

# Project Justification – IT17 – SAP ERP / ISU Refresh

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## Document Control

### Change History

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Note: Printed copies of this document are uncontrolled.

### Document Review

This document has been reviewed by the following parties prior to approval:

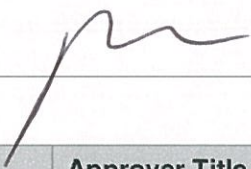
Reviewer Name	Role	Date


## Document Approval

Approval of the Project Justification for the IT17 – SAP ERP / ISU Refresh project is provided by the signatories shown below.

Changes to this document will be coordinated and approved by the undersigned or their designated representatives via project change management.

The undersigned acknowledge they have reviewed and approved this document.

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## 1. Project Description

The SAP ERP and ISU systems used by Multinet Gas (MG), is a platform for supporting its capital, operational and fixed asset financials, technical asset management and maintenance processes, as well as network billing functions. MG's current version of SAP ERP and ISU EHP7 was implemented as part of a major refresh in 2013.

This project is to refresh the currency of this core platform in accordance with MG's "IT Asset Management Policy 2.0".

SAP maintenance support for the current SAP ERP and ISU versions will cease completely as of 31<sup>st</sup> December 2025. To remain on SAP, an upgrade to S/4 HANA will be required prior to 2025.

SAP S/4 HANA is SAP's next generation application suite built on a simplified code base, running on an in-memory HANA database. The move from SAP R/3 to SAP S/4 HANA is similar to the transition from SAP R/2 to SAP R/3. SAP S/4 HANA can be deployed as an on-premise, cloud or hybrid solution.

Faced with this major SAP upgrade MG plans to avoid unnecessary expenditure on interim refreshes currently published in SAP's EnHancement pack (EHP) and platform strategy, investing these savings in this upgrade project.

The project will commence in the 2018 – 2022 period, with preparatory work for the upgrade.

The preparatory work will include:

- A detailed analysis of the upgrade options (e.g. cloud, in-house, alternative platform) and development of an associated business case recommending the option best suited to MG
- An initial high level design for the upgrade of SAP ERP and ISU to SAP S/4 HANA or the recommended alternative solution
- Implementation of any EHP refreshes / upgrades required as a pre-cursor for delivery of the recommended option.

Implementation of the solution will commence in 2023 and complete prior to the 2025 deadline imposed by SAP.

## 2. Objectives / Purpose

The purpose of this project is to maintain the currency of this core platform, ensuring that the ability to support core business capability is prudently and efficiently maintained within acceptable risk tolerances. At the same time, preparatory work needs to be undertaken to ensure a smooth transition to S/4 HANA or any alternative recommended solution.

### 3. Strategic Alignment

#### 3.1. National Gas Rules Alignment

The project aligns to the following National Gas Rules (NER) capital expenditure criteria:

- Rule 79 (1) the capital expenditure is such that would be incurred by a prudent service operator acting efficiently in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services;
- Rule 79 (2) (c) (ii) the capital expenditure is necessary to maintain the integrity of services

Implementation of this project directly supports MG's ability to mitigate against the increasing likelihood of failure and hence risk associated with operating ageing and unsupported software. In addition, it ensures that this core application is migrated onto a supported platform in a timely manner and before SAP support is withdrawn by SAP.

#### 3.2. Multinet Gas Strategic Themes Alignment

This project supports the key MG business strategy to:

- Maintain systems to industry standard to reduce risk of disruption to customers and retain levels of efficiency
- Ensure ongoing performance, resilience and safety in the changing distribution network
- Ensure readiness to achieve regulatory requirements

In supporting the above themes, the SAP ERP/ISU refresh helps MG achieve their business objectives of delivering customers a safe, reliable and sustainable energy supply.

### 4. Options

#### 4.1. Option 0 – Do Nothing

Under this option the SAP ERP/ISU systems would not be refreshed during the 2018 – 2022 period and would not allow sufficient time for MG to migrate to a supported platform prior to the deadline imposed by SAP. This would result in a breach of MG's "IT Asset Management Policy 2.0" and significantly increase the likelihood of system failure and risk associated with operating ageing and unsupported software.

The Do Nothing option reduces business effectiveness as transaction volumes grow, system performance declines and operational cost and business risks increase with the ageing system.

#### 4.2. Option 1 – Prepare for refresh and/or replacement of SAP ERP and ISU

This option will delay and/or avoid SAP EHP upgrades during the 2018-2022 period, investing savings from not performing these upgrades in preparation and planning for the major upgrade required prior to 2025.



SAP ERP and ISU are business critical applications, with many functions and business processes highly dependent on these systems. The business risk associated with any outage or issue impacting these systems is extreme or at best Very High. To mitigate against this risk, Option 1 is not only the most cost effective option, but also the most risk averse.

Adopting SAP's EHP strategy provides a simplified way to manage and deploy software releases to maintain technical and functional currency rather than undertaking complex and costly system upgrades. However, as SAP will cease support of MG's SAP version from 2025, a major upgrade to SAP S/4 HANA will be essential for MG if it is to remain on SAP systems.

This option:

- Involves development of a fully costed Business Case and recommended solution after considering options (e.g. upgrade to SAP HANA, transition to SAP cloud solution) for implementation prior to the 2025 SAP deadline.
- Ensures that MG meets any pre-cursor conditions for an upgrade to SAP S/4 HANA (or any alternative recommended solution) by applying any EHPs or enhancements that are a pre-requisite for the recommended solution, minimising the upgrade risk and cost.
- Includes initial high level design to prepare for the upgrade to the recommended and/or approved solution prior to the cessation of SAP support in 2025.

#### **4.3. Option 2 – Migrate from SAP to an alternative core ERP application**

This option would require a major IT Capital Project commencing in 2018 - 2022. The actual cost of implementing the original MG SAP ERP solution was in excess of \$20M. Implementation and migration on to an alternative platform is likely to be of a similar order of magnitude cost. This option will be further investigated as part of the planning and Business Case development in Option 1, but is not currently considered a viable option and not for delivery in the 2018 – 2022 period.

## 5. Economic Evaluation

The Economic Evaluation table below is the result from the “Business Case Output” from the “Financial Evaluation Spreadsheet”. This is MG’s Capital Project Evaluation tool. The tool comes with standard parameters which are protected and cannot be altered.

The tool ranks the options based on Least Cost (Net Present Value). The least cost project will have a Project Ranking of 1.

	"Status Quo" Reference Case	Option 1: Prepare for refresh and/or replacement of SAP ERP and ISU	Option 2: Migrate to alternative ERP
<b>Net Capex (\$)</b>	\$0	\$18,027,444	\$22,777,885
<b>Opex (\$)</b>	\$5,823,133	\$4,454,580	\$4,550,337
<b>Risk (\$)</b>	\$25,619,905	\$0	\$0
<b>Least Net Cost (\$) (PV)</b>	\$31,443,038	\$22,482,024	\$27,328,222
<b>Project Ranking</b>	3	1	2

The above costs include the total estimated cost of migrating to the new SAP HANA platform including SAP S/4 or a suitable alternative solution. These costs are indicative only at this time, subject to detailed analysis and business case of options during the 2018 – 2022 period.

Costs for the 2018-2022 period for either option 1 or 2 are constrained to \$5.3M.

Opex costs will not vary in the 2018 – 2022 period and cannot be realistically estimated until further analysis is performed in 2021 / 2022.

### 5.1. Recommendation

It is recommended that Option 1 - Prepare for refresh and/or replacement of SAP ERP and ISU is the most cost effective and lowest risk option with the least Net Present Value cost.

Following a detailed analysis for the United Energy (UE) business which indicated a high cost of early adoption, the recommendation was made, for UE, to defer the S/4 HANA upgrade and revisit during the 2021 - 2025 EDPR submission. As synergies can be gained implementing UE and MG SAP upgrades sequentially using the same project delivery resources it is proposed to begin the evaluation and move to a new platform for MG in the 2018 - 2022 with completion in 2023/25.

Maintaining cost effective, low risk support is paramount to MG. The proposed option, offers the only prudent course of action for the 2018 – 2022 period.



This is the preferred option as it:

- Delivers a fully costed Business Case and recommended solution after considering options (e.g. upgrade to SAP HANA, transition to SAP cloud solution) for implementation prior to the 2025 SAP deadline.
- Ensures that MG meets any pre-cursor conditions for an upgrade to SAP S/4 HANA (or any alternative recommended solution) minimising the upgrade risk and cost.
- Includes initial high level design to prepare for the upgrade to the recommended and/or approved solution prior to the cessation of SAP support in 2025.

This option leverages MG's existing investment in SAP ERP and ISU, and adheres to MG's "IT Asset Management Policy 2.0".

## 5.2. Benefits Summary

The following benefits are expected to be realised by delivering the scope of work described:

- Delivers cost saving from avoiding unnecessary EHP upgrades, investing these savings in the preparation for delivery of a new platform.
- Enables the maximum utilisation of MG's investment in the current SAP technology platform which will become un-supported in 2025.
- Maintains the currency of this core platform in accordance with MG's "IT Asset Management Policy 2.0" by replacing with an alternative current solution.
- Supports the similar but significantly higher risk project that will be required for UE that will need to be conducted in 2023/24 allowing the same resources to be used across both projects.

## 6. Proposed Solution

### 6.1. Solution Overview

MG's current version of SAP ERP and ISU EHP7 was implemented as part of a major refresh in 2013. The proposed solution not only maintains the currency of this core platform in accordance with MG's "IT Asset Management Policy v2.0", but plans the major project that will be required to upgrade the platform prior to it becoming unsupported in 2025.

Whilst the detailed effort and costs associated with the S/4 HANA upgrade are currently largely unknown (insufficient detail available from SAP and no early adopters to compare with), this project will, in the 2018-2022 period:

- Consider the deployment options for migrating to SAP S/4 HANA, i.e. Cloud vs. on-premise solution, or hybrid (cloud and on-premise)
- Consider any alternative viable solutions
- Prepare a detailed Business Case for the preferred deployment option taking into account experience of early adopters, benefits of implementing MG S/4 HANA immediately prior to the UE S/4 HANA upgrade
- Complete detailed planning and design for implementation of the recommended solution, including interfaces to current systems and processes
- Apply any critical EHPs and/or plan for the implementation of any SAP enhancements required as a pre-cursor to the implementation in 2023/24 of the recommended solution.

## 6.2. Assumptions

The solution estimated assumes the following:

1. An upgrade to SAP S/4 HANA is likely to be the most cost effective and prudent option
2. The SAP S/4 HANA platform will be purchased and implemented in 2022
3. The solution for MG SAP will be implemented immediately prior to the equivalent solution for UE, leveraging resources and experience gained in the MG SAP solution.

## 6.3. Processes and Systems Impacted

The following systems currently integrated to SAP ERP and ISU would be impacted by the S/4 HANA upgrade:

- MSI – CATS/B2B - B2B and market communications
- GIS - Gas asset location and connectivity
- MVRs - Route and task management for the import of meter read data from handheld devices
- Billing Data Mart - Billing data repository used for annual UAFG processing and monthly regulatory reports

The interfaces between the above systems and the new SAP S/4 HANA will be assessed as part of the detailed planning and design phase.

## 6.4. Risks

The risks to MG from NOT proceeding with this project are:

Risk Description	Risk Rating	Mitigation Strategy
The existing SAP ERP and ISU will be out of support if not upgraded by 2025. The majority of MG's business critical processes are dependent on SAP ERP and ISU. Likelihood of system failure increases when operating an aging system with unsupported software.	Very High	Proceed with Option 1 as described in this document.
Reduction in business effectiveness as transaction volumes grow and system performance declines if MG does not adopt migrate to a suitable alternative solution (e.g. S/4 HANA) by 2025. Operational costs and business risk will increase over time.	Very High	Proceed with Option 1 as described in this document.

## 6.5. Constraints / Dependencies

Project costs post 2022 are indicative only and subject to confirmation once further detail is available from SAP. These will be revised and included as part of the next GAAR submission.

## 7. Outputs

The SAP ERP and ISU EHP refresh projects are recurrent projects required to maintain current capability. Tangible outputs are limited to maintaining and providing all current capability.



## 8. Project Capital Costs

This section presents a summary view of the capital and operational costs and benefits of developing, implementing and operating the Proposed Solution.

Capex Category	GAAR Period Cost (\$'K)	CY' 2018	CY' 2019	CY' 2020	CY' 2021	CY' 2022	Post GAAR Period	Source / Explanation
Labour IT	2,826.2				927.3	1,898.9	11,113.5	All IT and business labour costs associated with designing, developing and implementing the project solution.
Hardware (application specific)	1,706.5				231.8	1,474.7	975.0	Estimate of Hardware purchase costs based on supplier quotations / price lists
Software	423.9				139.0	284.8	1,667.0	Software licence purchase including first year support and maintenance
Security	28.2				9.3	19.0	111.1	~1% of Labour
PMO	348.9				91.5	257.4	970.7	Project Management Office including IT Capital Overheads
<b>TOTAL</b>	<b>\$5,333.8</b>				<b>1,399.0</b>	<b>3,934.8</b>	<b>14,837.3</b>	

Estimates are based on previous experience of EHP enhancements to the Multinet Gas SAP system and actual cost of implementation of the original SAP solution for MG in 2013.

## **9. Operating Cost Impact**

If as a result of developing the business case, the recommended solution is a cloud solution then there will be a significant IT Opex impact in the next GAAR period post 2024. However, there is no forecast IT Opex impact in the period 2018 - 2022.

## **10. Timeframes**

This project is expected to commence Q3 2021 and run until 2024.

## **11. Risks and Opportunities**

The major Risks / Opportunities associated with this project relate to the level of detail available from SAP and early adopters of the SAP S/4 HANA solution and identifying viable alternative solutions (e.g. cloud service providers).

**End of Document**

