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Powerlink 2027-32 Revenue Proposal

Asset Refurbishment Standard

Asset Refurbishment – Standard

Policy stream	Asset Management	
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Version history

Version	Date	Section(s)	Summary of amendment
7.0	7/08/2020	All	Document template changed to Standard, and contents updated.
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1. Introduction

1.1 Purpose

This document sets out the standard adopted by Powerlink Queensland for Operational Refurbishment. The objective of this standard is to establish the overarching principles which determine Operational Refurbishment needs, plans & projects.

1.2 Scope

The requirements of this Standard apply to the refurbishment of all network assets.

1.3 References

Document code	Document title
AM-POL-1035	Asset Management Policy
ASM-STR-A6095446	Strategic Asset Management Plan (SAMP)
FIN-FG-STD-A2466214	Finance Standard
ASM-GDL-A2359941	Network Capital and OR Project Types - Guideline
ASM-PRO-A508340	Work Types and Costs - Categorisation – Procedure

1.4 Defined terms

Terms	Definition
Energy Management System (EMS)	The primary operational tool for monitoring and controlling Powerlink's state-wide transmission network. The EMS obtains measurements and the status of the transmission network via Supervisory Control and Data Acquisition (SCADA), and permits real–time power system security monitoring via the use of advanced power system analysis software applications.
Forced Outage Database (FOD)	Corporate repository of network forced outage data containing a record of each forced outage and associated information including the network plant affected and the impact on transmission customers.
Operational Refurbishment Project (OR)	Projects driven from condition that are necessary to bring the asset up to a required standard, such that it meets its original design criteria over its expected useful life.
Operational Wide Area Network (OpsWAN)	A network which provides remote access and the ability to interrogate digital assets within substations and telecommunications stations.

1.5 Roles and responsibilities

Who	What
General Managers	Accountable for ensuring that the Asset Refurbishment Standard executed within their respective Division / Group.
General Manager Asset Management	Accountable for ensuring that the Asset Refurbishment Standard is developed and kept up to date.
Manager Asset Strategies	Act as the standard coordinator for the Asset Refurbishment Standard and responsible for oversight and consistent application of the Standard
Manager Maintenance & Projects Services	Ensure Asset Refurbishment program is managed and delivered in accordance with this standard.

Who	What
Manager Network and Alternate Solutions	Undertake sponsorship and approval of operational refurbishment projects.
All Powerlink	Awareness of the Standard and obligation to contribute to business activities in a manner consistent with the intent of the Standard.

1.6 Monitoring and compliance

Powerlink's Finance Standard details the activities undertaken by Powerlink that are categorised as operating expenditure. Asset refurbishment is classified as an operating expense and utilises the Finance Standard as a reference.

1.7 Risk management

This document seeks to clarify the boundaries and prerequisites of asset refurbishment to ensure that asset expenses are correctly classified minimising the financial risk of incorrect allocation of funds.

2. Operational Refurbishment Planning

2.1 Objectives

It is Powerlink policy to keep plant operational and consistent with its original design as long as it remains needed, safe, and economical to do so. Work undertaken to achieve this objective is normally categorised as preventive or corrective maintenance.

At times, work is required on plant or equipment (forming all or part of an asset), that is preventive in nature but is more extensive than that normally performed as part of ongoing maintenance.

Powerlink defines this work as Operational Refurbishment. This work is triggered when the field maintenance labour commitment is estimated to exceed a defined threshold (set in the Work Types and Costs – Categorisation – Procedure).

When work exceeds this minimum labour threshold (cost), the potential operational refurbishment need is referred to the relevant asset strategies teams for alignment with future asset plans. Identified needs are progressed where they meet any of the following conditions:

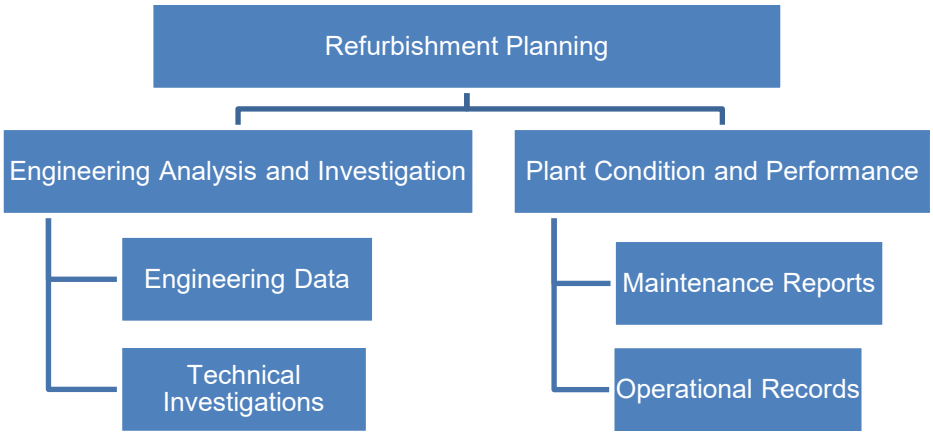
- The extent of the Operational Refurbishment need identified requires the engagement of multiple service provider groups across different geographic regions, and as such, the merging of the Operational Refurbishment need into a single project is considered to provide for economies of scale
- The work required to address the Operational Refurbishment need involves the engagement of non-field maintenance resources (e.g. external contractor, design) to support or provide work deliverables
- The nature of the work requires extensive coordination of network outage requirements within Powerlink's broader program of planned works requiring network outages.
- The work is spread over a significant time period (greater than 12 months),
- The work involves introduction of a new technology not previously used by Powerlink

Operational Refurbishment work will be clearly defined in terms of scope, cost, timing and implementation responsibilities. Because it has a fixed scope and timing, all refurbishment is done as an OR type project in SAP (Operational Refurbishment).

2.2 Planning Process

Operational Refurbishment planning is an ongoing and iterative process where needs are coordinated within and between asset areas. The plan needs to take into account Powerlink's high level budget aim to retain a flat operational expenditure profile allowing for CPI increase.

Planning is based on a number of inputs, including analysis of health indices, maintenance records, operational performance, engineering details, component investigations and other relevant data to develop a holistic view of the condition of the asset. The model below demonstrates how these inputs contribute to the identification of refurbishment requirements.



More detailed descriptions of the matters considered in each of these areas are included below.

Maintenance Reports

Powerlink implements a program of preventive and corrective maintenance, from which reports are derived regarding defects or the abnormal condition of plant and equipment. In line with normal work management processes, these reports shall be documented in SAP in the form of defect notifications, work orders and measurement documents.

The reports are based on data contained within SAP, in conjunction with information from field maintenance personnel, to derive an overall evaluation of maintenance history for plant and equipment. This process gives rise to preventive activities for the assets and, where more extensive than normal preventive or corrective maintenance (that meets the labour threshold requirement), will be undertaken as Operational Refurbishment.

Operational Records

Powerlink maintains a range of systems for monitoring the operational performance of plant and equipment. An example of this includes the Forced Outage Database (FOD) that records forced outages of the high voltage transmission network. This database is supported by a business process that seeks to establish the root cause of each event, and where this is attributed to the condition or performance of plant or equipment (and meets the labour threshold requirements) corrective activities may be undertaken as Operational Refurbishment.

Data collected from other real time monitoring systems, including the Energy Management System (EMS) historical alarm records, on-line plant monitoring systems and operation wide area network (OpsWAN) are also used to inform and evaluate plant and equipment performance. Operational Refurbishment activities may arise from this analysis.

Engineering Data

Engineering data provides information relating to the designed performance of the asset. This could include structural, electrical, layout and configuration design information. For some plant and equipment types, relevant engineering data will provide an assessment of material performance in the service environment, design vulnerabilities and assumptions, historical performance of similar assets and industry experience.

Technical Investigations

Specific issues with plant condition or performance are on occasion referred for further technical investigation. This occurs when the scope of work required to respond to the issue is unclear or requires evaluation due to a number of options being available.

2.3 Prioritisation Process

A risk-based approach is used to prioritise Operational Refurbishment projects. The methodology ranks each project based on an assessment of the value of risk being mitigated or benefit being realised by completing each project. The process is used as an input into deciding the timing and order of projects where funding, resources or access constrain delivery.

3. Distribution list

Divisional Distribution	Contact details
Delivery and Technical Solutions	General Manager Infrastructure Delivery General Manager Design Solutions
Finance, Governance and Supply	General Manager Finance Governance and Supply
Field and Asset Management	General Manager Field Delivery General Manager Operational Support Services General Manager Operational Engineering Manager Asset Management System Manager Primary Systems Field Engineering Manager Secondary Systems Field Engineering Manager Asset Integrity & Performance Solutions Manager Maintenance & Projects Services
Network Investment	General Manager Network Regulation General Manger Network Portfolio Manager Portfolio Planning and Optimisation Manager Network and Alternate Solutions
Major Projects	General Manager Community and Delivery Services
Operations and Planning	General Manager Energy and Digital Management Manager Operational Technology Services