

S1043

Obsolescence Management

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1 Purpose

- 1.1. The purpose of this standard is to set the requirements for Obsolescence Management within London Underground.
- 1.2. The objective of this standard is to:
 - a. ensure obsolescence is assessed during Stages 2 to 4 of the Pathway project cycle.
 - b. ensure an Obsolescence Management Plan (OMP) is only created when necessary by using a scoring methodology.
 - c. ensure that obsolescence is managed as an integral part of design, development, production and in-service support in order to minimise cost and detrimental impact throughout the assets life cycle.
- 1.3. This Standard does not set out a single prescriptive approach to Obsolescence Management. Each assessment must be considered based on the asset category, its intended use, planned life and obsolescence risk. This Standard sets out the main principles and minimum requirements for a framework within which assets (including all products received or in use) have the correct obsolescence strategy applied to them.

2 Scope

- 2.1. This Standard applies to programmes of work involving the introduction, alteration, replacement or support of assets for London Underground (LU).
- 2.2. This Standard is applicable to all of LU, and under agreement between LU and its Suppliers or Third Parties.

3 Requirements

3.1 General Principles

- 3.1.1. To minimise the impact of Obsolescence, LU must incorporate a Proactive approach to Obsolescence Management throughout all stages of the Pathway lifecycle and apply it to the assets lifecycle appropriately.
- 3.1.2. LU must proactively assess the consequences and probability of obsolescence in the selected product and then where necessary, develop and implement strategies to mitigate or resolve the effects of obsolescence throughout the operating life of the asset. See [G0043 Obsolescence Management Guide](#) for an explanation of obsolescence strategies that may be applied.
- 3.1.3. The LU Obsolescence Manager is responsible for endorsing the obsolescence assessments conducted during the project stage 2 and 3 & 4 of the Mandatory Asset Information Deliverables (MAID) Pathway product [PD-10583](#).

3.2 Design and Supplier Requirements

- 3.2.1. LU and its suppliers where contracted to, must establish documented and controlled processes and procedures for the management of obsolescence.
- 3.2.2. Where suppliers are not contracted to, LU must be responsible for establishing documented and controlled processes and procedures for the management of obsolescence.

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- 3.2.3. Processes and procedures in use by LU, Suppliers or Third Parties must be made available upon request to the requestor (either by LU, its Suppliers or Third Parties) for the purpose of synergising the application of Obsolescence Management.
- 3.2.4. Any Obsolescence Management arrangements and its activities must be in accordance with IEC 62402:2007 Obsolescence Management Application Guide (or its latest version).
- 3.2.5. The effect of obsolescence must be considered when selecting the product design.

Note: This may be as a result of, but not limited to:

- a. The potential ability or inability to either procure spares, replacements or develop suitable equivalents or alternatives,
- b. Loss of control or ownership of Intellectual Property Rights (IPR) and any brand, patent or copyright restrictions, and/or
- c. The potential loss of access to information (i.e. material composition, parts lists etc).

3.3 Project Stage 2 - Initial Assessment

- 3.3.1. For each proposed/tendered design or products (including services) that are to be used by LU must be identified and the potential for obsolescence risk over the life of the asset assessed.

Note: Those risks may arise from the following considerations:

- a. Technology Level:
 - i. Most non-specialist low technology products (and components) are typically easily replicated and are likely to be available from a number of sources. The risk of un-availability is low and therefore, obsolescence issues are likely to be insignificant or easier to manage and resolve as necessary.
 - ii. The risk of subsequent un-availability increases with more complex technology products and the research and procurement of alternatives is liable to encounter a higher cost.
- b. Bespoke or Single Source, or those only available from a limited number of sources, are likely to prove difficult to reproduce if the original manufacturer ceases trading or manufacture of their product. There may be increased costs in the acquisition of IPR or manufacturing tooling and documentation necessary to replicate the manufacture of the product.
- c. Commercial Off The Shelf (COTS). The specification for COTS products typically remain the property of the original manufacturer and may be subject to alterations as the manufacturer resolves obsolescence within the product whilst retaining as much of the original specified functionality. However, some changes may impact on where it is used and subsequent hardware/software changes that have to be incorporated may generate significant costs and delays. Original manufacturers generally do not transfer IPR or detailed product specifications, and changes to an alternative typically results in a level of redesign.

- d. Production Lifecycle. Dependent upon where a product (or component) is within its production lifecycle will impact on its future availability.
- e. Skills and/or Knowledge. Some products may require specialised skills or knowledge to manufacture, install and maintain. The consequences of the loss of these skills and knowledge either internally or externally shall be considered.

- 3.3.2. The likelihood of obsolescence during the project/programme lifecycle shall be evaluated, if there is a likelihood a plan to either mitigate or resolve it must be detailed at Stage 2.
- 3.3.3. Where a product is deemed to not require any further Obsolescence Management activities, a decision to adopt the strategy Do-Nothing may be applied at this stage, this is only applicable when:
- a. The product is not service critical (or where an Obsolescence Management assessment results in an obsolescence impact score of 4 or less),
 - b. Where diminishing supplies can be easily and quickly replaced, or
 - c. A proactive approach has already been adopted at a higher level that will manage the obsolescence.

Note: Figure 1 presents a flowchart to aid this decision process.

3.4 Project Stage 2 – Preventative Measures

- 3.4.1. Where there is a possibility that obsolescence will impact during the pathway lifecycle or during the assets introduction to service, LU must initiate preventative measures to either reduce or mitigate the likely impact to LU. See [G0043 Obsolescence Management Guide](#) for a description of applicable measures that may be applied.
- 3.4.2. Preventative measures must take in to account:
- a. Obsolescence Risk,
 - b. Technical & Logistical Analysis (of the product and the asset associated with it including any safety considerations), and
 - c. Market Study Factors.

Note: The obsolescence management guide provides greater detail for the measures, but generally:

- a. Triplet of Risk based on; Probability, Impact and Cost.
- b. Analysis of; Stock, Storage constraints and available Substitutes.
- c. Factors assessing the lifecycle characteristics that impact the reliability, availability & maintainability and cost to maintain/support whilst in service.