Investment Evaluation Summary (IES)

Project Details:

Project Name:	Business Management Systems General Program of Work
Project Id:	IT.SFT.02
Thread:	Information Technology
CAPEX / OPEX:	OPEX
Scope Type:	C
Service Classification:	Standard Control
Work Category Code:	ITC
Work Category Description:	IT & Communications
Record Point ID:	R0000131254
Preferred Option Description:	Delay upgrades business management systems (BMS) until end of supported life.

	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Estimate ($)	0.5M	0.5M	0.5M	0.5M	0.5M	0.5M	0.5M	0.5M	0.5M	0.5M
Total ($) **2017-2019**	$1,039,656									
Total ($) **2017-2027**	$5,198,280.00									

Governance:

	IES Section 1		IES Section 2	
Business Unit Review:	██████████		██████████	
Thread Endorsed:	████████	18/05/2015	████████	18/05/2015
Project Approver:				

Document Details:

Version Number:	1.0

Section 1 (Gated Investment Step 1)

1. Background

This initiative details a number of TasNetworks' business applications that will need to be upgraded during this regulatory period. Generally speaking, these applications are not large (i.e. are considered to be secondary applications) and have therefore not warranted their own initiative.

The software solutions covered by this program of work are integral to the successful operation of TasNetworks.

TasNetworks are continuously exploring ways to increase their efficiency and improve effectiveness. These efficiencies are often being achieved through the strategic implementation of software solutions to streamline / automate business processes, or even make some processes completely obsolete. As such, demand from the business for IT application services remain consistently high and is not expected to reduce during the forthcoming regulatory period.

1.1 Investment Need

TasNetworks operates a large number of software applications to support the entire business. IT applications are assets that require continual upgrades to ensure service reliability, maintain performance and manage corporate risks. In addition, evolving business environments and objectives often alter business requirements for software. As such, this program of work requires ongoing investment throughout the regulatory period in order to support TasNetworks' corporate objectives and regulatory requirements for the systems in scope.

1.2 Customer Needs or Impact

TasNetworks staff needs access to compliant and functional software that is appropriate for their role. Not maintaining applications as recommended will impact on our ability to deliver efficient and effective services to external customers. It also introduces the risk of failure of critical applications and increases support costs.

1.3 Regulatory Considerations

Many applications have been selected as a means of TasNetworks meeting it obligation as being part of the regulated National Electricity Market. These products are designed within the constraints of the National Electricity Market. TasNetworks National Electricity Market obligations have therefore been mitigated by purchasing these applications. Without these applications, TasNetworks will need to review all of its regulatory obligations as being part of the National Electricity Market.

2. Project Objectives

The Business Management Systems Program of Work aims to deliver a range of upgrades to existing TasNetworks' applications to maintain appropriate versions, support and functionality.

3. Strategic Alignment

3.1 Business Objectives

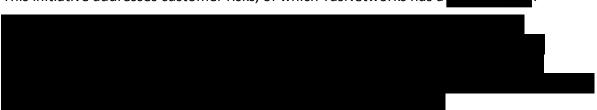The following table highlights how the initiative will further strategic goals.

Strategic Goal	How this initiative furthers the strategic goal
"we understand our customers by making them central to all we do"	• TasNetworks business applications and IT infrastructure supports the business's ability to perform a variety of customer facing functions. Not maintaining support could lead to adverse customer impacts. This initiative aims to keep systems supported and healthy.
"we enable our people to deliver value"	• Should health of business systems decay, issues may lead to requirement for manual processes introducing inefficiency and stress.
"we care for our assets, delivering safe and reliable network services while transforming our business"	• Healthy TasNetworks business applications and IT infrastructure are essential to ensure compliance with industry standards and regulations and robust governance processes.

4. Current Risk Evaluation

This chapter details the risk of 'Do Nothing'.

The TasNetworks Risk Framework details the level of risk the business finds acceptable in each category (Safety, Environment, Financial, Regulatory, Legal and Compliance, Customers, Assets, Reputation and People).

This initiative addresses customer risks, of which TasNetworks has a ███████ .

███████████████████████████████████████

4.1 Risk Matrix

TasNetworks business risks are analysed utilising the corporate risk matrix, as outlined in TasNetworks Risk Management Framework.

Relevant strategic business risk factors that apply are follows:

Risk #	Risk Category	Risk	Impact	Likelihood	Consequence	Risk Rating
IT-028	Customer	███████	Loss of productivity and engagement from not utilising appropriate systems.	Possible	Negligible	Low
IT-029	Customer	███████	Failure of business critical applications will result in the business being unable to fulfil their roles and be able to provide services to both internal and external customers.	Possible	Negligible	Low
IT-030	Customer	███████	Decaying health of applications, increase in security or failure risks.	Possible	Negligible	Low
IT-062	Customer	███████	Decaying health of technology increase in security or failure risks.	Possible	Negligible	Low

Section 1 Approvals (Gated Investment Step 1)

Business Unit Review:	███████	**Date**	
IT Project Initiator:	███████	**Date**	18/05/2015
IT Thread Approved:	███████	**Date**	18/05/2015
Manager (Network projects) or Group/Business Manager (Non-network projects):		**Date**	
[Send this signed and endorsed Summary to the Capital Works Program Coordinator.]			

Actions			
CWP Project Manager commenced initiation:		Assigned CW Project Manager:	
PI notified project initiation commenced:		Actioned by:	

Section 2 (Gated Investment Step 2)

5.　Preferred option

The preferred option is to delay upgrades until end of supported life.

This option involves delaying the upgrade until the end of, or near the end of, the supported life – until the vendor declares they will no longer provide technical support for that version. This option delays the 'up front' capital expenditure, but increases required investment in later years. This option would enable TasNetworks to skip the next one or two software versions, but then once the software has reached the 'end of supported life' TasNetworks will likely need to commit to major version upgrades in order to maintain support. Additionally, by delaying the upgrade until the technology is end of life it potentially complicates the upgrade process, which could increase cost to the upgrade projects.

This option has been selected because it has best alignment with the investment need whilst:

- Minimising the cost.
- Minimising the negative business impacts and maximising the positive business impacts.
- Maximising the strategic alignment.
- Maximising the IT strategic alignment[1].
- Containing the project complexity.
- Minimising the risk to the organisation.

This option also introduces a number of risks for the business:

- ███████████████████████████████████████
- ██ ██████████████████████████

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[1] This is a test against criteria including:
- Solutions will leverage the expertise and conformity of vendor products designed for NEM market interfaces.
- Solutions are designed for TasNetworks work practices and work processes to be as efficient and effective as possible without compromise.
- Solutions are maintainable and supported.
- Solutions are 'fit for purpose'.
- Alignment with current IT infrastructure.
- Alignment with other IT roadmap initiatives.

- Remaining on older software technologies can impact the range of platforms and interfaces that are compatible and can impact on infrastructure upgrades.

5.1   Scope

This program of work covers the identification, procurement, development, upgrade, and disposal of business software systems that are utilised across TasNetworks and are not covered by a separate initiative. These systems need to be upgraded to ensure system health and the successful operation of TasNetworks, as well as reviewed for continuous improvement and efficiencies.

The following table details the applications considered to be in scope.

Application/System	Effort	No. Upgrades
██	Medium	5
████	Very Small	1
█████████	Small	2
███████	Small	2
██████	Small	2
██	Medium	2
█████	Medium	2
██████	Medium-Large	5
██	Medium	2
███	Small	2
██	Very Small	2
█	Small	2
█████	Small	2
████	Very Small	1
███	Very Small	20
█████████	Small	2
██	Small	2
███	Small	2
██	Medium	2
██	Very Small	2
████	Small	1
█	Medium	2
███	Very Small	2
███	Small	2

	Medium	1
███	Medium-Large	1
█████	Medium	1
███	Small	2

The following software initiatives are considered to be 'large' and will be covered in their own IES and are therefore out of scope:

Initiative	Systems Impacted
IT.CST.06 Meter Data Management System Upgrade/Replacement	████
IT.CST.04 Market Systems Maintenance	████████████████████████
IT.CST.14 Connections Applications Management System Upgrade	███
IT.CST.29 MECMS Maintenance/Upgrade	███
IT.CST.27 Outage Management System Version Upgrades	███
IT.WSD.07 Service Order Scheduling and Field Tool Replacement	██
IT.WSD.11 GPS Vehicle Tracking Tool Improvements	███
IT.WSD.06 Meter Reading System Replacements	███

5.2 Expected outcomes and benefits

The outcomes and benefits are considered from a TasNetworks' perspective and from an external stakeholder perspective, in this case the customer and retailer.

Outcomes and benefits have also been segregated into tangible (i.e. measureable) and intangible (not measureable). Tangible benefits will be used as part of the NPV calculations in chapter 6.

TasNetworks' perspective	**Tangible benefits**
	The scope of this initiative is very broad, spanning 74 individual upgrades or projects, each dealing with a different set of assets, risks, potential benefits and costs.
	The potential benefits of the preferred option have no tangible bottom line direct savings that can be derived, but rather productivity gains provided via having up-to-date and supported software. Unquantifiable benefits of the options are listed below.
	Intangible benefits

	This will have many intangible benefits including:
	• Ensure staff are able to complete their jobs accurately and efficiently by having the right tools for their jobs.
	• Continue vendor support and warranties.
	• Reduce the risk of security vulnerability caused by using out of date systems ('Do Nothing' risks IT-030, IT-062 mitigated).
	• Reduce the risk associated with out of date or incorrect licenses.
	• The ability to deliver accurate data in a timely manner.
	• Decrease the likelihood of human error.
	• Employees will feel more valued.
	• Reduced reliance of working outside of systems and processes
	• Reduces the reliance on existing trained resources who understand defects and workarounds.
	• Enables our people to deliver value.
	• Adds value to our assets by enabling reliable services.
Customer and retailers perspective	From a customer perspective, the business can continue to operate as it does now. With the implementation of this initiative, the risk of failure of critical applications resulting in the business being unable to fulfil their roles and be able to provide services to both internal and external customers will be reduced ('Do Nothing' risk IT-029 mitigated).

5.3   Regulatory Test

N/A

6.   Options Analysis

Two options have been considered as described in the following chapter:

- Option 0 - Do Nothing.
- Option 1 - Delay upgrade until end of supported life (preferred option).
- Option 2 – Maintain latest supported versions.

Each option is commented with regard to the following criteria:

- Solution effectiveness. Solution effectiveness is tested against the 'Investment Need' (detailed in chapter titled 'Investment Need'). In simple terms, does the option achieve the project objectives?
- Cost.

- Business impact – the selected option will consider the level of change to TasNetworks environment (including during project implementation and post implementation).

- Business Strategic alignment – does the option fulfil the business objectives and current business initiatives (detailed in chapter titled 'Strategic Alignment').

- IT strategic alignment.

- Project complexity – solutions will not be un-necessarily complex. Complexity introduces risk through combination of resource requirements, increased change etc.

- Risk profile – solutions will be risk adverse.

- Ability to achieve compliance – solutions will be fully compliant with all regulatory requirements and applicable industry standards.

- Time – ability to implement within deadline. Solutions will be implemented within a suitable timeframe to ensure compliance (where relevant), minimise disruption to the business and reduce the likelihood of project requirements becoming dated.

6.1   Option Summary

Option 0 – Do Nothing

The option of 'Do Nothing' assesses the scenario where this initiative is not approved.

The 'Do Nothing' option will eventually require something to be done. If system versions are not maintained, TasNetworks systems would become non-compliant, out of date and lose support leading to increased cost and regulatory risks. TasNetworks will need manual workarounds for various processes. These workarounds will have a cost and will have a negative business impact.

Criteria	Advantages	Disadvantages
Solution effectiveness	N/A	N/A
Cost	No initial CAPEX cost to consider. However, as described under disadvantages there will be a cost!	TasNetworks will lose support. Applications may partially or fully fail requiring manual workarounds or replacement with alternate product.
Business impact		TasNetworks may need manual workarounds or replacement products for those applications that fully or partially fail.
Business strategic alignment		The business objective *'we understand our customers by making them central to all we*

		do' will not be fulfilled due to potential revenue loss and unpredictable pricing as a result of unexpected application replacement or manual workarounds.
		The business objective, *'enable our people to deliver value'* will not be fulfilled due to potential negative business impacts or applications failing.
		The business objectives, *'we care for our assets, delivering safe and reliable network services while transforming our business'* will not be fulfilled due to issues with compliancy, and risk.
IT strategic alignment	N/A	N/A
Project complexity	N/A	N/A
Risk to the business		See chapter titled 'Current Risk Evaluation'
Ability to achieve compliance		TasNetworks systems would become non-compliant.
Time – ability to implement within a deadline	N/A	N/A

Option 1 – Delay upgrade until end of supported life.

As this is the preferred option, the scope has already been covered in detail in the chapter titled 'Preferred Option'.

Criteria	Advantages	Disadvantages
Solution effectiveness	Software will remain supported.	
Cost	This option has a lower up front cost compared with option 2 as it enables the business to 'skip' intermediary updates and thus implement fewer update projects.	Compared with option 2, there is a possibility of an increased cost of break-fix support to the business.
Business impact	With regard to scheduled implementation, because there are	The business will not get access to new application features

	fewer upgrades, the business will be impacted less compared with option 2.	when they are made available and could possibly be missing opportunities for taking advantage of new features that could improve the business efficiency and effectiveness. Compared with option 2, there is a possibility IT staff are required to spend a greater proportion of their time resolving issues leading to an increase in unscheduled support.
Business strategic alignment	It will fulfil the business objectives of *'we understand our customers by making them central to all we do', 'we care for our assets, delivering safe and reliable network services while transforming our business'* detailed in the chapter titled 'Business Objectives'. It will align with the business initiatives detailed in the chapter titled 'Business Initiative Alignment'.	
IT strategic alignment	This option will align with the IT strategy, specifically applications: - Are designed to suit TasNetworks work practices and work processes so as to be as efficient and effective as possible without compromise. - Will be maintainable and supported. - Will align with current IT infrastructure. - Will align with other IT road map initiatives.	There is an increased risk of failure or security incident. Bugs and security gaps will not be fixed in a timely manner which means the applications are not as secure by design which may result in applications not being fit for purpose.
Project complexity	Because this option only requires upgrades at the end of supported life, then it assessed as having lower complexity compared with option 2.	

Risk to the business		There is an increased risk of failure or security incident. Bugs and security gaps will not be fixed in a timely manner which means the applications are not as secure by design.
Ability to achieve compliance	TasNetworks applications and infrastructure have been selected because of their conformance with regulatory and industry standards. An upgrade will not be delayed if it is going to affect compliance.	
Time – ability to implement within a deadline	Because this option only requires upgrades at the end of supported life, there will be fewer scheduled upgrades so it will have less impact with regard to implementation.	There is an increased risk of failure or security incident leading to unscheduled changes that need to be scheduled at short notice.

Option 2 – Maintain latest supported versions.

This option involves upgrading software packages to each major and required minor version soon after release.

Criteria	Advantages	Disadvantages
Solution effectiveness	Software will remain supported.	
Cost	Compared with option 1, there will be reduced break fix support.	This option has a greater up front cost compared with option 2.
Business impact	The business will get access to new application features when they are made available that could improve the business efficiency and effectiveness.	With regard to implementation there will be more scheduled upgrades and therefore overall more impost on IT and the business to deploy and test.
Business strategic alignment	It will fulfil the business objectives of *'we understand our customers by making them central to all we do', 'we care for our assets, delivering safe and reliable network services while transforming our business'* detailed in the chapter titled 'Business Objectives'.	

	It will align with the business initiatives detailed in the chapter titled 'Business Initiative Alignment'.	
IT strategic alignment	This option will align with the IT strategy, specifically applications: • Are designed to suit TasNetworks work practices and work processes so as to be as efficient and effective as possible without compromise. • Will be maintainable and supported. • Will be fit for purpose. • Will align with current IT infrastructure. • Will align with other IT road map initiatives.	
Project complexity		This option is assessed as having higher complexity compared with option 1 because of the increase in the number of upgrade events.
Risk to the business	This option adds less risk compared with option 1.	
Ability to achieve compliance	TasNetworks applications and infrastructure have been selected because of their conformance with regulatory and industry standards.	
Time – ability to implement within a deadline	Compared with option 1, there is less of a chance of unscheduled changes that need to be scheduled at short notice.	Because of the increase in the number of scheduled upgrade events, there will be more timeline squeeze.

6.2 Summary of Drivers

The following table compares the options presented with regard to the criteria assessed in the previous chapter.

Criteria	Option 0	Option 1	Option 2
Solution effectiveness	N/A	🟩	🟩
Cost	🟧	🟩	🟧
Business impacts	🟧	🟧	🟧
Business strategic alignment	🟧	🟩	🟩
IT strategic alignment	N/A	🟧	🟩
Project complexity	N/A	🟩	🟧
Risk profile	🟥	🟧	🟩
Ability to achieve compliance	🟥	🟩	🟩
Time – ability to implement within a deadline	N/A	🟩	🟧

Key			
Solution effectiveness	Addresses most requirements	Addresses some requirements	Addresses few requirements
Cost	Low	Medium	High
Business Impact	Low	Medium	High
Business strategic alignment	Good alignment	Partial alignment	Poor alignment
IT strategic alignment	Good alignment	Partial alignment	Poor alignment
Project complexity	Low	Medium	High
Risk profile	Low	Medium	High
Ability to achieve compliance	Easy	Moderate	Hard
Time - ability to implement within a deadline	Easy	Moderate	Hard

6.3   Summary of Costs

Costs for this program have been summarised into the following cost sizes:

- **Very Small** - Tech visit user, install application, update documentation and knowledgebase architecture repository.

- **Small** - Mostly outsourced development of 2 weeks. Minimal project management, testing & documentation.

- **Medium** - Set up a test environment, vendor accommodation, testing of 2 weeks, then move to live (e.g. MVRS Upgrade).

- **Medium – Large** - Mostly outsourced development of 4 weeks. Minimal project management, testing and documentation.

Type	Total Costs ($)
Very Small	28 upgrades or projects totalling: $146,160.00
Small	23 upgrades or projects totalling: $815,580.00
Medium	17 upgrades or projects totalling: $871,080.00
Medium - Large	6 upgrades or projects totalling: $766,320.00

6.4   Preferred Option Cost Breakdown

	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Estimate ($)	0.5M	0.5M	0.5M	0.5M	0.5M	0.5M	0.5M	0.5M	0.5M	0.5M
Total ($) **2017-2019**	$1,039,656									
Total ($) **2017-2027**	$5,198,280.00									

6.5   Summary of Risk

The preferred option addresses customer risks, as analysed utilising the corporate risk matrix, as outlined in TasNetworks Risk Management Framework.

Risk Category	Risk	Impact	Mitigation	Risk Rating
Customer	███████████████	Loss of productivity and engagement from not utilising appropriate systems.	Upgrade systems as recommended in the initiative	Low
Customer	███████████████	Failure of business critical applications will result in the business being unable to	Upgrade systems as recommended in the initiative	Low

Customer		Decaying health of applications, increase in security or failure risks.	Upgrade systems as recommended in the initiative	Low
Customer		Decaying health of technology increase in security or failure risks.	Upgrade systems as recommended in the initiative	Low

6.6 Economic analysis

The scope of this initiative is very broad, spanning 74 individual upgrades or projects, each dealing with a different set of assets, risks, potential benefits and costs.

The net present value calculations below are not inclusive of the potential benefits of the options as there no tangible bottom line direct savings can be derived from the investments, but rather productivity gains provided via process improvement, and having a supported application.

The NPV calculations are across a 10-year period.

Option No.	Option description	NPV	Reason got selection/rejection
0	Do Nothing	$0	Greatest Risk
1	Delay until end of supported life	-$3,240,390	Greatest benefit
2	Maintain latest versions	-$7,092,937	Costs too great

6.6.1 Quantitative Risk Analysis

N/A

6.6.2 Benchmarking

N/A

6.6.3 Expert findings

N/A

6.6.4 Assumptions

The following are inclusive of project and financial assumptions.

Assumption ID	Assumption Description
ITA-119	No tangible benefits can be quantified from upgrading the Business Systems within this scope. By performing this initiative, all systems will be functional and supported allowing the business to go about 'business-as-usual' without the need for unnecessary manual workarounds.
ITA-129	For option 2, all applications within scope are updated at least annually. Those applications that were updated more frequently for the preferred option are updated at the same frequency as the preferred option.

Section 2 Approvals (Gated Investment Step 2)

			Date	
Business Unit Review:	████████		**Date**	
IT Project Initiator:	████		**Date**	18/05/2015
IT Thread Approved:	████		**Date**	18/05/2015
Manager (Network projects) or Group/Business Manager (Non-network projects):			**Date**	
[Send this signed and endorsed Summary to the Capital Works Program Coordinator.]				

Project Initiator:		**Date:**	
Project Manager:		**Date:**	

Actions			
Submitted for CIRT review:		*Actioned by:*	
CIRT outcome:			