance document ([PS-HS-PR-029-GL-01](#)) for project teams attending Design Review workshops to aid in highlighting key questions/queries/areas for consideration to empower safety in design challenge during the UÉ workshop process.

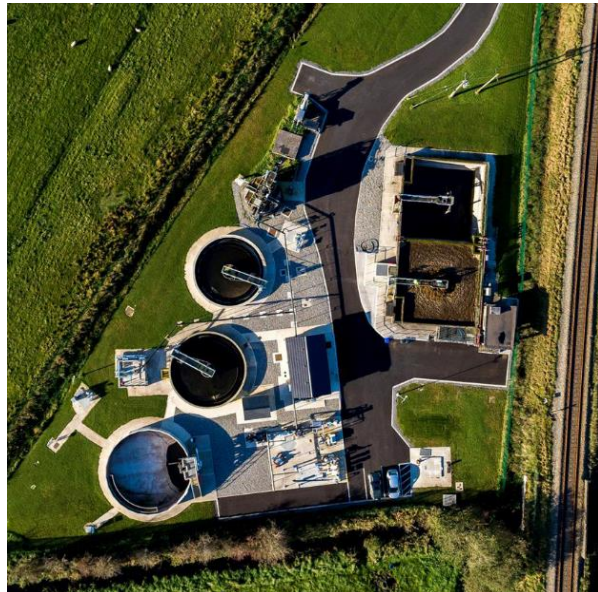
Workshop 2 – Concept Design Review

Inputs: Review of Preliminary H&S Plan, PSDP PEP.

Confirm DRA in place

Examples of Focus Areas/Areas for Consideration:

- Focus on client requirements, Codes of Practice and Standards, Specifications and learnings from other projects (including pre-handover hazards, etc)
- Has the location/Safe access routes been considered during site selection?
- Review of relevant sections of existing Safety File and O&M Manuals where these exist.
- Has the design minimized exposure to high-risk activities (e.g., confined space entry, working at height etc)?
- Consideration for temporary works or complex construction sequences.
- How do design options compare on environmental impact ie. Spills etc.?
- Have particular Risks as laid down in Schedule 1 of the Construction Regulations 2013 been identified?
- Application of the General Principles of Prevention to the following but not limited to:
 - Road/Rail/River crossings
 - Services – Underground and Overhead
 - Gradient
 - Wayleave of adequate width to allow for safe construction and Access/Egress
 - Survey Considerations (inc Asbestos, SI/GI , Topographic etc.)
 - SI considerations
 - Structures that may be effected
 - Ground Conditions/ Likely depth of trenches
 - Interaction with the Public (on land and on public roads)
 - Likely additional traffic caused by the works as well as by the completed project and suitability of existing road network to cope with this safely – completion of an auto-track
 - Presence of rivers, streams and other waterways
 - Site Restrictions
- Interaction with operational sites/processes
 - Land requirements taking into consideration construction, maintenance and deconstruction.
 - Compound, storage yards and offices
 - Constructability review
 - HAZOP



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Workshop 4 – Detailed Design Review

Inputs: Review of Preliminary H&S Plan, PSDP PEP.

Confirmation of interactions with utility providers and DRA is in place.

Examples of Focus Areas/Areas for Consideration:

- Has a Preliminary Construction stage health and Safety been prepared?
- Have learnings from other projects (including pre-handover hazards) been considered during the design?
- Have the General Principles of Prevention been applied during the design development
- Review of constructability of specific structural elements
- Are relevant drawings, specifications, and schedules complete and up to date?
- Are all safety-critical elements clearly identified and detailed in the drawings including previously identified risks?
- Have existing services – ESB, Gas, Water, telecom, etc been considered?
- Specific monitoring requirements during the works - movement, vibration, noise etc.
- Are Temporary Works required?
- Will enabling works require service diversion, asbestos removal etc.
- Where will the compound and storage areas be located?
- Has a site auto – track been completed and has it considered the following:
 - Traffic Management (Public Roads) - Road Closures
 - Traffic Management (Internal Roads) – re-routes etc. allowance for emergency service access.
- Review of how works could affect the public and what controls could be in place



- Are lifting points, platforms, and walkways clearly specified and compliant?
- Has there been consideration for Fire safety, chemical containment, and spill response?
- Is there a clear layout for evacuation routes and muster points?
- Appropriate safety barriers, interlocks and fail-safes
- Consideration for risks from simultaneous operations
- Coordination of different designers to ensure

that interface risks are mitigated

- Development of HAZOP - review of isolation points, accessibility, shut off points, emergency stops, confined spaces, chemical requirements, security, etc.

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Workshop 5 – HSQE & Operations Detail Design Review

Inputs: Review of DRA, Risk register,
Preliminary H&S Plan.

Confirm detailed design report is in
place

Examples of Focus Areas/Areas for Consideration:



- ESB, Gas, Water, telecom, etc
 - Specific monitoring requirements during the works - movement , vibration, noise etc.
 - Are Temporary Works required?
 - Will enabling works require service diversion, asbestos removal etc.
 - Where will the compound and storage areas be located
 - Are control panels, valves, and instrumentation positioned for safe and ergonomic use?
 - Has a site auto – track been completed and has it considered the following:
 - Traffic Management (Public Roads) - Road Closures
 - Traffic Management (Internal Roads) – re-routes etc. allowance for emergency service access.
 - Has a review been completed to consider how works could affect the public and what controls could be in place?
 - Consideration for routine operational tasks to minimize manual handling and lifting points, platforms, and maintenance zones clearly indicated and compliant.
 - Installation of a safety shower where necessary
 - Review work in surrounding areas and how these will be protected
 - Evidence of coordination of different designers to ensure that interface risks are mitigated.
 - Has an Interface plan (where required) been developed to ensure safe interface between constructions and operational works?
 - Lighting, signage and visibility adequate for safe operation and maintenance
 - Emergency systems (e.g., fire suppression, gas detection, alarms) clearly shown and integrated
 - Development of HAZOP - review of isolation points, accessibility, shut off points, emergency stops, confined spaces, chemical requirements, security, etc.
- Has the risk register been updated?
 - Application of the General Principles of Prevention to design development
 - Review of constructability of specific structural elements
 - Are safety-critical elements (ie., LOTO, barriers, alarms) clearly shown in the drawings?
 - Have learnings from other projects (including pre-handover hazards) been considered during the design?
 - Have existing services been considered? –

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Workshop 8 – Project Validation Review / Lessons Learnt

Inputs: Provide Feedback and trend analysis

Examples of Focus Areas/Areas for Consideration:



- Has A EHS Pre-handover inspection (where required) been arranged/completed?
- Are there residual RA's available in the Safety File?
- Has the Safety File been completed and does this include O & M Manuals?
- Were there any changes to the requirements during the project and how they were managed?
- Records from lessons learnt
 - aspects of the project that went particularly well
 - design decisions aligned with user needs and operational goals
 - decisions or actions contributed most to the project's success/poor outcome
 - biggest challenges faced during the project
 - unexpected risks
- Client/user feedback
- Review of training provided
- Approach to works in defects period
- Has the risk register been closed?
- Review of EHS performance and trends during construction phase.

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General
When is construction planned? When does the defect period start? Etc.
Are UÉ operational staff involved throughout the commissioning stage?
Has the Safety file and O&M folders been prepared and available?
Can we have more details on the handover declaration- does it need to be agreed with UÉ operations before being issued?
Is the site secure? (Reservoir, anti-social behaviour, highly populated etc.)
Is there adequate access, particularly for construction phase?
Auxiliary hazards on site? Ie. OH cables, near water course, ground conditions such as running sand?
Adequate site space for construction, maintenance and potentially decommissioning?
Is this a Brown/ green site?
Has the site been surveyed for contamination? Is there Asbestos present?
What was the site previously used as? Agriculture, treatment plant, dump etc. Is there a risk from previous use that could potentially remain?
What testing/ certification is required during construction/ maintenance phase?
Is there more than one project on the site at any given time?
Has the Prelim H&S plan been prepared?
Extent of temporary works envisaged on site?
Is temporary traffic management required/ Road opening license?
What is the condition of existing plant if any?
Are there existing services located throughout the site? ESB, Gas, sewer, water etc.
Have local amenities ie fire brigade, hospital etc. been identified
Has site investigation taken place?
Is there temporary/ permanent electrical supply available for construction activities? Is it suitable and safe for construction activities?
Are heavy good (Vehicles) capable of accessing site?
Are ground conditions suitable for a crane if required?
Is there a lay down area for vehicles to park on site or adjacent to site?
Are shut off valves at a suitable height for access?
Is there areas that require confined space entry for construction works?
Where will the emergency shower/eyebath be fed from, and will it meet the required bar of pressure?
Will the emergency shower/eyebath be in an easily accessible location and within the required distance as per UÉ specification?
Are there any existing trip hazard or a head bump hazards identified?
Are gas monitors required in specific locations of the site?
Is there adequate access for lifting/ and removing pumps from their location?
Are Extraction systems in place where required?
Is there a flood risk to electrical kiosks or operatives?
Are there areas where edge protection is required?
Have anchor points around access covers required?
Have david arm locations been identified? Are they accessible to the required assets?
Are access cover/fall protection (type) required?
Site security considerations
Has an Interface plan (if required) been developed?
Can heavy components be fabricated or modularized offsite to reduce on site handling?