Jemena Gas Networks (NSW) Ltd

Investment Brief
Enterprise Systems - Reporting & Analysis

Glossary

2020-25 regulatory period	The period covering 1 July 2020 to 30 June 2025
Current regulatory period	The period covering 1 July 2015 to 30 June 2020
ICT	Information and Communications Technology
IS-U	Industry Specific – Utilities (SAP module)
JGN	Jemena Gas Networks (NSW) Ltd
NGR	National Gas Rules
RYxx	Regulatory year covering the 12 months to 30 June of year 20xx. For example, RY20 covers 1 July 2019 to 30 June 2020.

1. Enterprise Systems – Reporting & Analysis

Introduction	Jemena provides a shared reporting platform to enable Jemena Gas Networks (NSW) Ltd (**JGN**) to perform various Operational, Customer, Financial and Health & Safety functions. This reporting platform provides shared enterprise-wide capabilities as well as customised capabilities for JGN. These projects are unrelated to the proposed SAP ERP and IS-U migration to S/4HANA and the use of the HANA database platform already deployed for reporting is separate to any requirement S/4 has to run on a HANA database.
Objective	The objective of this investment is to mitigate against the disruption of business service and associated impacts to JGN's services and customers by managing reporting and analysis systems and solutions. This investment focusses on proactive management of lifecycle risks associated with Jemena's reporting platforms, with elements of these systems reaching an unacceptable level of support risk at various times during the 2020-25 regulatory period.
Background	The systems included in this investment brief are used to deliver core financial, metering, billing, and asset management reporting and performance management necessary for the efficient operation and planning of our network. In addition, regulatory reporting is also delivered from these systems. The robustness and accuracy of JGN's reporting is crucial in allowing JGN to continue delivering safe and efficient distribution services to customers, measure and improve its performance, and provide consistent service. The software versions in use in JGN's reporting systems have a limited operational life and will eventually require upgrade or replacement to ensure they are maintained in support and continue to provide services as expected by our customers and to meet JGN's regulatory obligations. Reporting systems also become obsolete as the performance measurement metrics of the business evolve to support new efficiencies and new regulatory obligations and must be continuously re-assessed and enhanced to provide continuity of capability to the business. Jemena's shared IT applications are subject to regular assessment as to whether they remain fit for purpose as measured against a range of criteria including performance, security, cost effectiveness, serviceability, end-of-life timeframes and overall risk. Jemena also makes decisions to replace these assets by taking into account the optimum components and time for upgrade or replacement based on past experience and serviceability of the components and interdependent systems and processes. The guidelines to making a prudent assessment are described in the Technology Plan under the section on IT Asset Lifecycle Management.
Customer Importance	JGN's reporting and analysis systems play a critical role in JGN's ability to deliver reliable and affordable services to our customers, as well as in JGN's ability to meet its current and future regulatory reporting requirements. Throughout JGN's engagement with them, customers outlined that they expect JGN to maintain our current services throughout the 2020-25 regulatory period. To enable JGN to maintain its current service levels, JGN's reporting systems must be up-to-date to continue to be reliable, secure and meet other performance requirements of Jemena's asset management and network operations teams, JGN's contractors and other external parties such as regulators and other stakeholders.

Strategic Approach	The strategic approach is to continue to upgrade platforms as required by the application lifecycle, as well as rationalising and consolidating systems where appropriate in order to ensure efficient expenditure and reduce complexity of IT systems. JGN intends to use the opportunities when life cycling the systems and modules to simplify them wherever possible to prepare them for the potential transition to Cloud based options in the future. This strategy of consolidation will continue to drive JGN's lifecycle management approach to achieve more than simply a reduction in cost and risk, but also to support and deliver enhanced future capabilities such as increased resilience, digital customer engagement, analytics and automation opportunities.
Options	To mitigate the risks associated with unsupported platforms and to ensure that JGN can meet customer expectations—that JGN continues to provide safe, reliable and efficient services—JGN has assessed a series of options to determine the best way to deliver on its objective of managing lifecycle risks of platform and processing systems. These options include: 1. **Managed with risk** 2. **Maintain level of support** 3. **Rearchitecting and replacement** **Option 1: Manage with risk** **Description** Systems would not be updated or refreshed. This will result in a significant risk to JGN's ability to operate its network safely, reliably and efficiently. Whilst JGN could attempt to put in place manual mitigations such as: • Isolation of systems to contain unsupported products which might pose a cybersecurity challenge • Minimise use of the systems and switch to alternative options to minimise the need to engage vendor support • Develop additional custom functionality outside the application to achieve the required capability all of which will require significant resources to achieve with little assurance that our efforts would be successful, whilst also introducing business and process inefficiencies. **Costs** This option does not align with Jemena's Information Technology Plan under the section on IT Asset Lifecycle Management nor is it consistent with industry based best practice. Therefore, no costings have been developed for additional operational support resulting from the manage with risk approach. **Risks** This approach presents too high a risk to the business, would compromise JGN's ability to continue to deliver distribution services and comply with regulatory requirements. It would require significant new business resources and is outside the strategic investment plans as outlined in the IT technology plan. **Benefits** There are no additional benefits associated with this option as it is about maintaining existing services. **NPV Analysis** Not applicable. **Summary** Option 1 aims to maintain the existing systems at low cost but it comes with unacceptable business risk.

Option 2: Maintain level of support

Description

This approach involves following the established technology upgrade path of each system and module in this investment brief to the most recent supported versions to avoid operating them outside vendor support windows. JGN intends to use the opportunities when life cycling the systems and modules to simplify them wherever possible to prepare them for the potential transition to Cloud based options in the future. However, JGN expects to use the same software as is currently in place and maintaining a broadly similar IT architecture which leverages our inherent expertise and capabilities with existing systems through to the end of the 2020-25 regulatory period.

Direct Unescalated Costs (mid-year 2018)

$2018	RY21	RY22	RY23	RY24	RY25
Credit Management & Billing Reporting & Analysis			127,512	255,024	127,512
Corporate Works KPI Reporting & Dashboards Enhancements	151,800	151,800	151,800	151,800	151,800
Business Objects/Cloud Analytics Lifecycle	165,037		165,037		165,037
Data Warehouse Lifecycle (SAP BW/4HANA)	302,568		302,568		302,568
SAP HANA SDI Life Cycle (SLT, ESP, Data Services)	151,284				151,284
SAP HANA SDI Minor Patches (SLT, ESP, Data Services)		34,383	34,383	34,383	
Total Recurrent	**770,689**	**186,183**	**781,299**	**441,207**	**898,201**

The recurrent cost of these projects of $3.08m has been calculated using JGN's standardised IT Project Estimation Tool as described in the Technology Plan under the section on Forecasting Method.

The scope and the basis of the cost estimates for each project are:

1. Credit Management & Billing Reporting & Analysis (Project ITGG06) - With the incremental shift to customer direct services, JGN will increase its exposure to bad debt. In order to ensure a stable revenue recovery, JGN requires a reporting solution to support internal processes for credit management and bad debt recovery that support equivalent revenue recovery.
   The cost estimate is based on experience in updating the billing module interfaces and reporting system to reflect the changing reporting needs of billing analysis. Based on this, JGN assesses the project as being of small to medium size taking over 12 months to implement and being of medium complexity.

2. Corporate Works KPI Reporting & Dashboards Enhancements (Project ITGG27) – As the business performance measurement frameworks evolve to support increased performance and new business processes, the KPI reporting has to be continuously refreshed to adjust the reporting of key performance indicators. This project will ensure continuity of service for KPIs and dashboards used to track the JGN performance on operational, financial or compliance metrics.
   The cost estimate is based on experience in updating the reports and dashboards on a rolling, annual basis. Based on this, JGN assess the activity as being of small size, less than 3 months duration and of low complexity.

3. Business Objects/Cloud Analytics Lifecycle (Project ITSD16) – Lifecycle upgrade of Jemena's existing Business Intelligence and Dashboarding software.

The cost estimate is based on experience in updating the software when new versions are released and the timing of when these releases are expected from the vendor. Based on this, Jemena assesses that this is small to medium level project that will take less than 3 months to implement and is of medium complexity.

4. Data Warehouse Lifecycle (SAP BW/4HANA) (Project ITSD17) - Lifecycle upgrade of Jemena's existing shared enterprise data warehouse platform supporting the JGN business. The cost estimate is based on experience in updating the software when new versions are released and the timing of when these releases are expected from the vendor. Based on this, Jemena assesses that this is medium level project, occurring every second year that will take less than 3 months to implement and is of moderate complexity.

5. SAP HANA SDI Life Cycle (SLT, ESP, Data Services) (Project ITSD57) - Lifecycle upgrade of Jemena's existing data replication and transformation platforms.
The cost estimate is based on experience in updating the software when new versions are released and the timing of when these releases are expected from the vendor. Based on this, Jemena assesses that this is a small to medium level project, occurring every fourth year that will take less than 3 months to implement and is of moderate complexity.

6. SAP HANA SDI Minor Patches (SLT, ESP, Data Services) (Project ITSD58) – Minor lifecycle patching of Jemena's existing data replication and transformation platforms
The cost estimate is based on experience in updating the software when smaller, patch updates are released and the timing of when these releases are expected from the vendor. Based on this, Jemena assesses that this is a very small level project, occurring in years where more major upgrades (project ITSD57) are not being released that will take less than 3 months to implement and are of low complexity.

Risks

There are no material risks for this option.

Conforming capital expenditure

Rule 79 (1)(a) of the National Gas Rules states:

> *The capital expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services.*

Undertaking these projects, the proposed capital expenditure is consistent with the NGR Rule 79 as it is:

- Prudent - The expenditure is necessary to maintain the reliability of the services and maintain the integrity of services to customers and is of a nature that a prudent service provider would incur. It is the best practice approach to maintaining the ability to continue providing financial, management and regulatory reports.
- Efficient - The option selected is the most cost-effective long-term option that meets the necessary operational requirements in order to meet the compliance with legislative, regulatory obligations and Australian Standards.
- Consistent with accepted and good industry practice. In addition, it is consistent with Jemena's Risk Management Manual and AS2885.

The project is also consistent with NGR rule 79 (2)(c), because it is necessary to:

- Maintain and improve the safety of services (79(2)(c)(i)) – life-cycle upgrades are required to enable the continued reporting and management of hazards, incidents (including property damage, personal injury), near misses and health & safety.

- Maintain the integrity of service (79(2)(c)(ii)) – as set out in the project scope above – the reporting systems support good business operations and therefore the continuity of service provided to customers and the regulators.
- Comply with a regulatory obligation (79(2)(c)(iii)) - the systems covered by this investment brief are required to comply with regulatory obligations including company financial reporting, health & safety reports and producing Regulatory Information Notices.

Benefits

There are no direct, quantifiable benefits for this option. These investments maintain the status quo and ensure that JGN's reporting and analysis systems remain current, reliable, secure and fit for purpose.

NPV Analysis

The Net Present Cost of this option is $-$2,631,524.

See attachment "NPV for Reporting and Analytics Lifecycle Investment Brief" – NPV Calc|Option 2.

Summary

Option 2 is expected to:

- Reduce implementation risk given the upgrade to existing systems does not involve the installation of new technologies across all the projects and require minimal business process change.
- Ensure Jemena's shared systems remain current, reliable, secure and fit for purpose.
- Represent the most cost effective and risk mitigating option.

Option 3 Rearchitect and replace

Description

A market review would be conducted prior to the current systems being end-of-life to identify alternate technology solutions to replace data warehousing and reporting, potentially resulting in the use of different applications. Additional risk needs to be managed around data conversion, process & change management, integration and testing. A competitive tender process would also need to occur to secure a fit for purpose application(s).

Costs

Given the expected costs would be significantly higher than option 2 this approach is not justified.

Conforming capital expenditure

As per option 2.

Risks

A full rearchitect and replacement of the reporting environment is highly risky and difficulties encountered in deploying a totally new platform may result in cost overruns.

Benefits

JGN estimates that the benefits of this option are comparable to option 2.

NPV Analysis

The costs involved for this option are difficult to precisely estimate given that a market search for alternatives would need to be conducted. However, it is likely to be of the order of magnitude of the original investment in the data warehouse and business intelligent environment of $5.3m in the current period in addition to some of the costs also listed in Option 2 as dashboards and billing reports will still need maintaining.

In addition, any new system will, itself, require some level of ongoing maintenance support in the future.

<table>
<tr><td></td><td>Summary
Option 3 aims to maintain the existing capability but at substantial cost and risk.</td></tr>
<tr><td>Options Summary</td><td>The table below summarises the quantitative and qualitative differences between the analysed options.
<table>
<tr><th></th><th>NPV $2018</th><th>Qualitative Risks</th><th>Qualitative Benefits</th></tr>
<tr><td>Option 1</td><td>$0</td><td>Medium/High</td><td>Low</td></tr>
<tr><td>Option 2</td><td>$-2,631,524</td><td>Low</td><td>Low</td></tr>
<tr><td>Option 3</td><td>$-5,595,288</td><td>High</td><td>Low</td></tr>
</table>
JGN selects its appropriate preferred option by considering the direct differences between the options as expressed in the NPV analysis and indirect or qualitative differences in risks and benefits.</td></tr>
<tr><td>What We Are Recommending</td><td>Option 2 is the preferred option. This option is expected to maintain JGN’s ability to fulfil its many regulatory and corporate reporting needs through a contemporary, vendor supported, secure platform.</td></tr>
<tr><td>Relationship to ICT Capital Forecast</td><td>The preferred option for this business case is contained in the ICT investment plan as a non-recurrent project under Project IDs ITGG06, ITGG27, ITSD16, ITSD17, ITSD57 & ITSD58.</td></tr>
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