Options Evaluation Report (OER)

Operational Evolution

TransGrid

Approvals

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Change history

Revision	Date	Amendment
1.0	15 Nov 2021	Updated for latest submission version and renamed to version 1.0

Executive summary

Over the next five years, we will be involved in several large complex projects and joint ventures with interstate partners, such as ElectraNet, to support the future grid by building vital infrastructure that will connect new renewable generation and improve services to customers.

The total value of the portfolio of projects to be delivered in the 2023-28 regulatory period is currently forecast at $4.95B and involves several complex megaprojects (>$1 billion). This represents a substantial shift in our business-as-usual work program, which has historically comprised of smaller scale projects. Having a modern and fit-for-purpose project management system will be crucial to the on time and on budget delivery of our forward work program.

Our current project management system, Microsoft Project and Portfolio Management (PPM), has significant limitations in managing both major and minor projects. PPM is a legacy system that will not be supported by our current vendor after [redacted] and is already experiencing slow performance and stability issues. Nor does PPM provide many of the funcitonalities now standard for modern project management systems, such as the industry standard, [redacted]. Specifically, PPM cannot:

- Provide budget and cashflow reports and forecasts
- Control costs in megaprojects by releasing funds progressively over project life
- Undertake detailed analysis of projects, including trend analysis, allowing us to better manage project overruns
- Record more than 10,000 tasks for a project, which is essential for megaprojects.

As a result, contractors on megaprojects no longer use PPM.

Thus, our current project management system limits our ability to manage our forward work program in an efficient and prudent manner. It requires labour intensive workarounds, such as manually producing cashflow reports, which is not scalable and introduces risk of significant error in our reporting and analysis. On a megaproject, we have to engage a consultant to use their project management system and then manually input the data into PPM, which is costly and time consuming, and means we do not have access to the most recent project data.

Our base case option involves maintaining our existing PPM application and digital core capabilities, with upgrades to PPM server infrastructure to address stability issues and perform essential maintenance of our cloud systems. As the base case involves the continued use of our existing system, many of the current issues we experience will continue to exist. Under this case, PPM will be unable to manage large projects and we will need significant manual workarounds to produce standard reports.

Option 1 (Replace project management solution) involves replacing PPM with an integrated hybrid cloud solution that incorporates the industry standards system [redacted] and undertaking essential maintenance on our core business systems. Option 1 will give us a modern project management and reporting solution, allowing us to better manage our forward work program and meet our reporting requirements to the Australian Energy Regulator (AER). This option will also allow us to introduce updated and modern core system to run HR, risk management, procurement, works maintenance, assets management and finance functions.

Option 2 (Replace project management solution and expand digital core capabilities) augments Option 1 by also expanding our digital core capabilities to optimise inventory, asset and workforce management.

Table 1 below presents our analysis of outcomes of the base case and the different options. Our analysis indicates that Option 2 is the preferred option.

Table 1: Options assessed in this OER

Option	Description	Direct Capital Cost ($m)	Network & Corporate Overheads Cost ($m)	Total Capital Cost ($m)	Net Present Value (NPV) ($m)	Rank
Base Case	Maintain current systems and perform essential maintenance	[redacted]	[redacted]	7.39	($6.36)	3
Option 1	Replace Project Management solution and perform essential maintenance	[redacted]	[redacted]	13.14	$4.24	2
Option 2	Option 1 plus expand on Digital Core capabilities	[redacted]	[redacted]	16.44	$11.30	1

The proposed capital expenditure for the preferred option, Option 2, is summarised below:

Table 2 Financial summary – Option 2

IT Capex ($M)	FY24	FY25	FY26	FY27	FY28	TOTAL
Recurrent costs	$4.35	$3.43	$1.37	$4.00		$13.15
Non-recurrent costs	$2.21	$1.08				$3.29
TOTAL	***$6.56***	***$4.52***	***$1.37***	***$4.00***		***$16.44***

The numbers in this OER represent the total cost of ownership for an asset consistent with past submissions. There has been a change in accounting practices associated with IFRS[1] that has come in place.
The proposed capital expenditure for preferred option in this OER shown with IFRS impact is below

IT Capex IFRS ($M)	FY24	FY25	FY26	FY27	FY28	TOTAL
Recurrent costs	$0.362	$0.257	$0.226	$0.631	$0	$1.476
Non-recurrent costs	$0.441	$0.099	$0	$0	$0	$0.540
TOTAL	***$0.803***	***$0.356***	***$0.226***	***$0.631***	***$0***	***$2.016***

The capex impact to this OER from the ruling is substantial due to the SaaS solutions proposed in the preferred option.

[1] International Financial Reporting Standards Foundation (IFRS Foundation) ruling means that in the 2023-28 period we will expense costs for configuration or customisation in cloud computing arrangements, whereas in the 2018-23 regulatory period these costs were treated as capex.

1. Need/Opportunity

1.1 Background - why is this important?

Our network is the backbone of the National Electricity Market (NEM), which enables energy to be traded between the states. As Australia transitions to a clean energy future, the transmission network must expand to deal with three times the previous generation capacity. It also needs new interconnectors that support higher levels of import and export of different types of renewable energy between the states.

Over the next five years, we will be involved in several large complex projects and joint ventures with interstate partners, such as ElectraNet, to support the future grid by building vital infrastructure that will connect new renewable generation and improve services to customers.

The total value of the portfolio of projects to be delivered in 2023 to 2028 is currently forecast at $4.95B, the portfolio involves several complex megaprojects (cost of investment larger than $1 billion). This represents a substantial shift in our business-as-usual work program, which has historically comprised of smaller scale projects. Having a modern and fit for purpose project and management system is crucial to the on time and on budget delivery of our forward work program.

[redacted] this Operational Evolution initiative recommends replacing PPM with an integrated hybrid cloud solution that includes the industry standard system.

This will improve:

- *Project delivery and management*: The current PPM occludes project visibility, increasing the risk of projects not being delivered on time and leading to cost over runs.
- *HSE outcomes*: Without access to current project information, we increase the risk of work, health, and safety and environment impacts to project teams on our construction sites.
- *Compliance*: The major projects in our pipeline have contractual arrangements that need to be managed and are subject to KPI reporting to the AER. Our current project management solution is non-compliant and inadequate to manage and report on projects of the planned scale and complexity in our major projects pipeline.
- *Data quality*: Many of our business decisions rely on the data captured in our systems. Our current labour-intensive and error prone processes affect the reporting accuracy and the quality of data analysis.

1.2 Limitations of our current system

1.2.1 Overview of our current system

We are currently using a heavily customised on-premise implementation of Microsoft PPM to manage projects of all levels of scale and complexity, including multi-million dollar programs of work. PPM Integrates to our core finance system and data warehouse, as well as bespoke tools and spreadsheets, and supports our project management function. We manage and track project governance documentation in our Project Document Governance System (PDGS), [redacted]

In 2016, Microsoft PPM was the latest software, which met our project management needs. However, since then, both the scale and complexity of our projects and the need to undertake big data analysis has increased exponentially. As a result, PPM is no longer fit for purpose for managing either major or minor projects.

An upgrade to a more recent, supported version of PPM, has been considered. However, this solution would not address the following requirements:

- *Management of mega projects: the maximum tasks that can be recorded by PPM is 10,000 tasks per project. This is insufficient for mega projects, which involves more than 10,000 tasks; and*
- *Integration with other systems: we would incur additional integration cost as other systems* [redacted]

1.2.2 Limitations on managing our daily project management activities

PPM's significant limitations are due to its age and outdated functionality. [redacted] The system also lacks many of the standard funcitonalities available in modern project management systems. As a result, PPM is unsuitable to manage our forward work program in an effective and prudent manner.

[redacted]

1.2.2.3 Limited functionality

Our evolving business increasingly demands data visualisation and sophisticated, granular reporting. Every month, our project managers are required to produce costing or cashflow reports and forecasts with these requirements. With PPM project data offline and hosted in Excel spreadsheets, project managers are unable to drill down in projects and analyse trends or quickly build scenarios or present effective risk and opportunity reporting. The result is many hours of manual work on tasks that in a modern system would take a fraction of the time.

In short, PPM does not offer the array of functionality benefits available in modern project management platforms, including:

- Cashflow reporting, budgeting and forecasting
- Live/on demand project contract cost status, program level cost and progress reporting
- Demonstrable governance with a full audit history of changes
- Prioritisation of project hygiene factors, particularly once the project has reached energisation
- Strong disciplines around portfolio management, contingency management, forecasting and budgetary controls to improve commerciality
- Effective lessons learned routines
- Strong accountability to keep behaviours in check

Without modern project management functionality, risks are increasing. Key issues include:

- Inability to control costs by releasing funding progressively over the project life, matching to packages and utilising any surplus savings from procurement effectively, which is beneficial for larger projects
- Poor variation management claims management and scope change management. PPM cannot differentiate between claims identified, submitted and approved
- Poor workflow management for document flows, with only basic links to our PDGS
- Ineffective governance to control changes to projects, cost flows and close out due to a lack of exception reporting, workflow management and poor definition of delegations of authority
- Lack of support for interfaces to capitalisation routines

1.2.2.4 Consequences for daily project management

The key limitations of PPM affecting both major and minor projects are:

[redacted]

- *Manual processes*: Our project managers need to manually produce many of the reports and analysis that are standard outputs from modern solutions

[redacted]

- *Risk of material over-spend:* Because staff cannot properly monitor and manage total project costs and contractor costs
- *Poor Data Quality:* Data errors, out-of-date information, incorrect reporting and unauthorised changes
- *Lack of granularity:* Preventing the business from being able to break down projects into manageable components or drill down easily into cost breakdowns to track the reasons for over-spend

1.2.3 Limitations on ability to manage major projects

1.2.3.1 Current situation

No versions of Microsoft PPM are suitable for managing large projects because they lack resource planning capabilities and are no longer used by contractors on megaprojects.

Microsoft Project, on which all versions of PPM run, cannot allocate a named resource to a task or assign a resource via a workflow. This means a project manager can only allocate generic roles and requirements to a task and does not have a view of named resource allocations to identify what availability the resource has for future tasks. As a workaround, the project manager must use a disparate system.

Most contractors on megaprojects use the industry standard project management system, [redacted], to provide us with schedule and milestone data, and they are unwilling to adopt alternative solutions. As we do not have this software, for each project we have to employ a contractor who uses their own [redacted] to read the schedule, and generate the milestone and schedule data. The [redacted] contractor provides this data to TransGrid, and a manual handling process imports the contractor's partial [redacted] data into our PPM system.

As well as being inefficient, the time delay caused by the manual process means we do not have live/on demand project contract cost status or program-level cost and progress reporting. This creates a material risk of overspending because we cannot properly monitor and manage total cost and contractor cost.

[redacted] We expect the number of major projects to increase substantially over the next few years, making this process increasingly difficult and unmanageable.

[redacted]

1.2.3.3 Consequences for our ability to deliver major projects

As well as the issues identified above, in the context of delivering megaprojects (>$1 billion dollars), PPM:

- *Is unable to manage the scale of the project information*. PPM has a maximum limit of recording 10,000 tasks but major projects can have substantially more than 10,000 tasks
- *Constrains our ability to deliver major projects*. The lack of visibility on current project status hinders our ability to deliver major projects on time and on budget.
- *Requires additional, expensive administrative support resources:* We currently have one full-time resource dedicated to managing the PPM solution and numerous administrative resources working on major projects. This is expected to increase over time as major projects grow.

1.2.4 The need to change our PDGS

Our PDGS is also a legacy system, closely related to the PPM system, and integrated with [redacted]. Key limitations of PDGS are:

- [redacted] because the system is no longer fit for purpose.
- *Outdated governance and processes:* Project managers must manually manipulate the data to align with current governance and processes to meet their reporting requirements.
- *Poor data quality:* Data is unavailable for reporting, impacting decision-making.

1.3 Our Digital Core capabilities

1.3.1 Our current Digital Core Capabilities

The Digital Core program has enabled us to move our ERP from an outdated on premise platform to modern cloud-based solutions. This strategic move aligns with technology market trends and allows the business to securely work online.

[redacted]

The typical contract duration and lifetime of software products is five years, at which point they are migrated to a more recent version.

1.3.2 Enhancement to our Digital Core capabilities and better management of our inventory, assets and workforce

We are also in the process of considering further expansions to our Digital Core capabilities. Replacing our existing PPM will allow us to expand our digital capabilities in other areas, including better management of our inventory, assets and workforce to optimise costs. Initial implementation of these systems covered only basic functionality.

Most of our Asset Management, Workforce Management and Inventory Management core functions are included in our current [redacted] implementations. However, a number of ineffective, outdated processes are not in scope of any projects scheduled for delivery in the current regulatory period. These include:

- *Inventory optimisation* – We currently use a basic inventory optimiser embedded within Ellipse, which will be retired when the Digital Core program implements the replacement [redacted] system. The data is not sufficiently rich or reliable to drive inventory optimisation to the desired level. We need a more sophisticated inventory optimisation engine to improve material availability leading to improved maintenance efficiency and effectiveness (such as wrench time and predictive maintenance), and increased labour productivity (parts at the right place and time, and automated inventory processes). This will help us to reduce net inventory through active stock rundown and non-stock rundown, less stranded or obsolete stock and better management of insurance spares.
- *Works and asset management* – We currently cannot optimise work between contract and internal labour. Nor can we align labour skills and availability to optimise the utilisation of mobile plant, manage resources effectively and safely, or manage and analyse project costs at Work Order level. We cannot manage the configuration of network assets to optimise corrective work and minimise network outages or enable field workers to easily identify and order replacement parts on-site.

[redacted]

2. Related Needs/Opportunities

Related ICT Programs/OERs. This table describes why this Operational Evolution OER is important to the other OERs.

ICT Programs/OERs	Importance to other OERs*	Relationship commentary
Cyber Security	Low	Low level of importance to Cyber OER. The Operational Evolution OER will adhere to the guidelines proposed for Cyber Security.
Customer Safety & Support	Low	N/A
Employee Enablement	Low	N/A
Infra. & Network	Low	The Operational Evolution OER will impact the Infrastructure footprint however, it should be minimal.
Data and Decisioning	Low	The Operational Evolution OER will adhere to the guidelines proposed for data management.
Application Maintenance / Bespoke	Low	N/A

* KEY
High – the OER is essential from a functional or compliance perspective to another OER
Medium –the OER is required to fully realise the benefits of another OER or would result in a change in scope
Low – the OER is has a low level of dependency to another OER

3. Options

3.1 Base case – Maintain current systems and perform essential maintenance

The base case will maintain our existing project management solution and existing cloud-based solutions delivered as part of the Digital Core program. The base case also involves investing in at least nine new servers to address stability issues experienced by our current project management solution.

Under the base case, as we will still be using a legacy project management tool, many of the limitations we currently experience will continue. Specifically, we will:

- Continue to have a system that does not have many of the functionalities of a modern project management system, such as generate budget/cashflow reports or undertake trend analysis. This will:
  - Hinder our ability to deliver our forward work program on time and on budget, particularly for large projects
  - Mean project managers incur additional time when undertaking standard analysis and generating standard reports, which also introduces the risk of error in our analysis and reporting.

[redacted]

- Not be able to improve our existing Digital Core capability. However, we will ensure the cloud software implementations remain current, supported and secure by conducting essential maintenance technical upgrades when the contract term expires after five years.

3.1.1 Financial summary

The total IT capital expenditure for the Base Case is estimated to be **$7.39m** spread across the five-year regulatory period as shown below:

Table 3: Financial summary - Base Case

IT Capex ($m)	FY24	FY25	FY26	FY27	FY28	TOTAL
Recurrent costs	$0.45	$1.57	$1.37	$4.00	$0	$7.39
Non-recurrent costs	0	0	0	0	0	0
TOTAL	***$0.45***	***$1.57***	***$1.37***	***$4.00***	***$0***	***$7.39***

(Refer to separate costing models for detailed breakdown of these costs)

The costs above do not factor in the labour costs required for the manual workarounds associated with maintaining current version of the PPM. If the base case eventuates, we estimate our project managers will need to spend an additional 400-800 days each month processing monthly forecasts and reports. We will also need to hire two additional data analysts to help project managers produce reports. This equates to a cost of [redacted] per year, as calculated on the following basis:

- Each month, our 200 project managers are required to 'close the month' by processing their forecasts and producing monthly reports. Monthly activities include:
  - forecasting of the future project spend
  - confirming and updating numbers to be locked in
  - checking milestones with vendor's and internal people for labour costing and updating these in the system, then run monthly status reports
  - update forecasts and verify that all updates were correctly reflected (with current PPM this step may need to be performed multiple times as system overload causes updates to stall) and
  - check risks and changes and prepare portfolio board pack.

- It currently takes project managers 3 to 5 days to ‘close the month’, noting that if there is a system failure (as system is unsupported) the time and effort to complete these activities could double
- Using a modern project management system, it would take 1 day for each project manager to ‘close the month’
- The salary of a project manager is on average $ [redacted] based on our current enterprise agreement
- Two additional data analysts would be required on an ongoing basis to assist in producing project reports, at an estimated cost of [redacted]

3.1.2 Risk Assessment

The specific risks and mitigations associated with the Base Case option are:

Table 4: Risk Assessment - Base Case

Category	Risk	Inherent Risk	Mitigation	Residual Risk
Worker Health and Safety	The inability to access timely and relevant project information about the power network could lead staff into potentially dangerous situations.	MEDIUM	Providing additional resources to manually process information could still result in errors being made such as the incorrect scheduling of equipment at a site could force staff to work without the correct tools, which might lead to an injury.	MEDIUM
Reputation	We have joint ventures with partners are being managed in an unsustainable solution which can lead to incorrect formulas being used. The inefficiencies of PPM could affect the relationships with third parties working with us on infrastructure projects.	MEDIUM	Implementing detailed checks for managing joint ventures could reduce the number of manual errors but may introduce additional resourcing overhead. Infrastructure projects adopting [redacted] for managing projects will improve the relationships with third parties working with us.	MEDIUM
Compliance	Because PPM does not have the capability to maintain KPIs the workaround requires creates a significant risk legislative reports will not be available on time to the AER. If PPM is unavailable for a period of time, limited vendor support to recover the application will result in project delays and cost overruns. This can also impact on our ability to provide the AER with the reports on capex. Inability to meet ATO or other external compliance requirements.	HIGH	Engage consultants to manage KPIs in [redacted] and manually covert the data into a suitable solution. This introduces additional resources and associated costs.	HIGH
Reliability (system)	PPM is hosted on an unstable platform and can be down for a period of time. PPM is not designed to process large volumes of project information. This is a significant risk to processing our financials such as reporting on capex.	HIGH	Implementing 9 severs to provide a stable platform will assist in mitigating the stability of the platform. But it will not address PPM’s design issue of not being able to process project tasks in excess of 10,000 or lack of support.	HIGH
Finance	There is a risk of inaccurate data in the reports because the manual processing does	HIGH	Implementing detailed checks for managing revenue and grants will reduce the number of manual errors but may introduce additional resourcing overhead.	HIGH

Category	Risk	Inherent Risk	Mitigation	Residual Risk
	not allow us to reconcile revenue efficiently. Using unsustainable solutions for managing revenue and grants can lead to an error in formals being used, resulting in TransGrid reporting incorrect data to partners and the AER.			
People/IR	Key person risk of relying on one business resource to support PPM users	MEDIUM	Introducing new staff and training them in PPM will lower the risk to the business.	MEDIUM
Environment	Inadequate information availability to project construction staff regarding site-specific environmental matters create environmental and safety issues for workers.	MEDIUM	Providing easy access to information may assist in providing site staff with environmental hazard information which will reduce the environmental risks and improve safety practices.	MEDIUM

Under the Base Case option, the residual risk associated with this approach is illustrated in the table below:

Table 5: Residual Risk Assessment - Base Case

	WHS	Reputation	Compliance	Reliability	Finance	People/IR	Environment	Risk
Likelihood	Likely	Likely	Likely	Likely	Likely	Likely	Likely	MEDIUM
Consequence	Minor	Minor	Moderate	Moderate	Moderate	Minor	Minor	
Risk Level	MEDIUM	MEDIUM	HIGH	HIGH	HIGH	MEDIUM	MEDIUM	

Extending the existing applications and tools with limited adaptability and information, together with complex manual processes has been assessed as inconsequential to altering existing risk profiles. There are marginal differences to the underlying likelihoods and consequences when compared to the current state assessment.

The overall risk rating remains at MEDIUM with minimal change in the category risk ratings.

3.2 Option 1 – Replace project management solution and perform essential maintenance

Option 1 involves replacing our existing [redacted] with an integrated hybrid cloud solution [redacted] and undertaking essential maintenance on our core business systems. Option 1 will give us a modern project management and reporting solution that meets industry standards, allowing us to better manage our forward work program and meet our reporting requirements to the AER.

This option will also allow us to introduce an updated and modern core system to run HR, risk management, procurement, works maintenance, assets management and finance functions. We will expand our [redacted] capability to enable the seamless, accurate transfer of data between these systems.

This option delivers a modern project management solution sustained by vendor and mainstream support that will:

- Enable us deliver our forward work program in an effective and efficient manner, particularly for large projects
- Improve HSE outcomes
- Support compliance
- Remove the need for risky and expensive workarounds
- Significantly reduce the time spent by project managers on monthly reporting
- Underpin our Digital Core capabilities

3.2.1 Financial summary

The total IT capital expenditure for this option is estimated to be **$13.14M** spread across the five-year regulatory period as shown below:

Table 6: Financial summary – Option 1

IT Capex	FY24	FY25	FY26	FY27	FY28	TOTAL
Recurrent costs	$4.35	$3.43	$1.37	$4.00	$0	$13.14
Non-recurrent costs	$0	$0	$0	$0	$0	$0
TOTAL	***$4.35***	***$3.43***	***$1.37***	***$4.00***	***$0***	***$13.14***

(Refer to separate costing models for detailed breakdown of these costs)

3.2.1.1 Quantifiable benefits

The quantifiable benefits associated with this option are follows:

Table 7: Quantifiable benefits – Option 1

Benefits $m	FY24	FY25	FY26	FY27	FY28	*TOTAL*
Time savings benefits	$0	$0	$2.4	$2.4	$2.4	***$7.2***
Total benefits	***$0***	***$0***	***$2.4***	***$2.4***	***$2.4***	***$7.2***

Given the cost of persisting with base case and using labour intensive, manual workarounds would cost an estimated [redacted] million per year. We estimate the quantifiable benefits associated with Option 1 from time savings alone would be $7.2 to $14.4 million in the first three years following the system implementation, and $12M up to $24M throughout the five-year life time of our new project management system.

We also expect that Option 1 will help us deliver our forward work program on time and on budget. The size of our forward work program (portfolio value of $4.9 billion) means that even a very small (0.25%) reduction in overruns would justify our investment in a new project management system. Importantly, our forward work program assumes we will be able to deliver our projects on-time and on-budget, which relies on having a fit for purpose project management system.

3.2.1.2 Non-quantifiable benefits

In addition, the new project management solutions will:

> Reduce errors in our reporting and analysis, helping to ensure compliance with our reporting requirements to the AER.

> Reduce the complexity of the IT environment by optimising Oracle's capabilities in project management.

3.2.1.3 Net Present Value (NPV)

The overall 10-year NPV of this options is $4.24M.

3.2.2 Risk Assessment

Under the Option 1, the residual risk associated with this approach as illustrated in the table below:

Table 8: Residual Risk Assessment – Option 1

	WHS	Reputation	Compliance	Reliability	Finance	People/IR	Environment	Risk
Likelihood	Likely	Likely	Likely	Likely	Likely	Likely	Likely	MEDIUM
Consequence	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	
Risk Level	LOW	MEDIUM	LOW	MEDIUM	MEDIUM	LOW	LOW	

Option 1 will leverage Oracle's project management capability, providing a project management solution that reduces consequences to minimal across all risk categories. The likelihood of disruption remains the same because this option changes the consequence of an occurrence but has a minimal impact on frequency.

The overall risk rating remains at MEDIUM with minimal change in the category risk ratings.

3.3 Option 2 – Option 1 plus expand on Digital Core capabilities

Option 2 (replace project management solution and expand digital core capabilities) augments (Option 1) by expanding our digital core capabilities (see section 1.3.2) to optimise inventory, asset and workforce management, including by implementing [redacted].

As well as delivering all the benefits in Option 1, Options 2 will:

- Improve inventory, asset and workforce management through the investment in new digital core capabilities to:
  - Optimise our inventory levels through improved visibility of inventory and optimisation capabilities;
  - Improve maintenance efficiency and effectiveness (wrench time, MTTR, PM compliance, schedule compliance) via improved material availability.
  - Increase labour productivity via workload prioritisation, prescriptive analytics and automating manual processes
- Improve integration between our inventory, asset and workforce management software and project management software. This would reduce the need for manual rework of data, mitigating the risk of human error, enabling us to better meet our reporting obligations and adapt our digital capabilities to meet changing business needs.

3.3.1 Financial summary

The total IT capital expenditure for this option is estimated to be **$16.44M** spread across the five-year regulatory period as shown below:

Table 9: Financial summary – Option 2

IT Capex	FY24	FY25	FY26	FY27	FY28	TOTAL
Recurrent costs	$4.35	$3.43	$1.37	$4.00	$0	$13.14
Non-recurrent costs	$2.21	$1.08			$0	$3.29
TOTAL	***$6.56***	***$4.52***	***$1.37***	***$4.00***	***$0***	***$16.44***

(Refer to separate costing models for detailed breakdown of these costs)

3.3.1.1 Quantifiable benefits

The quantifiable benefits associated with this option are follows:

Table 10: Quantifiable benefits – Option 2

Benefits $m	FY24	FY25	FY26	FY27	FY28	*TOTAL*
Financial benefit 1	$0	$0	$2.4	$2.4	$2.4	***$7.2***
Financial benefit 2	$0	$0	$3.0	$1.5	$1.5	***$6.0***
Total benefits	***$0***	***$0***	***$5.4***	***$3.9***	***$3.9***	***$13.2***

In addition to the $12M to $24M direct benefits delivered under Option 1, implementing [redacted] is estimated to deliver further benefits in the range of $6M to $13M over three years.

The high-end value of $13M over three years based on $38M total value of inventory and assumes a number of industry averages where TransGrid specific data points was not available. For example, industry averages put Active

and Slow Stock levels at 35% of overall inventory and Inactive material at 20% of overall inventory. Given TransGrid may differ from the industry average; we are only claiming 50% of the $13M benefit in our business case.

The benefits will come from:

- *Optimised Net Reduction* - Held inventory reset to new optimised stock levels (the difference between old and new maximum levels), with the caveat that "optimised means no service level loss"
- *Capped Growth* - Inventory value growth based on additional annual growth rates
- *Net Spend Reduction* - Experience shows that nearly all businesses manage inventories with net excess stock levels. At system, Go Live to get stock levels within the revised min/max levels spend will increase to offset any gaps/shortfalls in stock and reduce where excess stock exists. The figure below only includes Year 1 savings.
- *Decreased Holding Costs* - As inventory stock levels decrease the cost of holding it reduces. This is a general rule that applies even if not paying for floor space, so it can be considered as avoiding the cost of provisioning extra warehouse space
- *Cost of Capital Savings* - A reduction in inventory value leads to a corresponding reduction in the cost to service

Table 11: Quantifiable benefits breakdown – Option 2

Benefit Type	Year 1	Year 2	Year 3	*Total*
Optimised net reduction	$1.8	$0.7	$0.7	***$3.2***
Capped growth (2%)	$0.4	$0.4	$0.4	***$1.2***
Net spend reduction	$0.4	$0.0	$0.0	***$0.4***
Decreased holding costs (12%)	$0.2	$0.2	$0.2	***$0.6***
Cost of Capital savings (6%)	$0.2	$0.2	$0.2	***$0.6***
Disposal & Salvage (2%)	$0.0	$0.0	$0.0	***$0.0***
Total	***$3.0***	***$1.5***	***$1.5***	***$6.0***

[redacted] embarked upon this journey in 2018 and it has achieved multiple benefits, particularly for works delivery, but also on safety, finance and procurement.

We have only quantified the benefits from an improved ability to optimise inventory levels. We expect that improved capabilities to asset and workforce management could also deliver significant benefits. By way of example, our annual spend on assets and workforce is on average $85 million per year. A 1 per cent reduction in these costs would represent an annual benefit of $0.85 million per year.

3.3.1.2 Non-quantifiable benefits

In addition to the non-quantifiable benefits identified for Option 1, the expanded Digital Core capabilities proposed in Option 2 will:

- Reduce the complexity of the IT environment by optimising [redacted] capabilities in project management and finance
- Improve reporting capability by having a single financial solution enabling data insights.
- Improve TransGrid's ability to manage our workforce and assets by conferring multiple new capabilities, including: optimising work between contract and internal labour; configuring network assets to optimise corrective work and minimise network outages; and enabling field workers to easily identify and order replacement parts on-site.

3.3.1.3 Net Present Value (NPV)

The overall 10-year NPV of this options is $11.30M.

3.3.2 Risk Assessment

Under the Option 2, the residual risk associated with this approach is illustrated in the table below:

Table 12: Residual Risk Assessment – Option 2

	WHS	Reputation	Compliance	Reliability	Finance	People/IR	Environment	Risk
Likelihood	Likely	Likely	Likely	Likely	Likely	Likely	Likely	LOW
Consequence	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	
Risk Level	LOW	LOW	LOW	LOW	LOW	LOW	LOW	

Option 2 will leverage [redacted] financial capability, providing project and financial management solutions that reduce consequences to minimal across all risk categories. The likelihood of disruption remains the same because this option changes the consequence of an occurrence and there is a minimal impact on frequency.

The overall risk rating remains at LOW with minimal change in the category risk ratings.

3.4 Options considered and not progressed

Option	Reason for not progressing
Do Nothing Option	'Do Nothing' requires TransGrid to accept unwanted increases to our risk profile around Reputation and Operational/Compliance because it maintains an unstable and unsupported project management solution along with many manual processes that sustain core finance business processes. This option is not a reasonable long-term solution because it would result in capital program funding being used in a non-optimal way, does not allow any new capability to address future business needs and will become increasingly risky and expensive to maintain.

4. Evaluation

4.1 Options Evaluation Summary

This OER recommends replacing the project management solution and expanding our digital core capabilities to provide the business with the required functionality for maintaining a continuous service into the next regulatory period.

4.2 Commercial Evaluation

Table 13: Commercial evaluation based on 4.8% discount and asset life of 10 years

Option	Description	Capex ($m)	Benefits ($m/p.a)	NPV ($m)	Rank
Base Case	Maintain current systems and perform essential maintenance	$6.36	N/A	($6.36)	3
1	Replace project management solution and perform essential maintenance	$11.76	$7.2	$4.24	2
2	Option 1 plus expand on Digital Core capabilities	$14.86	$13.2	$11.30	1

(Refer to separate costing models for detailed breakdown of these costs)

Discount rate sensitivities based on our current AER-determined pre-tax real regulatory WACC of 2.23% and 7.37% appear in the table below.

Table 14: Discount rate sensitives

Option	Description	Discount rate at 2.23% NPV $m	Discount rate at 7.37% NPV $m
Base	Maintain current systems and perform essential maintenance	($6.88)	($5.89)
1	Replace project management solution and perform essential maintenance	$6.21	$2.68
2	Option 1 plus expand on Digital Core capabilities	$14.71	$8.55

4.3 Risk assessment

The relative risk assessments of each of the considered options is illustrated in the table below:

Table 15: Risk Assessment – options comparison

Options	WHS	Reputation	Compliance	Reliability	Finance	People/IR	Environment	Risk
Base Case – Maintain existing systems and perform essential maintenance	MEDIUM	MEDIUM	HIGH	HIGH	HIGH	MEDIUM	MEDIUM	MEDIUM
Option 1 – Replace project management solution and perform essential maintenance	LOW	MEDIUM	LOW	MEDIUM	MEDIUM	LOW	LOW	LOW
Option 2 – Option 1 plus expand on	LOW	LOW	LOW	LOW	LOW	LOW	LOW	LOW

Options	WHS	Reputation	Compliance	Reliability	Finance	People/IR	Environment	Risk
Digital Core capabilities								

Option 2 maintains the lowest risk profile and is the most prudent investment.

5. Preferred Option

This report recommends proceeding with Option 2 – Enhance cloud-based platforms to expand on Digital Core capabilities.

The tables below outline the investment, any potential step change in operating costs and the associated benefits of the preferred option.

5.1 Estimated capital costs

Table 16: Estimated Capital Costs – Preferred Option

Category	Item	Budget ($m)
Material	[redacted]	[redacted]
Labour	[redacted]	[redacted]
	[redacted]	[redacted]
Capex Total:		**$16.44**

5.2 Estimated Opex Step Change

Table 17: Estimated Opex Step Change – Preferred Option

Opex Step Change ($m) Year of Change	FY24	FY25	FY26	FY27	FY28	End Of Period
Self-funded OPEX step change.		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

5.3 Benefits

Table 18: Benefits – Preferred Option

Benefit	$m/p.a
EPM Cost avoidance [redacted]	$2.4
Up to $6M over 3 years including improved maintenance efficiency and effectiveness and net inventory reduction.	$2.0
Benefits Total:	**$4.4**

*Please note benefit calculations will be refined when each of the projects are scoped in detail.

[redacted]