

# Investment Evaluation Summary

<b>Project name:</b>	Market Systems - MDMS Upgrades
<b>Department</b>	F&BS
<b>Investment Category</b>	Information technology (support the business) non-network
<b>Network</b>	Shared
<b>Project ND number / work category:</b>	ITC
<b>Project ZoNe location:</b>	<a href="http://projectzone.tnad.tasnetworks.com.au/it-program/ITRR19/Document%20Repository/Deliverables/IES/TN_IES_CONFID_IT_Market_Systems_MDMS_Upgrades_1901.docx">http://projectzone.tnad.tasnetworks.com.au/it-program/ITRR19/Document%20Repository/Deliverables/IES/TN_IES_CONFID_IT_Market_Systems_MDMS_Upgrades_1901.docx</a>
<b>Document number:</b>	1901
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<b>Date:</b>	16/10/2017
<b>Project initiation approval reference:</b>	R0000694451

<b>Preferred Option:</b>	Option 1 - Perform minor upgrades to systems and procedures in order to maintain them at a market compliant level under the NEL									
<b>Estimate (preferred option – base dollars):</b>	[REDACTED]									
<b>expenditure profile</b>	<b>19/20</b>	<b>20/21</b>	<b>21/22</b>	<b>22/23</b>	<b>23/24</b>	<b>24/25</b>	<b>25/26</b>	<b>26/27</b>	<b>27/28</b>	<b>28/29</b>
Capex	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]					

Sign-offs (in support of the recommended option)			
Project Initiator:	[REDACTED]	Date	22/06/2017
Leader: (Endorsement)	[REDACTED]	Date	22/06/2017
Leader or General manager noting delegation levels. (Approval) <sup>1</sup>	[REDACTED]	Date	22/06/2017

<sup>1</sup> Approval based on delegation level.

# 1. Overview

## 1.1 Background

As Tasmania is part of the National Electricity Market, TasNetworks' market-facing applications are required to operate within and support the National Electricity Law (NEL) and its accompanying regulations and procedures, as well as jurisdictional laws and regulations. This requires regular and ongoing investment to ensure compliance with the regulatory environment.

Market Rule regulatory changes, imposed by the Australian Energy Market Commission (AEMC) may affect a variety of market processes, participant interactions and obligations.

Where AEMC changes affect market protocols, the Australian Energy Market Operator (AEMO), may be forced to update its systems and procedures. In these circumstances, TasNetworks, like all market participants, must accommodate such changes. AEMO have two releases each year, usually in May and November, which can incorporate AEMC changes or other changes AEMO themselves impose.

TasNetworks is audited for our compliance to NEL regulations and procedures, as well as service levels on a bi-annual basis in at least Metering Provider (MPB) and Metering Data Provider (MDP) roles. Failure to maintain market compliance can result in the loss of accreditation to operate in these roles in the market.

TasNetworks is also required to self-monitor our performance in our Local Network Service Provider (LNSP) role in regards to our operation under the National Energy Retail Rules (NERR) and make any necessary process or system adjustments to ensure ongoing compliance. Failure to do so can result in fines.

## 1.2 Problem Definition

This initiative is driven by the ongoing changes to the regulatory environment in which TasNetworks' operates. The laws, regulations and procedures as defined by the AEMC, AER and AEMO, as well as local Government agencies, are regularly subject to change, and TasNetworks must ensure compliance with these changes.

In order to maintain market systems contemporary with evolving regulatory obligations, regular investment is required to perform alterations in line with the market's release schedule. The following protocols and standards are within the scope:

- B2B – Business to Business protocols for exchanges with market participants for:
  - Service Orders
  - Exchange of Customer Details
  - Meter Data handling rules and transport protocols
  - One-way Notifications between participants about events at a customer's installation.
- B2M – Business to Market protocols for registering installation details in the market operator's (AEMO) system (MSATS) and receiving metering configuration details.

- Roles and Responsibilities – i.e. Division of responsibilities for activity at a customer's premises and the processes for changing the holders of those roles (e.g. meters churn, customer retailer churn / transfers).

During the previous period, alterations have been necessary as a result of regulatory changes to metering and role arrangements for Power of Choice. The short timeframe of this change schedule has meant that ongoing changes will be required for a number of years to repair various processes and eliminate manual workarounds necessitated by the limited time allowed by AEMC deadlines.

AEMO and the Information Exchange Committee (IEC) will have an ongoing program of change to refine the operation of MSATS and the B2B procedures, these will require incremental changes to the Market Data Management Systems (MDMS) over the next period (2019-2024).

Additionally the industry faces further ongoing change in relation to:

- Life Support arrangements;
- 5 Minute settlements;
- Further contestability changes;
- Alternative generation related changes.

## 2. Customer needs and impacts

TasNetworks' investments have, as a key driver, generating value to the customers, which are directly impacted by how compliantly, efficiently and effectively our market systems operate.

The MDMS is pivotal to various processes that support customer outcomes. A change that affects a B2B or B2M protocol, if unsupported, can cause substantial impact on TasNetworks' ability to service our customers' needs. The MDMS:

- Allocates and registers the national identifier for every Tasmanian installation (NMI);
- Maintains installation details and informs the market operator and its participants;
- Maintains reading route information and is central to the reading process;
- Stores, validates and substitutes customer billing reads for basic customers;
- Maintains inventory and consumption records for unmetered supplies;
- Stores and maintains customer information used to ensure compliance with National Energy Customer Framework (NECF) obligations (e.g. Life Support etc.);
- Provides data, validation and supports completion of customer requested service orders (e.g. connections, reading and faults);
- Supports the provision of accurate and timely accounts to customers via their Retailer.

In addition, this system is critical for achieving [REDACTED], [REDACTED], with its customer management and billing systems and processes being dependent on the MDMS.

## 3. Corporate alignment

### 3.1 Strategic objectives

The following table highlights how the initiative will assist in achieving TasNetworks' Strategy for 2025.

**Table 1 Strategic Goals relevant to this project**

Strategic Goal	How this initiative will address the strategic goal
<b>Business Productivity –</b> <i>“Optimise our program of work and emergency response capability delivering on our promise”</i>	When new regulations are enforced, existing processes may break and manual complex workarounds will be required, making work practices difficult, thus negatively impacting the business.
<b>Network Capability –</b> <i>“Our network continues to</i>	Should TasNetworks not adopt and enable changes to market protocols, it might become non-compliant. This will affect customers

<i>meet demand and power system security systems requirements while accommodating the changing use of our network"</i>	<p>and their retailers and increase the risk of:</p> <ul style="list-style-type: none"> <li>• Issues being detected by the Market operator.</li> <li>• The Market operator might undertake more intensive compliance audits.</li> <li>• TasNetworks' not being able to deliver necessary data to the Market operator.</li> <li>• Adverse findings and potential fines that if not addressed, might result in deregistration in key roles.</li> </ul> <p>This initiative provides regular efforts to address any such changes that are approved by the market committees, maintaining our reputation for operating compliantly.</p>
<b><i>Voice of the Customer – "Delivering valued services"</i></b>	<p>Should TasNetworks not adopt and enable changes to market protocols, TasNetworks may fail to provide key services to connect, modify connections, re-energise a customer or provide billing reads.</p> <p>This initiative provides regular efforts to address any regulatory changes approved by the market in a timely manner, maintaining valuable relationships with retailers and customers, ensuring TasNetworks can be trusted to deliver.</p>

## 3.2 Performance objective

This project will help to achieve the customer and business performance objectives in TasNetworks Corporate Plan 2016-17 and aligns with the 2019 to 2024 regulatory period. The relevant performance measures are presented in Table 2.

**Table 2 Performance objectives relevant to this project**

Performance measure	Measure	Project objective
Customers	Customer Satisfaction	The Market Systems are key components to many processes that support our customers.
	Customer Net Promoter Score	Ensure delivery of services that drive the Net Promoter score.
	[REDACTED]	[REDACTED]
	AEMO MDP compliance measures	The Market Systems are central to the processes that provide quality meter data to market participants. The performance of these systems directly affects our ability to meet the AEMO compliance measures.
	AEMO DNSP/LNSP compliance measures	The Market Systems are central to the processes that maintain standing data and its supply to AEMO and to market participants. The performance of these systems directly affects our ability to meet the AEMO compliance measures.

Performance measure	Measure	Project objective
	AEMO MPB compliance measures	The Market Systems are central to the processes that maintain standing data and its supply to AEMO and to market participants. The performance of these systems directly affects our ability to meet the AEMO compliance measures.

### 3.3 Risk objectives

The corporate plan identifies a number of business risks outlined in the TasNetworks Risk Framework<sup>2</sup>, which details the level of risk the business finds acceptable in each category (Safety, Environmental, Financial, Regulatory, Legal and Compliance, Customers, Assets, Reputation and People).

This initiative addresses Customer, Financial and Regulatory compliance risks, of which TasNetworks has [REDACTED] to [REDACTED] appetite. Those risks, which will be impacted by this project, are presented in Table 3.

**Table 3 Risks impacted by this project**

Risk ID	Risk Category	Risk	Impact	Likelihood	Consequence	Risk Rating
ITR-017	Regulatory Compliance	TasNetworks cannot remain compliant due to inability to make modifications to accommodate regulatory change.	Damage to relationships with market operator, AER, Retailers & customers. Possible fines.	Almost Certain	Moderate	High
ITR-018	Financial	If systems are not maintained in accordance with relevant changes, TasNetworks may face NECF breaches and fines.	Additional costs.	Possible	Moderate	Medium
ITR-019	Customer	[REDACTED]	[REDACTED]	Possible	Moderate	Medium
ITR-020	Financial	Market non-compliance may lead to high level of scrutiny during market audits.	Business disruption due to resources being tied up with auditing activities.	Possible	Negligible	Low
ITR-021	Financial	[REDACTED]	[REDACTED]	Possible	Moderate	Medium

<sup>2</sup> <http://reclink/R0000238142>.

ITR-022	Financial	[REDACTED]	[REDACTED]	Possible	Moderate	Medium
ITR-023	Customer	Issues impact on relationship with retailers and customers.	Increase in disputes and complaints.	Possible	Minor	Low
ITR-024	Customer	Potential for customers to be affected by our inability to handle modified market processes.	Customers without power/services in expected timeframes.	Possible	Minor	Low
ITR-025	Reputation	If not maintained in a healthy supported state, the current system may suffer failure, which could lead to several issues, namely: market process issues, [REDACTED], impact to Distribution Monthly Billing, non-compliance to regulatory, SLA and timeframe obligations.	Negative impacts on TasNetworks' operations, customers and retailers and non-compliance with regulatory obligations, if identified by external parties, could negatively impact TasNetworks' reputation.	Possible	Moderate	Medium

## 4. Project objectives

The key objective of this project is to secure a provision to maintain systems and procedures at market compliant level under the National Electricity Law, which is periodically reviewed by the AEMC, and NEM procedures & data standards, which are reviewed by AEMO biannually.

## 5. Revenue Determination

N/A

## 6. Options analysis

### 6.1 Options considered

The following table lists the options considered.

**Table 4 Options considered for this project**

Option No.	Option description
0	Do nothing – not a credible option as will result in non-compliance
1	Market Systems Upgrades ( <b>preferred option</b> )

Each option has been assessed with regard to the following criteria:

- Solution effectiveness:** solution effectiveness is tested against the problem (detailed in section 1.2 titled “Problem Definition”);
- Cost** (estimates used on the analysis have a level of accuracy of  $\pm 30\%$  and do not include the 20% project contingency normally applied to this type of project);
- 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 section 3 titled “Corporate Alignment”);
- Information Technology Strategic alignment;**
- Project complexity:** solutions have the minimum level of complexity needed to meet the business requirements;
- Risk profile:** solutions will be in line with TasNetworks’ targets;
- Compliance:** ability to achieve compliance. Solutions will be fully compliant with all regulatory requirements and applicable industry standards;
- Time:** 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.



The following table compares the presented options with regard to the criteria above.

**Table 5 Summary of Drivers**

Driver	Option 0	Option 1
1. Solution effectiveness	Addresses few requirements	Addresses most requirements
2. Cost	Medium	Medium
3. Business Impact	High	Low
4. Business strategic alignment	Poor alignment	Good alignment
5. IT strategic alignment	Poor alignment	Good alignment
6. Project complexity	N/A	Low
7. Risk profile	High	Low
8. Compliance	Hard	Easy
9. Time	Hard	Easy

The table below shows the key for each rating.

**Table 6 Drivers Rating Key**

Driver	Rating 1 - Green	Rating 2 - Yellow	Rating 3 - Red
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
Compliance	Easy	Moderate	Hard
Time	Easy	Moderate	Hard

## 6.1.1 Option 0: Do Nothing

The option of 'Do Nothing' assesses the base case scenario where this initiative is not implemented.

**Table 7 Option 0 – Scenario Assessment**

Criteria	Advantages	Disadvantages
<b>1. Solution effectiveness</b>		Not undertaking necessary changes to market systems to meet regulatory obligations might result in non-compliance.
<b>2. Cost</b>	No initial Capex cost to consider.	<p>If changes in the regulatory environment occur as expected and this initiative does not progress, TasNetworks will need manual workarounds for various field processes. These will be manually intensive, requiring significant additional staff. In addition, non-compliance with regulatory obligations for market systems might incur penalty fees.</p> <p>Additionally, we may increase payments made to customers through failure to meet our customer charter (GSL).</p>
<b>3. Business impact</b>		Non-compliance with regulatory obligations for market systems would have a significant impact on TasNetworks, increasing process complexity and make them manually intensive. This, in turn, might impact on TasNetworks' ability to provide services.
<b>4. Business strategic alignment</b>		<p>The business objective '<i>Optimise our program of work and emergency response capability delivering on our promise</i>' will not be fulfilled due to potential negative business impacts.</p> <p>The business objective '<i>Delivering valued services to our Customer</i>' will not be fulfilled due to possible process failures.</p> <p>In the event manual workarounds permanently increase our cost to serve, pricing may be affected, conflicting with our goal of ensuring predictable pricing.</p>
<b>5. IT strategic alignment</b>		Option not aligned with IT strategy because it will not fulfil the principle of maintaining systems in a healthy and supported state.
<b>6. Project complexity</b>	N/A	N/A
<b>7. Risk profile</b>		See chapter 3.3 titled "Risk Objectives".
<b>8. Compliance</b>		TasNetworks' systems would not meet its regulatory compliance obligations of being part of NEM.
<b>9. Time</b>		

## 6.1.2 Option 1: Market Systems Upgrades

Perform minor upgrades to systems and procedures in order to maintain them at a market compliant level under the NEL. This is the preferred option and its scenario assessment can be seen below. Further details are available in section 6.8 titled “Preferred option”.

**Table 8 Option 1 – Scenario Assessment**

Criteria	Advantages	Disadvantages
<b>1. Solution effectiveness</b>	This option addresses the problem outlined in section 1.2 titled “Problem Definition” by ensuring market systems will maintain their compliance requirements under the NEL.	
<b>2. Cost</b>	This option will ensure there is appropriate provision to accommodate regulatory changes.	Estimated budget may not be adequate.
<b>3. Business impact</b>	This option will allow timely adjustments to market systems as required	
<b>4. Business strategic alignment</b>	It will support the fulfilment of the strategy and performance objectives detailed in sections 3.1 and 3.2.	
<b>5. IT strategic alignment</b>	<p>TasNetworks’ market systems are contemporary and built for Australia’s NEM. This option aligns with the IT strategy by ensuring the solution:</p> <ul style="list-style-type: none"> <li>• Is designed to suit TasNetworks work practices and work processes so as to be as efficient and effective as possible without compromise.</li> <li>• Will be maintainable and supported.</li> <li>• Will be ‘fit for purpose’.</li> <li>• Will align with current IT infrastructure.</li> <li>• Will align with other IT road map initiatives.</li> </ul>	
<b>6. Project complexity</b>	Because this option only requires upgrades in case there are changes on the regulatory environment, it was assessed as having low complexity.	
<b>7. Risk profile</b>	See Appendix B – Risk Comparison.	

<b>8. Compliance</b>	TasNetworks leverages the expertise and conformity of vendor products designed for NEM market interface, which ensures compliance with industry standards and regulatory obligations.	
<b>9. Time</b>	Because this option only requires upgrades in line with regulatory changes, this option was assessed as time-effective.	

## 6.2 Option estimates

Table 10 shows the cost estimates for option 1 – Market Systems Maintenance. Option 0 ‘Do Nothing’ has no capital expenditure.

**Table 9 Option 1 – Cost Estimates**

Option 1 Estimate (in nominal dollars) \$ [REDACTED]										
Option 1 expenditure profile	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29
Capex	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]					

## 6.3 Economic analysis

An economic analysis has been undertaken to compare the options considered. Details of the NPV analysis are included in Appendix A. Option 1 was evaluated against Option 0.

Ensuring compliance with obligations is the key reason for the preferred option. As Tasmania is part of the National Electricity Market, TasNetworks’ market-facing applications are required to operate within and support the National Electricity Law (NEL) and its accompanying regulations and procedures, as well as jurisdictional laws and regulations.

Table 10 details the NPV results.

**Table 10 NPV Summary Results**

Option No.	Option description	NPV	Reason got selection/rejection
0	Do nothing	[REDACTED]	Non-compliance
1	Market Systems Upgrades	[REDACTED]	Option ensures compliance with regulatory obligations.

### 6.3.1 Sensitivity analysis

N/A

## 6.4 Risk Matrix summary of drivers

This matrix provides a comparison of each option's impact against the company risks identified in section 3.3 titled "Risk objectives". Appendix B contains supporting details of the risk assessment outcomes summarised in Table 11.

**Table 11 Risk Matrix summary**

Risk ID	Risk Category	Risk Drivers	Impact	Option 0 Gross risk	Option 1 Net risk
ITR-017	Regulatory Compliance	TasNetworks cannot remain compliant due to inability to make modifications to accommodate regulatory change.	Damage to relationships with market operator, AER, retailers and customers. Possible fines.	High	Low
ITR-018	Financial	If systems are not maintained in accordance with relevant changes, TasNetworks may face NECF breaches and fines.	Additional costs.	Medium	Low
ITR-019	Customer	[REDACTED]	[REDACTED]	Medium	Low
ITR-020	Financial	Market non-compliance may lead to high level of scrutiny during market audits.	Business disruption due to resources being tied up with auditing activities.	Low	Low
ITR-021	Financial	[REDACTED]	[REDACTED]	Medium	Low
ITR-022	Financial	[REDACTED]	[REDACTED]	Medium	Low
ITR-023	Customer	Issues impact on relationship with retailers and customers.	Increase in disputes and complaints.	Low	Low
ITR-024	Customer	Potential for customers to be affected by our inability to handle modified market processes.	Customers without power/services within expected timeframes.	Low	Low
ITR-025	Reputation	If not maintained in a healthy supported state, the current system may suffer failure, which could lead to several issues, namely: market process issues, [REDACTED] impact to Distribution Monthly Billing, non-compliance to regulatory, SLA and timeframe obligations.	Negative impacts on TasNetworks' operations, customers, retailers and non-compliance to regulatory obligations, could negatively impact TasNetworks' reputation.	Medium	Low

## 6.5 Quantitative risk analysis

N/A

## **6.6 Benchmarking**

N/A

## **6.7 Expert Findings**

N/A

## **6.8 Preferred option**

The preferred option is to upgrade systems and procedures in order to maintain them at market compliant level under the NEL. 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 business strategic alignment.
- Maximising the IT strategic alignment.
- Minimising the project complexity.
- Minimising the risk to the organisation.

### **6.8.1 Scope**

The scope is to maintain TasNetworks' market systems so that they remain compliant with changed market rules, procedures and service level requirements. The systems that are likely to be impacted include:

- Meter data management system release(s)/changes to address any alterations/enhancements required to maintain compliance with market regulations.
- NEM market interface system release(s)/changes to address any alterations/enhancements required to maintain compliance with market regulations.

This is inclusive of all modules:

- Service Order Management (SOM)
- Customer Transfers
- Market Synchronization
- Standing Data Reconciliation (SDREC)
- Market Integration Layer (MIL)
- Meter Data Delivery
- Consumer Administration and Transfer Solution (CATS)
- Task Management
- Customer Details

- Distribution Billing
- Network Invoice Management (NIM)
- Network Operational Management (NOM).
- Field tool release(s)/changes to address any alterations/enhancements required to maintain compliance with market regulations.
- Change Management Impacts - the following business processes may require re-engineering and subsequently training and re-education throughout their user base:
  - Service Order processes (Receipt, Scheduling, Execution and Completion)
  - Market Interactions
  - Meter Reading
  - Distribution Billing.

## **6.8.2 High level implementation activities**

High level activities identified to implement this initiative include:

- Analysis of TasNetworks obligation for Market System compliance, including:
  - Identifying existing processes that will need to be changed and redrafting the 'To Be' process;
  - Elicitation of the full set of requirements for TasNetworks to become compliant with the principles of 'Market Systems';
  - Identification of what requirements will be delivered via in-house development resulting in the preparation of separate requirements documentation sufficient to enable an in-house build to be undertaken;
  - Identification of what requirements will be delivered via a known vendor resulting in the preparation of separate requirements documentation sufficient to enable a vendor build to be undertaken;
- Review and sign-off on vendor supplied functional specifications for implementation;
- Design and build of in-house components;
- Deployment and testing of in-house and vendor supplied components in TasNetworks' environments. Testing will include System Integration Testing (SIT, ensuring all vendor components work with each other), and User Acceptance Testing (UAT, ensuring the business is happy with the new functions delivered);
- Deployment to the TasNetworks Production environment;
- Training of staff in the new functionality and new 'To Be' processes where relevant, including creation/update of all documentation (administrative or end user);
- External Communications: Current and potential customers and their electrical contractors will need to be made aware of changed processes.

## 7. Investment timing

The project schedule was defined so as the alteration in the market systems can be undertaken in line with the market's release schedule.

## 8. Regulatory test

N/A

## 9. 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 are used as part of the NPV calculations in chapter 6.

**Table 12 Summary of Expected Benefits**

<b>TasNetworks' perspective</b>	<p><b>Tangible benefits</b></p> <p>The benefits quantified below have been assessed as most likely to result given the assumptions made regarding the expected future state.</p> <table border="1"> <thead> <tr> <th data-bbox="435 1037 1177 1081">Benefit Description</th><th data-bbox="1185 1037 1385 1081">Benefit</th></tr> </thead> <tbody> <tr> <td data-bbox="435 1093 1177 1205">With the implementation of this initiative, there is a reduced risk of fines due to non-compliance ('Do Nothing' risk IT-018 mitigated).</td><td data-bbox="1185 1093 1385 1205">[REDACTED]</td></tr> <tr> <td data-bbox="435 1216 1177 1350">With the implementation of this initiative, extra resources would not be required to account for loss of efficiency and workarounds if the 'Do Nothing' option is selected ('Do Nothing' risk IT-123 mitigated).</td><td data-bbox="1185 1216 1385 1350">[REDACTED]</td></tr> </tbody> </table> <p><b>Intangible benefits</b></p> <ul style="list-style-type: none"> <li>With the implementation of this initiative, there will be a reduced likelihood of revenue leakage ('Do Nothing' risk IT-022 mitigated).</li> <li>With the implementation of this initiative there will be a reduced risk of business disruption as a result of increased auditing activities ('Do Nothing' risk IT-020 mitigated).</li> <li>Have greater reliance on data, which will improve the ability to correctly model tariff prices.</li> <li>Reduced reliance on existing trained resources who understand defects and workarounds.</li> <li>Reduced reliance on working outside of systems and processes.</li> <li>Decrease in the likelihood of human error.</li> <li>Increased employee confidence in market systems, which will lead to a reduction in stress, frustration, overtime, and retention issues of employees.</li> </ul>	Benefit Description	Benefit	With the implementation of this initiative, there is a reduced risk of fines due to non-compliance ('Do Nothing' risk IT-018 mitigated).	[REDACTED]	With the implementation of this initiative, extra resources would not be required to account for loss of efficiency and workarounds if the 'Do Nothing' option is selected ('Do Nothing' risk IT-123 mitigated).	[REDACTED]
Benefit Description	Benefit						
With the implementation of this initiative, there is a reduced risk of fines due to non-compliance ('Do Nothing' risk IT-018 mitigated).	[REDACTED]						
With the implementation of this initiative, extra resources would not be required to account for loss of efficiency and workarounds if the 'Do Nothing' option is selected ('Do Nothing' risk IT-123 mitigated).	[REDACTED]						
<b>Customer's perspective</b>	From a customer perspective, TasNetworks will be able to:						



	<ul style="list-style-type: none"> <li>• Handle modified market processes without impacting the customer reduced ('Do Nothing' risk IT-019 mitigated).</li> <li>• Address impacts to retailers as a result of outstanding defects, ensuring customers are correctly billed.</li> <li>• Improve delivery of accurate data in a timely manner.</li> <li>• Maintain valuable relationships with retailers and customers where TasNetworks can be trusted to deliver.</li> </ul>
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## 10. Assumptions

The following are inclusive of project and financial assumptions.

**Table 13 Assumptions**

ID	Assumption Description
ITA-001	Cost estimates used on the analysis have a level of accuracy of $\pm 30\%$ and do not include the 20% project contingency normally applied to this type of project.
ITA-004	It is assumed that the cost associated with future modifications to maintain compliance with changing regulations is reasonable.
ITA-005	It is assumed that processes imposed by systems maintenance will be as efficient as current processes and not require further FTE resources.
ITA-010	The bi-annual market changes to the B2B and CATS procedures potentially introduce [REDACTED] worth of additional labour per annum should greater numbers of Service Orders or other transactions require manual intervention to ensure compliance. Accommodation, Desks, PC's, training for the additional people would cost around [REDACTED].
ITA-011	It is assumed the if the Market Systems are not adequately upgraded, TasNetworks would be more likely to incur fines for non-compliance amounting to approximately [REDACTED].
ITA-012	It is assumed that the funding provision will suffice to undertake market systems maintenance.
ITA-014	It is assumed that every time we make changes to the system we will need to undertake end-to-end process testing and market testing, which will have an impact on costs regardless of the scope.
ITA-033	It is assumed that current technology will be available at the time this initiative is implemented.
ITA-042	It is assumed the vendor that currently provides the technology will continue to support it.

## 11. Recommendation

In order for the MDMS to deal with evolving AEMC regulatory obligations, TasNetworks will be required to make upgrades to the current system to mitigate the risks of non-compliance. Failure to maintain market compliance can result in the loss of accreditation to operate in particular roles under the market, which makes Option 1 the preferred option.

## Appendix A – NPV analysis

The assumptions used in the NPV analysis are as follows:

- NPV analysis is carried out for a 12-year period (2017-2029).
- WACC of 3.59 per cent is used.
- CPI of 2.45 per cent is used.
- No contingency has been assumed.

The results of the NPV Analysis are as follows:

	Option 0	Option 1
<b>Costs</b>		
NPV Capital Expenditure		
NPV Operational Expenditure		
<b>NPV Costs Only</b>		
<b>Benefits</b>		
NPV Other benefits		
<b>NPV Benefits Only</b>		
<b>NPV Net Benefit</b>		

## Appendix B - Risk Comparison

The project options each have a different impact on the future asset risk. The table below provides a qualitative summary of the risk considerations cognisant with the risk approach and the risk management process outlined in TasNetworks risk management framework document<sup>3]</sup> and complement the risks identified in section 3.3 titled “Risk objectives”.

Risk ID	Risk Category	Risk drivers	Impact	Option 1 Market Systems Upgrades			
				Likelihood	Consequence	Risk	How does this option mitigate current situation risk?
ITR-017	Regulatory Compliance	TasNetworks cannot remain compliant due to inability to make modifications to accommodate regulatory change.	Damage to relationships with market operator, AER, Retailers & customers. Possible fines.	Rare	Moderate	Low	Initiative will allow TasNetworks to maintain compliance.
ITR-018	Financial	If systems are not maintained in accordance with relevant changes, TasNetworks may face NECF breaches and fines.	Additional costs.	Unlikely	Minor	Low	Initiative will allow TasNetworks to maintain compliance.
ITR-019	Customer	[REDACTED]	[REDACTED]	Unlikely	Minor	Low	Initiative will maintain effectiveness of billing and service order systems, this should result in no rise in disputes and complaints.
ITR-020	Financial	Market non-compliance may lead to high level of scrutiny during market audits.	Business disruption due to resources being tied up with auditing activities.	Unlikely	Negligible	Low	Initiative will allow TasNetworks to maintain compliance
ITR-021	Financial	[REDACTED]	[REDACTED]	Unlikely	Negligible	Low	Initiative will maintain effectiveness of billing systems.
ITR-022	Financial	[REDACTED]	[REDACTED]	Unlikely	Negligible	Low	Initiative will maintain effectiveness of billing systems.
ITR-023	Customer	Issues impact on relationship with retailers & customers.	Increase in disputes and complaints.	Unlikely	Minor	Low	Initiative will maintain effectiveness of billing and service order systems, this should result in no rise in disputes and complaints.
ITR-024	Customer	Potential for customers to be affected by our inability to handle modified market processes.	Customers without power/services in expected timeframes.	Unlikely	Minor	Low	Initiative will maintain effectiveness of service order systems.
ITR-025	Reputation	If not maintained in a healthy supported state, the current system may suffer failure, which could lead to several issues, namely: market process issues, [REDACTED] impact to Distribution Monthly Billing, non-compliance to regulatory, SLA and timeframe obligations.	Negative impacts on TasNetworks’ operations, Customers and Retailers and non-compliance to regulatory obligations could negatively impact TasNetworks’ reputation.	Rare	Moderate	Low	Initiative results in compliance.

<sup>3</sup> <http://reclink/R0000238142>.