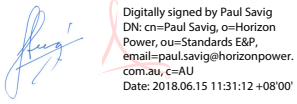
Guideline: Operations Requirements to add Assets

Standard Number: HPC-2NJ-01-0001-2015

1.0 Document Control			
Author	**Name:**	Adrian Barnes	
	Position:	Standards Engineer	
Reviewed By	**Name:**	Paul Savig	 Digitally signed by Paul Savig DN: cn=Paul Savig, o=Horizon Power, ou=Standards E&P, email=paul.savig@horizonpower.com.au, c=AU Date: 2018.06.15 11:31:12 +08'00'
	Position:	Senior Standards Engineer	
Endorsed By *	**Name:**	Jose Duarte	 Digitally signed by Jose Duarte DN: cn=Jose Duarte, o, ou, email=jose.duarte@horizonpower.com.au, c=AU Date: 2018.06.15 11:38:52 +08'00'
	Position:	Engineering Services Manager	
Approved By *	**Name:**	Marc Beckx	
	Position:	Manager Engineering and Project Services	
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Review Frequency **	Every three years		
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** Shall be the Process Owner and is the person assigned authority and responsibility for managing the whole process, end-to-end, which may extend across more than one division and/or functions, in order to deliver agreed business results.*
*** This person will have the power to grant the process owner the authority and responsibility to manage the process from end to end.*
**** Frequency period is dependent upon circumstances– maximum is 5 years from last issue, review, or revision whichever is the latest. If left blank, the default shall be 1 year unless otherwise specified.*

Revision Control		
Revision	**Date**	**Description**
3	March 2018	Incorporate ENSMS processes
2.0	September 2016	Second Revision

STAKEHOLDERS The following positions shall be consulted if an update or review is required:	
Manager Asset Services	Manager Safety and Health
Managers Districts	Manager Major Projects
Manager Engineering and Project Services	Manager Strategic Projects
Manager Energy and Analytics	Manager Capacity Management Services
Manager Technology	Manager Commercial Services and Finance
Manager Metering Services	Manager HP System Operations
Manager TechCo	Manager Consumer Energy

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1 PURPOSE

These Guidelines define how Horizon Power Operations ('Operations') should engage the project management team to ensure an effective and problem-free takeover of Assets.

They are intended as a reference for both Operations and the project management team, to guide interactions, documentation, reviews and approvals, and handovers. The Guidelines stress the importance of proper planning and engagement, so that Operations are ready to take over Assets operationally.

These Guidelines exist to prevent the problematic acceptance of Assets into the Horizon Power network, that may occur due to poor engagement with the project management team. Poor engagement raises risks to safety, information security (and associated liability for both) and maintainability. The consequences may be cost overruns and rework for the project, as well as higher costs during the operations phase. These guidelines remind the Project Manager of their obligations to involve Operations in the early phases of project delivery, to ensure a better outcome.

This document replaces the document *Operations and Asset Handover Guidelines and Procedures*.

An example of problematic acceptance of assets is slip-base streetlight poles. While these are often used by Main Roads, they are not a standard item in Horizon Power's operated and maintained asset base. A project specified these in design, and they were subsequently installed. There is no documented guidance for maintenance or replacement of these assets (should they be impacted by a vehicle).

Another hypothetical example is an asset with an IT component, e.g. a new kind of load-break switch with Bluetooth communication for control by mobile phone. The security of the asset and the network could be compromised if the interface is poorly configured. Early engagement with Technology would ensure that relevant risks are understood, and plans are in place prior to handover.

2 APPLICATION

This guideline is appropriate for Operations dealing with projects that will be taken over by Operations at some time in the project lifecycle. Projects may be for new, acquired, or augmented assets, systems or facilities.

This guideline is an extension of the *Project Management Methodology* [4], which is a key reference.

3 NORMATIVE REFERENCES

3.1 Referenced Documents

1. *Asset Disposal Policy*, CS10# 461865
2. *Asset Management Strategy and System*, CS10# 2772490
3. *Procurement Policy*, published on the Powerlink intranet at https://horizonpower.sharepoint.com/sites/Powerlink/corporate/procurement/Pages/Procurement-Policy.aspx
4. *Contract Management*, published on the Powerlink intranet at https://horizonpower.sharepoint.com/sites/Powerlink/corporate/procurement/Pages/Contract-management.aspx
5. *Project Management Methodology*, published by Horizon Power on the *Powerlink* intranet at https://horizonpower.sharepoint.com/sites/Powerlink/csf/finance/Pages/Project-Management-Methodology.aspx
6. *Underground Distribution Scheme Manual*, CS10# 1586848

3.2 Definitions

Asset	Here assets are typically defined as Energy (generation (including renewable), transmission and distribution) and Non Energy (fleet, properties and technology).
Commissioning Manager	The party responsible for commissioning the asset, making the asset safe and ready for operation.
Completion	Also known in the industry as 'Practical Completion', the stage of a works contract where the assets are handed over, and the defects liability period begins.
Complex Projects	Complex projects can be defined as general projects, asset management plan projects or customer funded projects which: • Presents significant risk or exposure to Horizon Power. • Require investment of $5 million and over; and/or • Are considered complex in nature – i.e. require detailed engineering design and construction.

Delivery Manager	The Delivery Manager is part of the project team and reports to the Project Manager. His or her role is to manage resources within the project team and support the Senior Supplier.
Energised	Electrically energised, pressurised or subjected to any form of mechanical potential or kinetic energy.
Engineering Design Authority	This party is responsible for compliance to engineering and safety standards.
Final Completion	The stage of a works contract where the defects liability period concludes and the contract is formally closed out.
Handover Plan	A document used to plan the Operational Readiness Review, operational handover and asset handover. In the PMM documentation it is referred to as the 'Operational Readiness and Asset Handover Plan'.
HAZOP	Hazard and operability study. A systematic assessment of a system to identify hazards and impediments to efficient operation.
Internal Stakeholders	Groups within HP which have an interest in and/or requirements of the project works. This includes, but is not limited to HPCC, SCADA and Technology.
Minor Works Projects	A non-complex project, deemed to be 'Minor Works' by the project classification tool [4].
Non-complex Projects	Non-complex projects can be defined as general projects, asset management plan projects or customer funded projects which: • Require investment of less than $5 million; and • Are considered less complex in nature
Operations Representative	A representative of Operations.
Project Manager	The Project Manager is appointed by the Project Sponsor to run the project on a day-to-day basis within the constraints laid down by the sponsor.

Project Sponsor	The Project Sponsor has ownership of the business case supporting the project, and has ultimate accountability for the project, supported by the Senior Customer (User) and the Senior Supplier.
Senior Customer (User)	The Senior Customer represents the interests of those that will use the project's outcome.
Senior Supplier	The Senior Supplier represents the interests of those designing, developing, facilitating, procuring, implementing, operating and maintaining the project deliverables. He or she assumes responsibility for quality of the product delivered by the supplier(s).
Training Plan	A document describing the training required for Operations, and also the handling trials to be conducted during commissioning for the benefit of Operations.

4 OVERVIEW OF PROJECT MANAGEMENT PHASES

To ensure proper handover and acceptance of Assets, Operations should engage with the Project Manager. The Project Manager uses the Project Management Methodology [4] which defines six phases. The phases and interactions are summarised below in Figure 1.

The project phases one through three may have importance for operational readiness. This is especially the case for projects where Internal Stakeholders have been identified. For example data, communications, security and control system architecture must align with SCADA requirements.

The key focus for Operations is phase four, where Operations conduct training, review operational readiness, and take operational control of the Asset. The extent of the interaction varies with the complexity of the project, and may involve departments outside of Operations e.g. identified Internal Stakeholders.

According to the needs of the project, taking operational control of an asset (or group of assets) may not coincide with taking ownership. Transfer of ownership typically aligns with contract Completion, whereas transfer of control aligns with functional needs. Operations may take control of several project elements successively, and these elements may not align with contract packages.

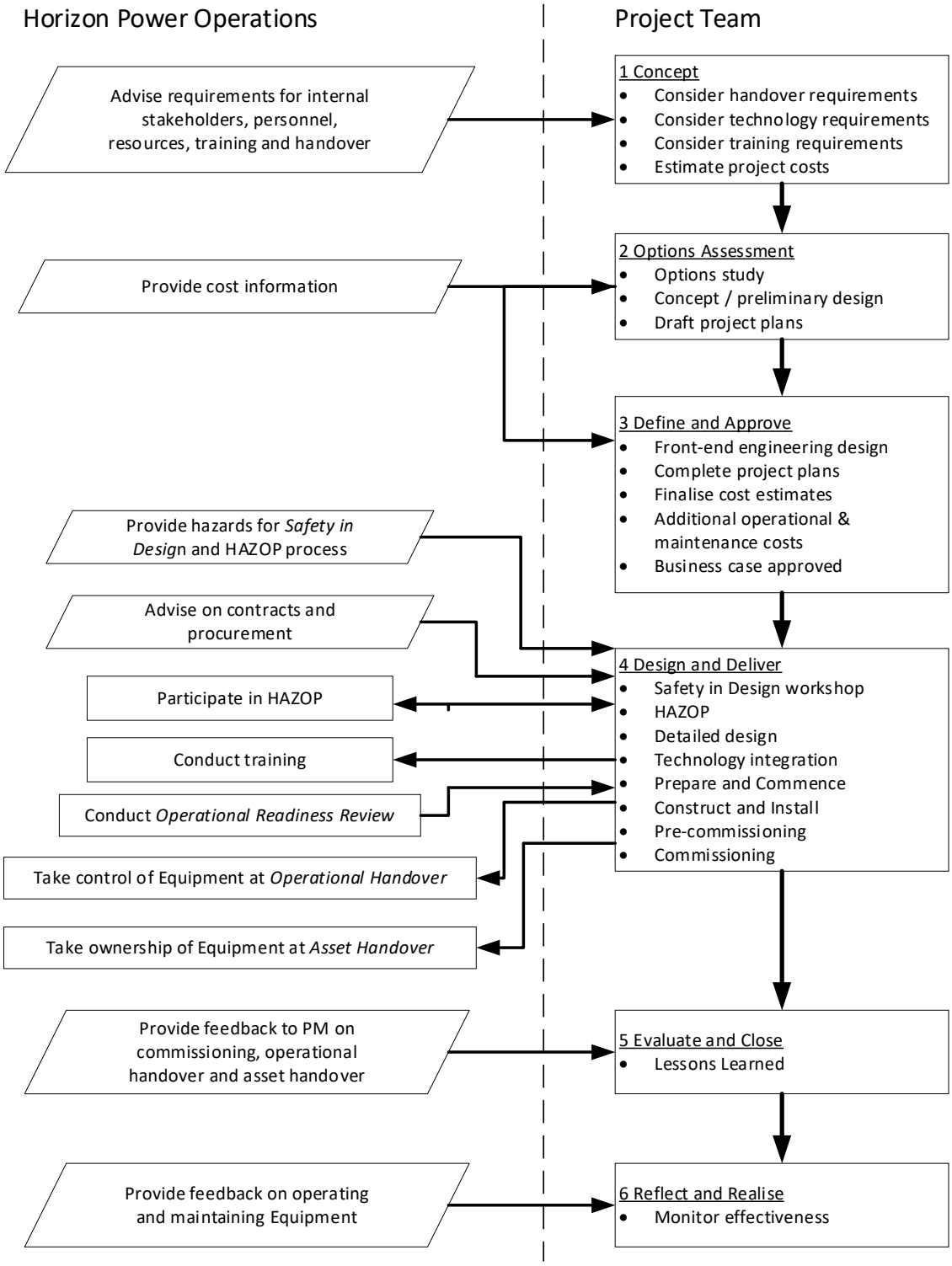

Figure 1 Project Roadmap

5 RESPONSIBLE PARTIES

Responsible parties from Operations include the Operations Representative, Internal Stakeholders Representative/s, Asset Managers[1], and Regional Managers. The latter two may already have representation under the project as a Senior Customer. They are responsible for engaging the Project Manager, to ensure requirements in this Guideline are discussed and accepted.

The Project Manager and project team (including the Delivery Manager, Design Authority and Senior Supplier), have the responsibility to consider operational requirements as operations will ultimately be responsible to maintain this equipment practically and safely.

6 REQUIREMENTS FOR PROJECT INITIATION PHASE

The project phases 'Concept', 'Options Assessment' and 'Define and Approve' are together referred to as project initiation. In non-complex projects they are combined into one phase. This phase concludes with financial approval of the business case.

6.1 Handover Requirements

Operations should provide the Project Manager with requirements for the Operational Readiness Review and Operational Handover. The requirements identified by the Internal Stakeholders must also be provided to the Project Manager. This should be done early on to allow such considerations to be factored into the project plans, in readiness for handover.

The project manager should include these requirements in the *Project Brief* in the Concept stage, and in the *Project Management Plan* in the Options Assessment stage.

6.2 Training Requirements

Operations and Internal Stakeholders should provide the Project Manager with requirements for training and handling trials.

The project manager should include these requirements in the *Project Brief* in the Concept stage, and in the *Project Management Plan* in the Options Assessment stage.

[1] Manager refers to : Manager Esperance, Manager Gascoyne & Midwest, Manager Pilbara and Manager Kimberley

6.3 Operation Phase Planning, Resources and Cost Estimates

The project management plan and schedule should be provided to Operations in advance for planning purposes. Operations should plan activity to ensure key milestones are achieved and operations representative are available and actively involved.

The resource requirements (personnel, plant, fleet, and inventory) should be considered by Operations, and advice provided to the Project Manager for inclusion in the financial model and business case.

Operations should provide up-to-date operating cost estimates for the Project Manager, for inclusion in the financial model used to support the business case.

7 REQUIREMENTS FOR DESIGN AND DELIVER PHASE

Figure 2 below shows a general representation of the key interface actions in the 'design and deliver' phase.

The key interface points during this project phase are:

1) Operational Readiness Review(s)

2) Commissioning

3) Handling Trials

4) Operational Handover

5) Asset Handover

Aside from these key interface points, there are other important interactions between Operations and the project team.

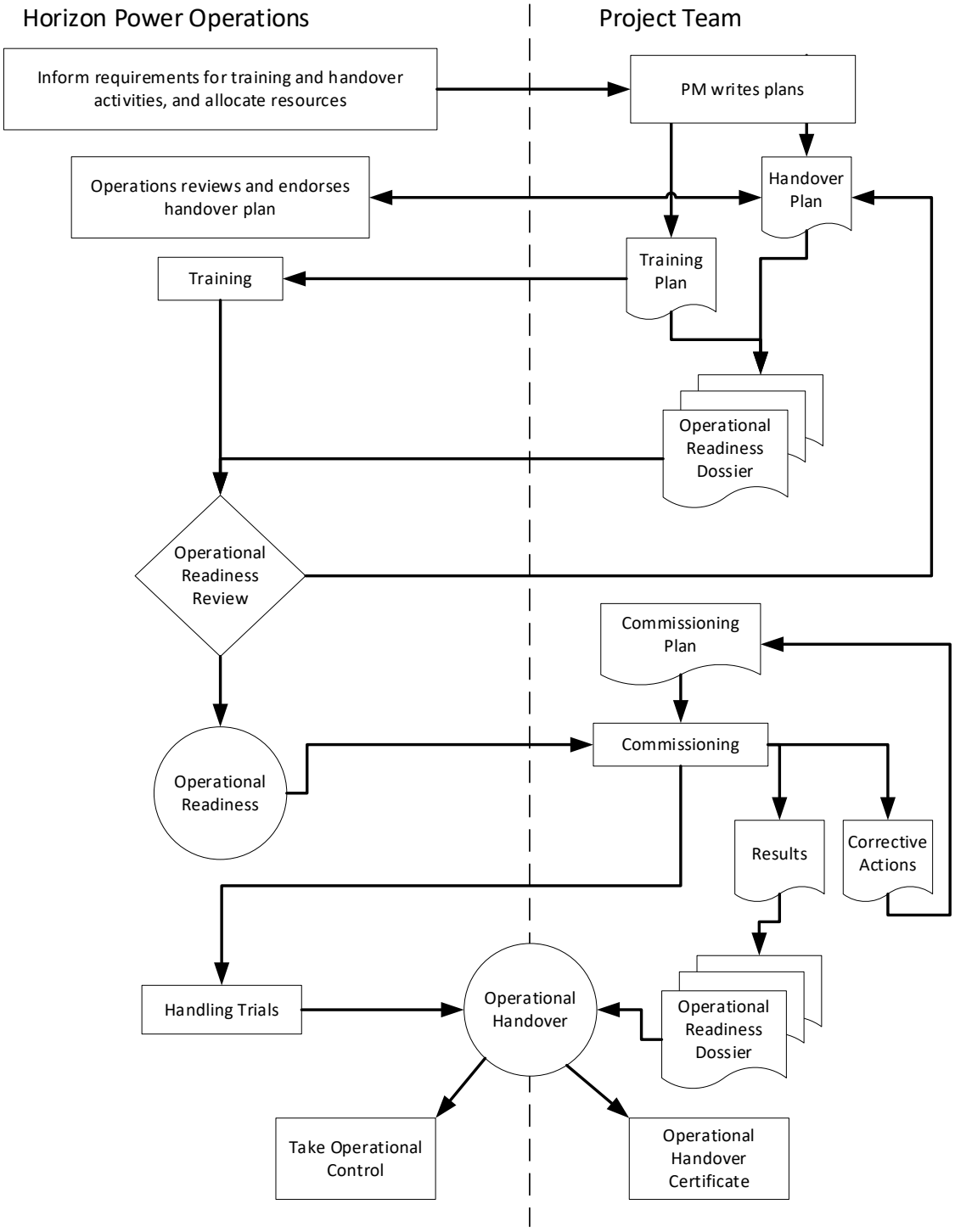

Figure 2 Operational Handover and Related Processes

7.1 Design Scope Acceptance

Operations and Internal Stakeholders must be consulted on design decisions that influence how the Asset (or element of the project) will be maintained and operated. Items for consideration include:

- Basis of design (design assumptions)
- Records of stakeholder consultations

These shall be endorsed by the Operations and Internal Stakeholders Representatives by signing the approval of prior gates (1, 2 and 3) in the Handover Plan.

7.2 Safety in Design

Operations shall participate in the Safety in Design process, by:

1) Identifying hazards present in operation and maintenance
2) Adding these hazards to the risk register
3) Estimating the likelihoods of each hazard
4) Commenting on risk mitigation methods suggested by the project team
5) Accepting the remaining risks

7.3 HAZOP

Operations shall participate in the HAZOP workshop.

Where a HAZOP report is written following the workshop, the Project Team should provide a copy of the report to Operations.

7.4 Specification and Procurement of Equipment

When contracts are formulated, Operations and Internal Stakeholders should review the proposed contract arrangements and scope for design, construction and commissioning of the Asset (or element of the project). The Project Manager should provide these contracts to Operations and Internal Stakeholders before they are finalised. Operations and Internal Stakeholders should inform the Project Manager of any scope omissions, warranty deficiencies or other contractual problems that may impair the effectiveness of the Asset (or element of the project).

Operations and Internal Stakeholders should be involved in evaluating tenders, by being on the evaluation panel, as organised by the procurement officer.

Operations and Internal Stakeholders should provide a list of relevant preferred equipment and technology to the Project Manager, for use by the Senior Supplier.

7.5 Confirmation of Detailed Design

Where Operations or Internal Stakeholders have provided comment on drawings and design documents during HAZOP and prior phases, the amended drawings and design documents (prior to the 'for construction' release) shall be reviewed by Operations or Internal Stakeholders as appropriate.

7.6 Handover Planning

Handover planning is necessary to integrate Operational Readiness and its associated activities into project management. A key aspect of planning the handover is agreeing on documentation requirements, which form the Operational Readiness Dossier, and integrating these requirements into project schedules and milestones.

The purpose of the Handover Plan is to provide confidence to Operations that the Asset is adequately prepared for Operational Readiness. It also serves as a planning document for the Project Manager, to list the documents required to prove Operational Readiness, and also required documents for Asset Handover.

The Handover Plan should be formulated using requirements stated in the Project Management Plan (from the project initiation phase), altered appropriately. It should be produced by the Project Manager.

The *Handover Plan* should identify responsible parties for agreement between the Project Manager, Operations Representative, Internal Stakeholders Representative/s, Asset Manager, Senior Supplier, and Senior Customer.

The Operations Representative, in conjunction with the relevant Operations branch, shall assess the impact of the new Asset (or element of the project) on processes, people, equipment and systems. The Operations Representative should also advise the Project Manager which Horizon Power divisions or branches are affected, and this information should be included in the Handover Plan. The Operations Representative shall review and provide comment on the plan, prior to the pre-commissioning stage of the Asset (or element of the project).

Where projects have multiple elements that are handed over at different times, a single handover plan may be used, however it must clearly show the separate elements, and where appropriate, the separate documents.

Following pre-commissioning, items identified in the Handover Plan as requiring action (open items) shall be included on the project schedule (or open item list) by the Project Manager.

Section E1 in Appendix E contains the minimum requirements of the Handover Plan. Section E2 in Appendix E contains the minimum requirements of the Operational Readiness Dossier.

7.7 Training

Where warranted, a Training Plan shall be prepared by the project team. This plan shall be approved and signed off by the Project Manager, Training Manager and the Senior Customer. This plan shall meet the requirements stated by Operations and Internal Stakeholders in the Project Initiation Phase. Complex projects may require multiple training programs.

Training manuals shall be prepared by the Senior Supplier with the involvement of Operations. The manuals should be endorsed by Operations prior to commencement of training.

Training should ensure Operations has the required skill and knowledge to safely operate the Asset (or an element of the project). Relevant Operations personnel must be deemed competent, by the Senior Customer, to safely operate the Asset (or an element of the project).

7.8 Inspections, Testing and Pre-commissioning

Operations may nominate to carry out inspections during the construction phase, and attend and witness testing and pre-commissioning. Inspection and Test Plans (ITPs) should be forwarded to the Operations Representative prior to the activity.

7.9 Operational Readiness Review

Achievement of Operational Readiness must occur prior to the Energisation of any Asset (or element of the project) for commissioning or operational use.

The Operational Readiness Review consists of:

- A review of the required documentation (the Operational Readiness Dossier)
- An inspection of the relevant assets

Operational Readiness is achieved upon successful completion of this review.

Operational Readiness of an Asset (or element of the project) confirms:

1) It is safe to be Energised and restarted and be operated safely within the boundaries of authorisation
2) It is physically ready to be Energised or restarted
3) It meets the approved design requirements
4) Operations has adequate budget and resources to operate and maintain the Asset
5) All pre-commissioning has been completed
6) Operations personnel have adequate training to operate and maintain the Asset
7) It will be operated in compliance with relevant legislation and safety management programmes
8) Documentation contained in the Operational Readiness Dossier (compiled by the project team and provided to operations) is provided as required by the handover plan, and is adequate to prove Operational Readiness in accordance with relevant legislation, regulations, codes of practice, and relevant Horizon Power documents. Relevant Horizon Power documents may include:
    a) Standards
    b) Guidelines
    c) Procedures
    d) Manuals
    e) Distribution Commissioning Test Sheets (or other precommissioning procedures as appropriate)
    f) Field instructions and manuals
    g) Interim instructions and technical bulletins
    h) Formal Safety Assessments
    i) Asset Interaction Sheets

Elements of the Asset or project that expose Horizon Power to risk shall be assessed, and where possible, mitigated, before Horizon Power accepts control. This risk assessment and mitigation shall be documented as a risk register and included in the Dossier.

Section E2 in Appendix E contains the minimum requirements of the Operational Readiness Dossier.

7.10 Commissioning

A Commissioning Plan shall be written to ensure commissioning is methodical and thorough. The Commissioning Plan must reference the relevant System Operations procedures required to access the network. This plan shall be reviewed and approved by the Project Manager and endorsed by the Operations and Internal Stakeholders Representatives.

7.11 Handling Trials

Handling Trials shall be conducted to ensure Operations has the required skill and knowledge to safely operate the Asset (or an element of the project). Trials shall be conducted after commissioning, and an inspection shall be undertaken by the Operations Representative prior to the trials.

Any adjustments or trimming of the Asset or an element of the project shall only be conducted with the approval of the Operations Representative.

7.12 Assuming Control of the Asset (Operational Handover)

Once Operational Readiness is achieved, Operations shall assume control of the Asset (or element of the project), by accepting an Operational Handover Certificate. This certificate shall be provided by the Project Manager or Commissioning Manager to the Operations Representative.

After control of the Asset (or element of the project) is assumed by Operations, access to the asset (or network component) shall only be through access permits as granted by System Operations.

7.13 Receiving Ownership of the Asset (Asset Handover)

Horizon Power accepts the Asset into the Fixed Asset Register and Operating Infrastructure, by accepting an Asset Handover Certificate.

A summary flowchart of the Asset Handover process is provided below in Figure 3.

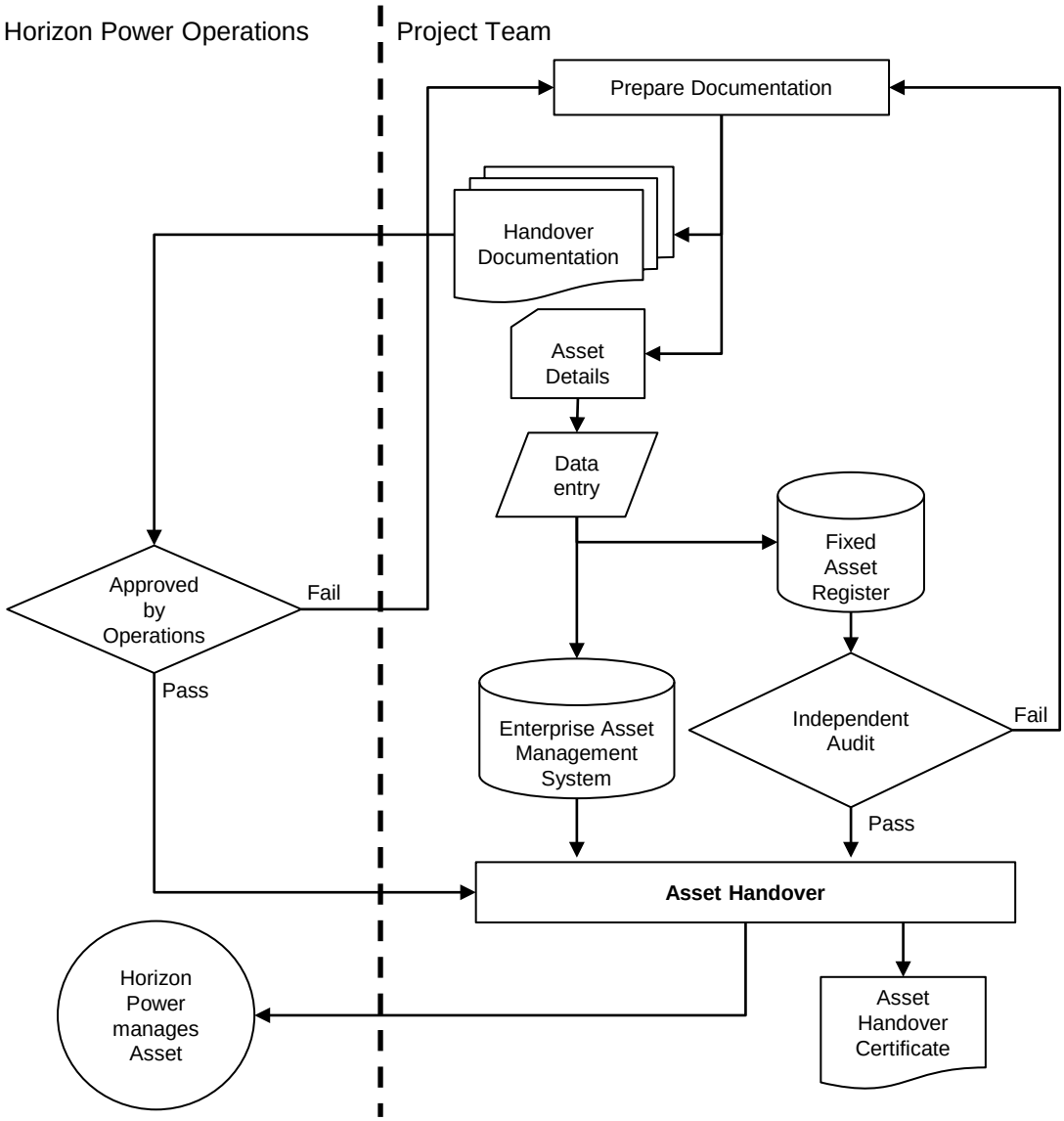

Figure 3 Asset Handover Process

Major defects that may significantly impair the service delivery of the Asset (or an element of the project) should be rectified before accepting ownership of the Asset. Where major defects are not rectified, the Project Manager shall assess and allow for the impact on operation and maintenance costs.

7.13.1 Handover Documents

Horizon Power shall only accept ownership of an Asset when an *Asset Handover Certificate* (and appropriate accompanying documents) are received. The Certificate and accompanying documents shall be provided by the Project Manager or Commissioning Manager to the Operations Representative. Requirements of the Certificate are provided in section E4 of Appendix E.

Where applicable, the following documents shall accompany the Asset Handover Certificate:

1) Certificate of Completion (see section E5 in Appendix E).
2) Life Cycle Management Plan* (see section E6 in Appendix E).
3) Other facility management plans* as applicable:
    a) Despatch
    b) Fuel
    c) Water
    d) Waste
    e) Air quality
    f) Noise
    g) Security
4) Rehabilitation and/or demolition plans, in accordance with Horizon Power's disposal policy [1], approved and signed off by the Project Manager and Senior Customer. Complex projects may require multiple rehabilitation programs and the involvement of experts.
5) A list of minor defects and omissions. This should be dated and signed by the Project Manager and the Operations Representative. A copy of this list should be forwarded to the Project Manager and Procurement Officer.
6) Other documents required by the Internal Stakeholders as appropriate.

*These plans shall be approved and signed off by the Project Manager and Operations Representative.

Where restoration of environment is required following decommissioning of the Asset (or project element), a rehabilitation plan in accordance with Horizon Power's disposal policy [1] is required.

7.13.2 Fixed Asset Register

The Project Manager and the Senior Customer shall:

1) Review and take a photographic record of the Asset for inclusion in the register
2) Review and confirm the as-built documentation as a true and accurate record of the Asset, as it will be identified in the register
3) Ensure the project financials have been recognised in the register
4) Ensure that when an Asset is disposed of, it is removed from the register

The Project Manager shall have an independent auditor review and confirm the above items 1) to 4).

7.13.3 Enterprise Asset Management System

The Operations Representative and the Project Manager shall confirm that the Asset (or an element of the project) has been entered into the enterprise asset management system, in accordance with the strategy in the Life Cycle Management Plan.

7.13.4 Warranties and Liability for Defects

Operations shall enquire from the Project Manager all contractual defect liability periods, shall identify the resources and management processes to be utilised in the management of the defect liability period.

8 REQUIREMENTS FOR EVALUATE/CLOSE AND REFLECT/REALISE PHASES

8.1 Contract Management

Depending on the project-specific arrangements, the defects liability period may be managed by Horizon Power or a third party.

Operations should inspect assets (or elements of the project) during the defects liability period, particularly those susceptible to early wear-out, or stressed by occasional events (e.g. weather, usage peaks, etc.).

Operations should raise outstanding defects and omissions to the Project Team prior to the conclusion of the defects liability period.

Figure 4 below shows the role for Operations following Asset Handover and prior to Final Completion. Where a contractor is responsible for the defects liability period, certificates are issued at Contract Completion and at

Contract Final Completion. When Horizon Power manage the defects liability period, these are not used.

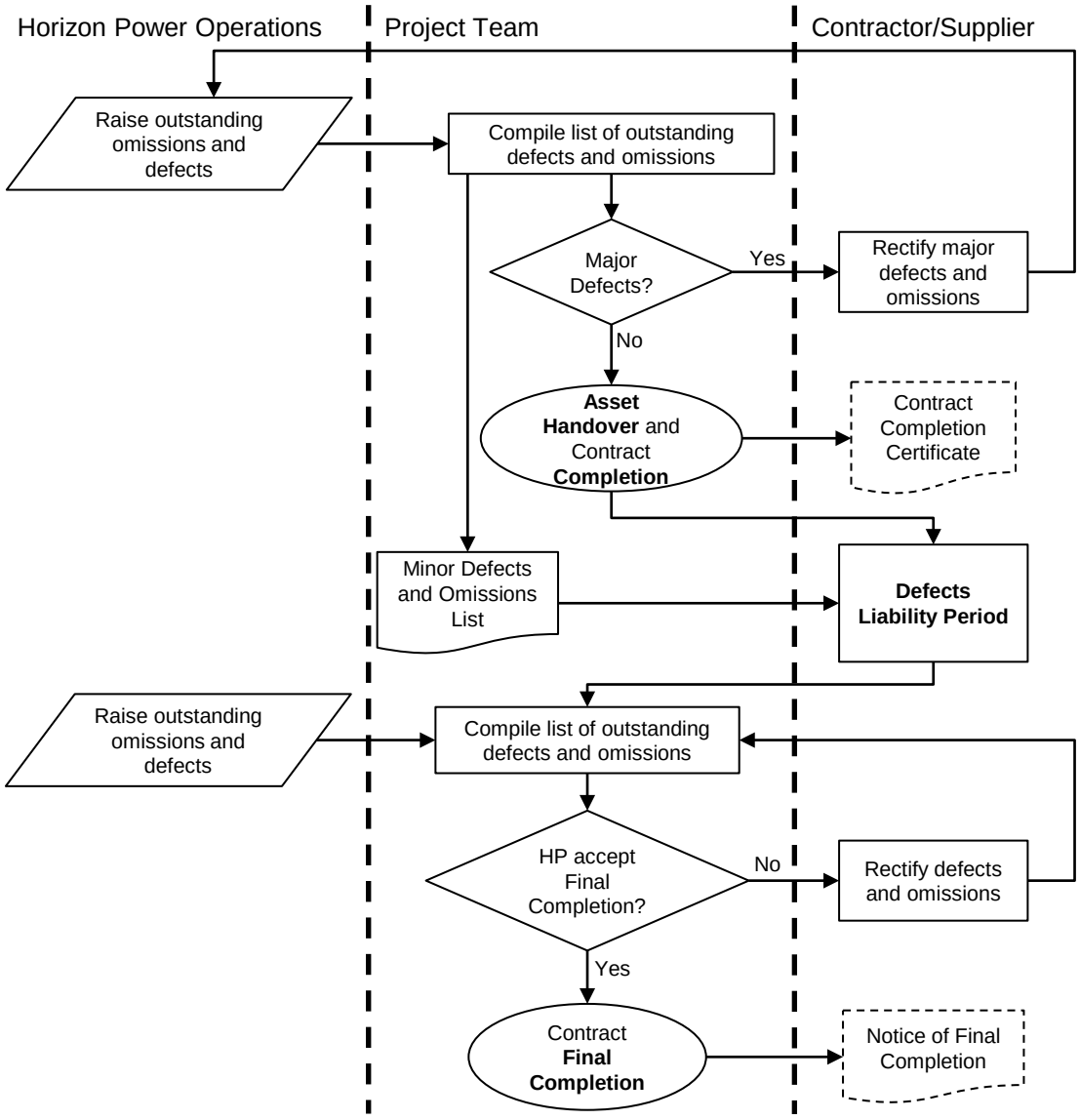

Figure 4 Contract Completion and Contract Final Completion

8.2 Project Benefits Review and Lessons Learned

Operations should contribute to the 'lessons learned' and 'project benefits' reviews, with particular regard to the operational readiness review, operator training, handling trials and operational handover.

APPENDIX A REVISION INFORMATION

(Informative) Horizon Power has endeavoured to provide standards of the highest quality and would appreciate notification if any errors are found or even queries raised.

Each Standard makes use of its own comment sheet which is maintained throughout the life of the standard, which lists all comments made by stakeholders regarding the standard.

A comment sheet **HPC-2NJ-01-0001-COM** (**CS#10: 3310356)**, can be used to record any errors or queries found in or pertaining to this standard, which can then be addressed whenever the standard gets reviewed.

Date	Rev No.	Notes
Apr 2018	3	Incorporate ENSMS processes
Sep 2016	2	Changed review frequency from 1 to 3 years. Incorporated comments from Technology and SCADA.
Aug 2015	1	Document rewritten and named as 'Operations Requirements to Add Assets', revision number reset to 1.0
Nov 2013	0	Original document (DMS 3463384V1) named 'Operations and Asset Handover Guidelines and Procedures'

APPENDIX B OPERATIONAL READINESS REVIEW PROCEDURE

B1. Purpose

The purpose of the Operational Readiness Review is to provide Operations with documented assurance that an Asset or an element of the project is safe to be Energised. It is carried out as specified in the Handover Plan. At a minimum, it verifies the completeness of the Operational Readiness Dossier, and includes an inspection of the Asset (or project element) that will be Energised.

B2. Procedure

Where items in the Operational Readiness Dossier are deemed incomplete or unsatisfactory, Operations shall direct the PM to include these in the project schedule and/or the activity open item list.

The actions and responsibilities for the Operational Readiness Review are described below in Table 1.

Table 1 Actions for the Operational Readiness Review

Responsible Party	Action
Project Manager, Delivery Manager, Senior Supplier	Prepare the Operational Readiness Dossier as specified in the *Handover Plan*.
Project Manager and Senior Supplier	Where an identified action cannot be completed, provide supporting evidence to the Operations Representative.
Design Authority, Senior Customer	Sight and approve the as-built drawings and detailed design documents (part of the Dossier).
Operations Representative	Review the Operational Readiness Dossier for completeness and grant approval Inspect the Asset (or element of the project) and document the inspection
Internal Stakeholders Representative/s	Review all documentation to ensure processes requirements have been met and endorse

APPENDIX C OPERATIONAL HANDOVER PROCEDURE

C1. Purpose

This procedure shall be used when control of an Asset (or an element of the project) is assumed by Horizon Power Operations for normal operational use.

C2. Procedure

The actions and responsibilities for the Operational Handover are described below in Table 2.

Table 2 Actions for the Operational Handover

Responsible Party	Action
Project Manager, Commissioning Manager	Preparation of the Operational Handover Certificate
Relevant construction and commissioning personnel	Acknowledge the Asset is now Energised and controlled by Operations
Operations Representative	Assume control of the Asset and acknowledge the Operational Handover. Liaise with Internal Stakeholders

APPENDIX D ASSET HANDOVER PROCEDURE

D1. Purpose

This procedure shall be used when ownership of an Asset (or an element of the project) is accepted by Horizon Power Operations, and recognised as an asset in computerised management systems.

D2. Procedure

The actions and responsibilities for the Asset Handover are described below in Table 3.

Table 3 Actions for the Asset Handover

Responsible Party	Action
Project Manager	Inform Operations of defects and omissions Preparation of the asset handover documents
Project Manager, Senior Customer	Inspect and document the Asset for inclusion in the Fixed Asset Register
Operations Representative	Verify and approve the asset handover documents
Independent Auditor (appointed by the Project Manager)	Audit the entry and removal of assets in the Fixed Asset Register and associated financial information
Project Manager, Operations Representative	Enter asset details into Enterprise Asset Management system
Project Manager, Operations Representative, Independent Auditor	Complete Asset Handover Certificate
Internal Stakeholders Representative/s	Review all documentation to ensure processes requirements have been met and endorse

APPENDIX E DOCUMENTATION REQUIREMENTS

E1. Handover Plan

The Handover Plan shall contain as a minimum the following:

1) The appropriate content of the Operational Readiness Dossier
2) The appropriate documents for Asset Handover
3) Specify how the entry of new assets into the Fixed Asset Register should be independently audited

The Plan should be tailored to the project's degree of complexity. A checklist format should be used for lists of documents, and for each document, the following should be noted:

- Document name
- CS10 number
- Document owner/author
- Endorsements and approvals required

Where the asset or system to be handed over has considerable complexity or has a Dossier containing a large volume of documents, it may be appropriate to stage the preparation and review of the Dossier. These stages should then be incorporated into the project management schedule.

A template of a handover plan has been provided as Appendix F.

E2. Operational Readiness Dossier

The Operational Readiness Dossier shall contain as a minimum the following:

1) As-built process drawings e.g. Red-lined electrical, protection, control, metering, civil, and mechanical (piping and instrumentation) drawings as authorised by the Project Manager
2) Detailed design documents e.g. equipment specifications, datasheets, and schedules
3) Safety in Design (SiD) report
4) Asset Interaction sheets
5) Pre-commissioning results

6) Compliance certification e.g. Electrical contractor completion notices, Gas installers notices of completion, Certificate of compliance for Type B gas appliances, Worksafe registrations, environmental site licence (completion of environmental Works Approval and confirmation of compliance with site licence conditions), Native Title clearances, Heritage Clearances, dangerous good licence(s).

7) Asset review (for acquisitions only), a due diligence report of the Asset or an element of the project shall be prepared. It shall identify required certification and any issues that will be transferred to the Operations.

8) Operations maintenance procedures and instructions
   a) Operational manuals for the Asset or an element of the project
   b) Control system(s) operating philosophy (functional description)
   c) Permit, isolation and switching procedures
   d) Fire system detection/protection procedures
   e) Site safety procedures
   f) Site security procedures
   g) Maintenance work procedures
   h) Site risk register
   i) Emergency response procedures
   j) Material safety data sheets
   k) Technical procedures

9) Verification of Operations staff capability
   a) Required training is completed and personnel are deemed competent
   b) Personnel are nominated for handling trials

10) Equipment register and computerised management systems are populated
   a) Information technology systems populated with the data required for maintenance and operation

11) Gate checklists for phases 1, 2 and 3 signed by the Project Sponsor, and accepted and signed off by Operations

12) Land planning and local government approvals

13) Basis of design (design assumptions)

14) Records of stakeholder consultations and all approvals received

15) Life cycle management plan

16) Noted consideration of relevant technical standards, interim instructions, and technical bulletins

17) Documentation of installation inspection - confirmation that the Asset or an element of the project has been constructed, removed and or rehabilitated as per the agreed project scope and design. Photographic evidence of these milestones shall be provided as part of the documents.

At the conclusion of commissioning and prior to Operational Handover, the commissioning results should be added to the Dossier.

E3. Operational Handover Certificate

The operational handover certificate shall as a minimum contain the following:

1) A description of the an Asset or an element of the project to be operated by Operations

2) Reference to the relevant operational readiness dossier

3) Acknowledgement with signature and date from the authorised construction party that Operations has assumed control of the Asset (or element of the project)

4) A statement from the authorised construction representative that all construction personnel have been notified, and acknowledge that the Asset (or element of the project) is considered Energised from the date prescribed in the operational handover certificate

5) Where documentation is received electronically from the construction party, and both the parties have access to electronic communication, Operations shall acknowledge that the specific elements are now under their control. Where electronic communication is unavailable or unreliable, this acknowledgement shall be done at the earliest opportunity by electronic messaging.

An example of an Operational Handover Certificate may be found in Appendix N of the *Underground Distribution Scheme Manual* [5].

E4. Asset Handover Certificate

The asset handover certificate should as a minimum contain the following:

1) Acknowledgement (with signature and date) from the Independent Auditor that the Asset or an element of the project has been populated in the computerised management systems

2) Signed approval by the Operational Representative of the asset handover documents (as stated in section 7.13.1)

E5. Certificate of Completion

Completion of a contract can be achieved when a project requirement has been delivered by one or more parties, in accordance with their project brief, approved design, contractual obligations and statutory requirements. It is issued by the principal to the contractor.

Depending on contractual arrangements, Horizon Power may be principal, contractor, or not party to the contract. As a result, Completion may not coincide with Horizon Power's accepting ownership of the Asset. Regardless of the arrangement, a copy of the certificate is required (as part of the asset handover documents) prior to Horizon Power assuming ownership.

A certificate of Completion confirms that all contractual requirements have been met. It typically marks the start of the defects liability period.

Examples may be found in the *Procurement and Contract Management Framework* [3].

E6. Life Cycle Management Plan

The life cycle management plan (also known as life cycle asset management plan) should combine technical and financial techniques to manage the asset over the full life cycle in the most cost effective manner, to provide a specific level of service.

This plan would typically be required for assets or equipment with complex characteristics for operation or maintenance, that would benefit from a specific plan. It would not be appropriate for assets and equipment that will be operated and maintained in accordance with Horizon Power standards or standard industry practice.

APPENDIX F HANDOVER PLAN TEMPLATE

Facility/Project/Activity Name

CS10# ######

Revision XX

PURPOSE

This plan identifies the actions and/or deliverables to be completed for an Asset (or an element of the project) that is to be Energised or restarted.

PROJECT DESCRIPTION

The *[insert the Asset or an element the project description]* is confirmed as completed and is available to be Energised or restated.

DOSSIER COMPLETION

_____	_____	_____
Operations Representative Name	*Signature*	*Date*
_____	_____	_____
Project Manager Name	*Signature*	*Date*

Approval:

_____	_____	_____
Senior Customer Name	*Signature*	*Date*

Approval:

_____	_____	_____
Project Sponsor Name	*Signature*	*Date*

HANDOVER PLAN SUGGESTED FORMAT

Handover Plan

To be read with *Operations Requirements for Adding Assets Guidelines* (CS10# 1995453)

Objectives:

* Capture mandatory documentation required for Asset Handover to Operations
* Ensure all documentation is completed to an adequate standard

Project Name:

Project Sponsor:

Project Manager:

Affected Horizon Power
Branch/Division:

Legend:

Project Class:
M = Mandatory
O = Optional / Recommended

Responsibility:
OR = Operations Representative
PM = Project Manager
PFSM = Property & Facilities Services Manager

	PROJECT INITIATION PHASES	CS10 Reference		Responsibility	Complex	Non-complex	Minor	COMMENTS
		Template	Actual		PROJECT CLASS			
	PHASE 1 CONCEPT: Approved Gate 1 Checklist	1828413		PM	M	M	M	
	PHASE 2 OPTIONS ASSESSMENT & SELECTION: Approved Gate 2 Checklist	1828413		PM	M	M	M	
	PHASE 3 DEFINE & APPROVE: Approved Gate 3 Checklist	1828413		PM	M	M	M	

Project Initiation Phases Verification			
Title	**Name**	**Signature**	**Date**
Project Manager	***Project Manager***		
Delivery Manager	***Delivery Manager***		
Operations Representative	***Operations Rep in Project Structure***		
Assurance Auditor	***Business Authority***		

Legend:

Project Class:
M = Mandatory
O = Optional / Recommended

Responsibility:
DA = Design Authority
OR = Operations Representative
PM = Project Manager
PFSM = Property & Facilities Services Manager
SC = Senior Customer

	DELIVERABLES FROM 'DESIGN AND DELIVER' PHASE	CS10 Reference		Responsibility	PROJECT CLASS			COMMENTS
		Template	Actual		Complex	Non-Complex	Minor	
	As-built drawings and As-built drawing register (approved by PM, DA and SC)			PM	M	M	M	
	Detailed Design Documents (approved by PM, DA and SC)			PM	M	M	M	
	Equipment Specifications and Datasheets			PM	M	M	M	
	Equipment Lists / Schedules / Databases			PM	M	M	M	
	Basis of Design (design assumptions)			PM	M	M	M	
	Safety In Design Report			PM	M	M	M	
	Land planning and local government approvals			PM	M	M	M	
	Environmental, Heritage and Aboriginal land use approvals			PM	M	M	M	
	Records of stakeholder consultations and all approvals received			PM	M	M	M	
	Life Cycle Management Plan			PM	M	M	M	
	Consideration of Horizon Power standards, interim instructions and technical bulletins			PM	M	M	M	
	Pre-Commissioning, Commissioning and Test Reports			PM	M	M	M	
	Compliance Certificates			PM	M	M	M	
	Asset Review Report (Acquisitions only)			PM	M	M	M	
	Operations Maintenance Procedures and Instructions			PM	M	M	M	
	Operations Manual			PM	M	M	M	
	Control System Operating Philosophy			PM	M	M	M	
	Permit, Isolation and Switching Procedures			PM	M	M	M	
	Fire System Detection/Protection Procedures			PM	M	M	M	
	Site Safety Procedures			PM	M	M	M	
	Site Security Procedures			PM	M	M	M	
	Maintenance Work Procedures			PM	M	M	M	
	Site Risk Register			PM	M	M	M	
	Emergency Response Procedure			PM	M	M	M	
	Material Safety Data Sheets			PM	M	M	M	
	Technical Procedures			PM	M	M	M	

Legend:

Project Class:
M = Mandatory
O = Optional / Recommended

Responsibility:
DA = Design Authority
OR = Operations Representative
PM = Project Manager
PFSM = Property & Facilities Services Manager
SC = Senior Customer

	DELIVERABLES FROM 'DESIGN AND DELIVER' PHASE (Continued)	CS10 Reference		Responsibility	PROJECT CLASS			COMMENTS
		Template	Actual		Complex	Non-Complex	Minor	
	Inspection and Test Programmes and Plans			PM	M	M	M	
	Asset Interaction Sheet/s			PM	M	M	M	
	Audit Reports			PM	M	M	M	
	Spares			PM	M	M	M	
	Specialised Tools			PM	M	M	M	
	Verification of Operations Staff capability			OR	M	M	M	
	Computerised Management Systems populated (e.g. ENMAC)			OR	M	M	M	
	Documentation of Installation Inspection			OR	M	M	M	

Verification Of Operational Readiness Dossier			
Title	**Name**	**Signature**	**Date**
Project Manager	***Project Manager***		
Delivery Manager	***Delivery Manager***		
Operations Representative	***Operations Rep in Project Structure***		
Assurance Auditor	***Business Authority***		

Legend: **Project Class:** M = Mandatory O = Optional / Recommended	**Responsibility:** OR = Operations Representative PM = Project Manager PFSM = Property & Facilities Services Manager IA = Independent Auditor

	ASSET HANDOVER	CS10 Reference		Responsibility	PROJECT CLASS			COMMENTS
		Template	Actual		Complex	Non-Complex	Minor	
	Operational Readiness Dossier			PM	M	M	M	
	Asset Handover Documents:							
	Completion Certificate			PM	M	M	M	
	Life Cycle Management Plan			PM/OR	M	M	M	
	Facility management plans signed off by the PM and OR			PM/OR				
	Rehabilitation and/or Demolition requirements confirmed in PMP and funds transferred to Business Services			PFSM	M	M	M	
	Defects and Omissions List			PM	M	M	M	
	Enterprise asset management tool populated with maintenance strategy as per the Life Cycle Plan			PM/OR	M	M	M	PM to facilitate complete entry into Ellipse/GIS/ENMAC. District manager to facilitate set up of MSTs, Standard Jobs in Ellipse.
	Independent audit of entries to Fixed Asset Register			PM/IA	M	M	M	
	Maintenance periods as identified in the contracts			PM	M	M	M	
	Insurance Certificates			PM	M	M	M	
	Warranty Certificates			PM	M	M	M	
	Confirm Assets are in Ellipse through Capitalisation process	1794477		PM	M	M	M	Capitalisation Form process adds assets to Ellipse
	Asset Handover Certificate	1644321		PM	M	M	M	

ASSET HANDOVER APPROVALS:			
Title	**Name**	**Signature**	**Date**
Project Sponsor	***General Manager***		
Senior Supplier	***General Manager***		
Senior Customer (Asset Receiving Area)	***Operational Division***		
Project Manager (Phase 4)	***Networks, Generations***		
Project Manager (Phase 5 & 6) (Receiving PM)	***Governance & Systems***		
Independent Auditor			