



CLIENTS | PEOPLE | PERFORMANCE

## **Review Today Pty Ltd**

Report for Asset Management Review

Part 2 - Review of Asset  
Management Capability

August 2009



# Contents

1.	Executive Summary	1
2.	Introduction	2
2.1	Objectives and Scope	2
2.2	Considerations	2
3.	TEAMQF Framework and Assessment Process	3
3.1	What is TEAMQF?	3
3.2	What is the “Gap Analysis”?	3
3.3	What is an “Element-Based Assessment”?	4
3.4	What is the “Gap Audit Tool”?	5
3.5	The Improvement Plan	6
3.6	TEAMQF Assessment Process	6
4.	TEAMQF Analysis Outcomes	9
4.1	TEAMQF Primary Element Ratings	9
4.2	TEAMQF Secondary Element Ratings	12
4.3	Target Performance	13
5.	Priority Areas of Improvement	14
5.1	Project Identification and Selection	14
5.2	Asset Management Improvement Program	14
6.	Conclusions	16

## Table Index

Table 1	The 7 Primary Asset Management Quality Elements	4
Table 2	ADC Asset Management Element Weightings	7
Table 3	Improvement Priorities By Primary Element	9
Table 4	Priority Improvement Projects	14

## Figure Index

Figure 1	Key Business Process Chain – Typical Utility Business	5
----------	---	---



Figure 2	Overall Primary Element Ratings	9
Figure 3	Overall Secondary Element Ratings	13

## Appendices

- A Completed Questionnaire



## 1. Executive Summary

GHD has reviewed the Asset Management systems and processes of Armidale Dumaresq Council (ADC, Council), as part of review undertaken by Review Today to assist them to provide a current view of their financial status and also to identify and prioritise improvements that Council can make in the management of the asset portfolio to ensure that limited funds are spent appropriately.

The review took the form of a quality assessment, supported by GHD's TEAMQF (Total Enterprise Asset Management Quality Framework) model. TEAMQF is a gap analysis tool that is designed to establish collective confidence levels in a client's ability to deliver sustainable Asset Management solutions through developing and implementing 'appropriate' Asset Management plans. The assessment consisted of a workshop exercise and was based upon openness and honesty of the participants. The inputs supplied by ADC staff have not been verified independently.

It was clear from the review that Council sees sustainable asset management of its asset portfolio as a key objective. Clear evidence for this was shown by the active participation of the Council Senior Management team throughout the review process. This objective has seen Council implement a robust set of asset management practices and processes which have been embedded in Council's culture.

We have identified a number of areas where improvements could be made to enhance what Council is already undertaking, namely:

- ▶ It was clear that whilst Council had introduced a comprehensive suite of information management systems they were not being used to their full potential. It is considered that Council should investigate the potential of the various modules and ascertain how the use of additional features such as the maintenance management module might enhance their operations. Once this is done an implementation plan should be developed and staff suitably trained. Refresher courses should be provided on a regular basis in all aspects of the systems;
- ▶ Staff identified that the management plans developed for the various sets of assets classes vary in presentation style and content. Council should develop a standard format for all management plans. The format should include a section in each plan that records levels of service and develop methods of tracking performance;
- ▶ Council has good processes and practices for asset related Service Delivery but the processes are not well documented. Detailed guides should be prepared that formalise processes and practices for service delivery. One particular feature that was found to be lacking was a formal processes for incorporating feedback from service providers to improve service delivery in the future;
- ▶ Some processes are practices were found to be lacking or poorly executed. It is considered that Council should develop systematic processes for tracking projects from the strategic planning stage through to the final service delivery and also to develop processes for assuring the quality of maintenance manuals and instructions; and
- ▶ Council should refine the maintenance strategies to incorporate the overall business drivers for maintenance, capital investment and system performance.



## 2. Introduction

### 2.1 Objectives and Scope

This high-level strategic review is intended to provide an overview of ADC's Asset Management capability. To achieve this we set two main objectives for the review:

1. To measure Council's Asset Management practices against Best Appropriate Practice for a council of this size
2. To develop a prioritised program for improvements to Council's Asset Management practices, in order to address its responsibilities as asset custodian on behalf of the Armidale community.

### 2.2 Considerations

This review involved an assessment of Council's Asset Management systems and processes against GHD's Total Enterprise Asset Management Quality Framework (TEAMQF). The assessment involved a self assessment workshop with management and staff, incorporating:

- ▶ A balanced scorecard approach that prioritises asset management quality element ratings specifically aligned to ADC's business drivers
- ▶ A process involving responding to a series of questions on relevant Asset Management quality elements that is used to rate ADC's organisational asset management capability

The gap analysis process is consistent and repeatable to develop focused asset management improvement programs and can be used to measure improvements over time.

The assets included in this assessment do not include all assets managed by Council, but do include the major infrastructure assets used in the delivery of services to the community. The review evaluated:\

- ▶ Roads
- ▶ Bridges & Culverts
- ▶ Stormwater
- ▶ Buildings
- ▶ Recreational & Natural Assets
- ▶ Commercial & Business

The findings from this review are "honesty" based to a large extent, and independent verification of specific Asset Management activities has not been undertaken.



## 3. TEAMQF Framework and Assessment Process

### 3.1 What is TEAMQF?

The “Total Enterprise Asset Management Quality Framework” (TEAMQF) has been developed by GHD over several years to assess the ability of asset rich organisations to manage their assets from a whole of business perspective.

The key question is “How confident are we that the right investment is being made at the right time?” TEAMQF attempts to answer this and provide a path to sustainable improvements in Asset Management. Application of TEAMQF leads to:

- ▶ Improvement in the manner in which infrastructure assets are managed
- ▶ Improved confidence in determining the future financial obligations required to properly manage the assets
- ▶ Identification of those areas of Council’s asset management system that should be dealt with first to ensure that improved performance is being achieved cost effectively.

TEAMQF utilises a rating process which reflects an approach recommended in the International Infrastructure Management Manual to evaluate an organisations current asset management capability. It utilises an “Element-based Assessment” which looks at those factors that contribute to good asset management and a “Gap Analysis” process which compares current processes to appropriate practice to identify areas of greatest need for improvement.

### 3.2 What is the “Gap Analysis”?

The gap analysis allows an organisation to understand “where it is relative to where it wants to be” in terms of Asset Management practices, within a specified period of time. The gap is the distance between the current and desired future status of the organisation.

The gap analysis allows an organisation to compare itself to those Asset Management practices that are considered reasonable and relevant for that particular organisation to embrace. This is not necessarily ‘World’s Best Practice’, as this is generally not be appropriate for the specific organisation due to factors such as its size, commercial objectives, geographic spread, asset profile, regulatory environment and/or its urban or rural base. The important issue is to identify what is called ‘Best Appropriate Practices’ (BAP). These are practices that fit the particular organisation’s needs most effectively and efficiently.

The gap analysis serves three fundamental functions that match this review’s objectives:

- ▶ Assessment of Asset Management processes, practices and systems against Best Appropriate Practice for the organisation
- ▶ Identification of processes where the organisation has achieved excellence i.e. BAP
- ▶ Identification of processes where the organisation requires improvement, to guide future actions toward and measuring progress against Best Appropriate Practice.



### 3.3 What is an “Element-Based Assessment”?

A typical business is made up of a series of key organisational processes that must be managed if the organisation is to thrive. These processes are the source of GHD's benchmark for assessing the current state of an organisation's Asset Management practices. GHD has broken down a typical asset intensive organisation into 7 primary quality elements, 23 secondary elements and 173 tertiary quality elements. The 7 primary Asset Management quality elements are listed in Table 1.

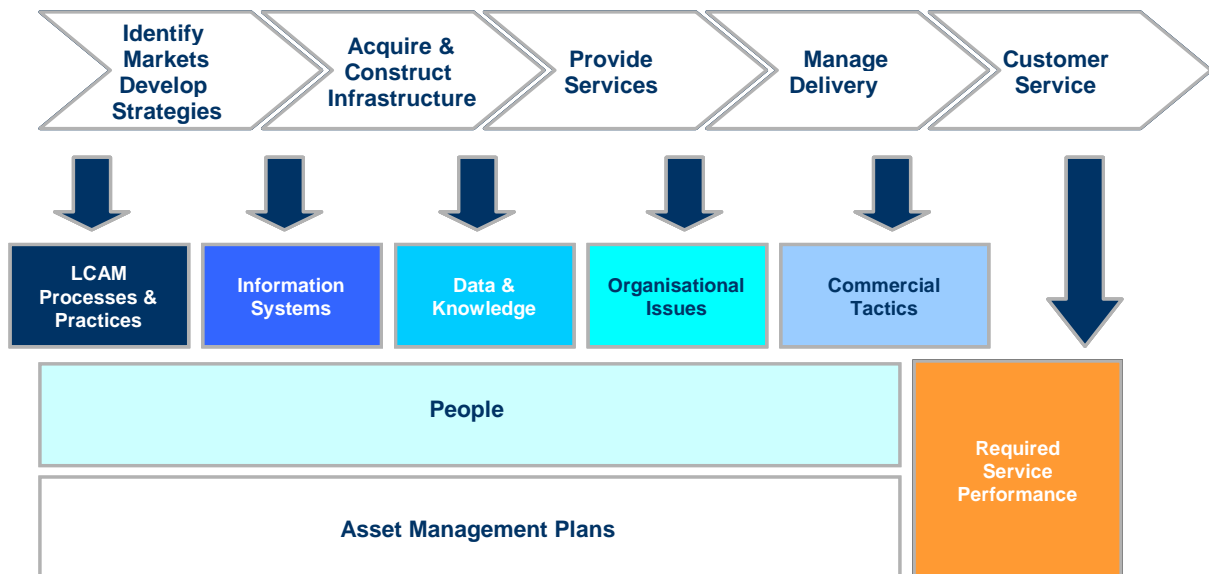
**Table 1 The 7 Primary Asset Management Quality Elements**

Asset Management Quality Elements	
1	Process and practices used in the completion of life cycle Asset Management activities
2	Information systems required to support the processes and practices and store and manipulate the data and knowledge as required
3	Data and knowledge of the assets and asset performance, their appropriateness, adequateness and reliability
4	Commercial tactics used to efficiently carry out the work identified by the processes above
5	Organisational Issues comprising the structure, roles and responsibilities that exist to support life cycle Asset Management
6	People Issues comprising the attitudes, skills and endeavour of staff involved in the Asset Management process
7	Total Asset Management Plans, which form the key outputs from the above inputs and processes

These seven primary elements are considered critical to achieving sustained performance of the organisation at the lowest life cycle cost. Each of the seven components adds value to the raw business processes consistent with regulations, customer demands and shareholder requirements.

All activities undertaken by a business should contribute to its value in terms of delivery. Each activity will be linked and form a component part of the business. Each activity will have a level of importance or weight measured by its contribution to the business. Figure 1 depicts the relationship between a typical asset based utility business and the seven primary Asset Management elements.

**Figure 1 Key Business Process Chain – Typical Local Authority Business**



Each organisation has a unique sense of the relative importance of the Asset Management quality elements because of its business, environmental, and social/cultural setting. By quantifying this relative importance through a relative weighting, the gap analysis yields the right balance of quality elements in order to prioritise improvements.

GHD has several weightings aimed at businesses during different phases of their path to sustainable Asset Management. GHD has developed a common weighting set for long-term sustainable Asset Management, which is used as a common benchmark between similar businesses. Other shorter-term business drivers from which weightings have been derived by GHD include:

- ▶ Business efficiency
- ▶ Growth or compliance capital
- ▶ Renewals
- ▶ Regulatory and pricing.

More than one weighting set can be developed to see the relative impact of changes in focus and to test the sensitivity of results. The audit process provides for the appropriate business drivers to be identified and for each primary and secondary quality element in the gap analysis to be weighted according to its contribution. The process is collaborative and can be modified at any stage.

### 3.4 What is the “Gap Audit Tool”?

The gap audit tool provides an interface for compiling, analysing and presenting information in a familiar and simplified environment known as a gap analysis chart.

There are 173 tertiary Asset Management quality elements that comprise over 1500 practices associated with advanced Asset Management.



The scale of the gap analysis depicts progressive levels of Asset Management practice from 0 to 5 - from “Innocence” upward through “Awareness” and “Competence” to “Excellence.” Each level up the scale represents, as appropriate, improved practices regarding data, information, organisational issues, and knowledge about the decisions being made on assets.

The scale is somewhat like a ‘log scale’. That is, the effort required for an organisation to step from 0 to 1 is considerably less than that to go from 4 to 5. This is consistent with the belief that early gains can be achieved relatively cheaply, but that considerably greater effort/cost is required to derive benefits as an organisation approaches optimum performance.

Each element evaluated in the process is provided with a Quality Rating individually on the scale. The Quality Rating provides an assessment of the current status of the business with respect to each element. It is estimated that the rating could vary in the order of 5 points in each of the quality elements - most ratings in this review have been based on an assessment by GHD involving workshops and discussions, with little document review or verification.

The gap analysis also depicts the BAP rating as assessed for the organisation. The difference between the Quality Rating and the target or BAP, represents the ‘Gap’ between current practice and the desired short-term/ long-term states, respectively.

### **3.5 The Improvement Plan**

The scores for each asset management quality element are ranked to produce a prioritised improvement plan. The scores are a combination of the Gap (between the current status quality rating and the target or BAP) and the weighting assigned to the particular AM element.

This ranking is then considered holistically and improvement elements are manually aggregated to form logically grouped improvements projects. The projects are prioritised to reflect project dependencies and sequences.

### **3.6 TEAMQF Assessment Process**

The process steps adopted for this Asset Management Review comprise:

- ▶ Workshops with key managers and staff
- ▶ Determination of business element weightings (by GHD)
- ▶ Understand and assess current performance levels in each of the relevant quality elements. Using this information we:
  - Undertook a BAP assessment, including setting appropriate practice and target ratings
  - Developed an asset management improvement program
  - Prepared a report summarising improvements

#### **3.6.1 Workshops**

Our review consisted of a one-day workshop with selected management and staff from Council and the Asset Management Team to cover:

- ▶ Business drivers;
- ▶ AM Element Assessment down to a “secondary” level.



Responses were sought from ADC’s asset management team in relation to a series of specific questions regarding current asset management “Levels of Practice” and “Extent of Practice” for the asset groups under review. Although there were sometimes variations in response depending on which asset group was being discussed, the ratings agreed to by the team were considered the best reflection of current practice across the portfolio.

### 3.6.2 Current Practice Quality Ratings

The information sources noted above were used to derive a quality rating for each of the relevant secondary quality elements, representing the current position of ADC Asset Management systems and processes against a Best Practice rating of 100.

### 3.6.3 Best Appropriate Practice Quality Rating

Best Appropriate Practice is the justified sustainable business Quality Rating and is the Quality Rating that the organisation should be driving towards in the long term. ADC is keen to work towards BAP on the understanding that a Quality Rating of 100 is neither practical nor relevant for a rural Council.

In this instance, BAP Quality Ratings have been assigned based on:

- ▶ GHD’s knowledge of government, Council and other businesses gained from numerous previous assessments using this and predecessor Gap Analysis tools
- ▶ GHD’s assessment of what is considered to be achievable and beneficial to ADC’s asset management team in the long to medium term, given the identified business drivers
- ▶ Discussions during the workshops where target best practices were identified for the organisation, derived from specific detailed reviews, strategy plans and Council priorities.

The identified ‘gap’ has been used to define the organisation’s improvement program.

### 3.6.4 AM Element Weightings

Primary and secondary Asset Management element weightings are applied to assist GHD in identifying priority areas for improvement. These weightings are pre-determined by GHD based upon our sustainable benchmark for a Council of ADC’s size. The primary and secondary weightings applied in this study are shown in the dark blue columns in Table 2.

**Table 2 ADC Asset Management Element Weightings**

Ref. No.	Primary Quality Element	Relative Weighting (Sustainable) %	Secondary Quality Element	Relative Weighting (Sustainable) %
1.01	Processes & Practices	35	Demand Analysis	20
1.02			Knowledge	10
1.03			Accounting & Costing	7
1.04			Strategic Planning	9
1.05			CAPEX Evaluation	11
1.06			Business Risk	8
1.07			Creation/ Acquisition	4



Ref. No.	Primary Quality Element	Relative Weighting (Sustainable) %	Secondary Quality Element	Relative Weighting (Sustainable) %
1.08			Rationalisation/ Disposal	1
1.09			Operations	8
1.10			Maintenance	16
1.11			Work/Resource Management	3
1.12			Continuous Improvement	3
2.01	AM Information Systems	15	Primary Systems	45
2.02			Secondary Systems	20
2.03			Tertiary Systems	20
2.04			Systems Issues	15
3.01	Data & Knowledge	15	Primary Data	45
3.02			Secondary Data	35
3.03			Tertiary Data	20
4.00	Service Delivery	5	Service Delivery	100
5.00	Organisational Issues	10	Organisational Issues	100
6.00	People Issues	10	People Issues	100
7.00	AM Plans	10	AM Plans	100

## 4. TEAMQF Analysis Outcomes

### 4.1 TEAMQF Primary Element Ratings

Figure 2 shows the current level of performance against best appropriate practice in each of the primary elements assessed in the review. The semi-shaded bar represents the rating for each quality element that can be attributed to the top 10% of municipal organisations, based on previous studies conducted by GHD. The difference between the coloured bars and the black line represents the gap between ADC's current level of performance and the best appropriate practice for a Council organisation of their type.

**Figure 2 Overall Primary Element Ratings**

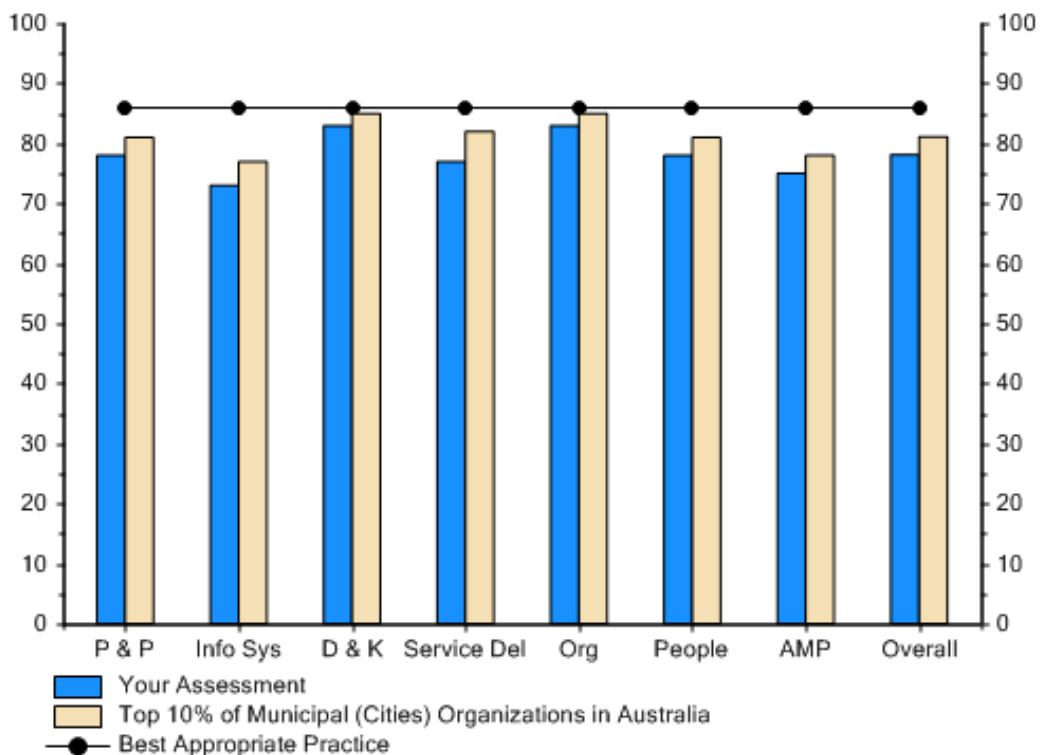


Table 3 following uses the evaluated weighted gap for the infrastructure asset portfolio to rank asset management improvement priorities based on the Primary Elements under review.

**Table 3 Improvement Priorities By Primary Element**

Primary Element	Weighted Gap to BAP	Rank
AM Information Systems	13.0	1
Asset Management Plans	11.0	2
Service Delivery	9.0	3



Processes & Practices	8.0	4
Data & Knowledge	3.0	5
Organisational Issues	3.0	5

Based on the gap analysis, reflecting the ratings agreed by ADC's senior asset management staff, the organisation currently rates behind the top ten percentile of Municipal Organisations in Australia in terms of asset management maturity. It is similarly below the nominal best appropriate practice target level of 86% considered appropriate for an organisation of this size and nature.

The scores allocated to each asset group were aggregated for the purposes of generating improvement priorities for this report, because the issues facing each asset group are similar and a common and coordinated approach to developing and delivering on asset management improvement projects has proven most effective in the past.

ADC is in a good position to use the outcomes of this report to build on its existing Asset Management capability. This should ensure that the direct path to achieving best appropriate practice is followed and that Council's limited resources are channelled most efficiently into those areas that offer the best payback and promote the delivery of sustainable Community Infrastructure in future.

The following observations that we made in respect to the seven primary AM elements:

**4.1.1 Processes and Practices**

*Processes and practices form the basis for all asset management activities within an organisation. Without clearly defined and documented procedures the ability for your organisation to conduct consistent quality outcomes are greatly reduced. Processes should exist to cover the entire lifecycle of the asset and individual practices will be required for different asset types, (i.e. condition assessment is a common process for all assets, however, the actual practice applied will differ for each asset type). Our observations in this area are as follows:*

Most of Council's asset management processes and practices are at the substantial practice level and are generally fairly well entrenched in Council's asset management culture.

- ▶ Council does not model the performance of assets and hence is unable to predict the expected failure modes or time to failure.
- ▶ Practices for systematically tracking projects from the strategic planning stage through to the final service deliver are ad hoc.
- ▶ Council has ad hoc processes for assuring the quality of maintenance manuals and instructions.
- ▶ Council has ad hoc practices for developing maintenance strategies that incorporate the overall business drivers for maintenance, capital investment and system performance.
- ▶ Councils knowledge management system could be improved.
- ▶ Council does not measure and track the progress achieved with approved asset management improvement programs.

**4.1.2 Information Systems**

*Information Systems comprise the electronic or paper systems for retrieval of asset related data. The capability and efficiency of your organisation is highly dependent upon these systems. Information systems come in a variety of forms including card/paper*



*based, computer spreadsheets, stand-alone databases or centrally administered developed electronic systems. Our observations in this area are as follows:*

Councils information systems are mainly automated and fairly well entrenched in councils asset management culture.

- ▶ Council has an electronic system to store operations and maintenance manuals but many manuals have not been converted to electronic format.
- ▶ Council has a comprehensive maintenance management system but it is not utilised.
- ▶ The council management system has capability to store risk assessment information but this facility is largely not utilised.
- ▶ Council does not have a system for lifecycle cost modelling.
- ▶ More training is required in the use of electronic information systems.

#### **4.1.3 Data and Knowledge**

*Data and knowledge that an organisation holds on its assets form the basis of every decision that is made by that organisation. The extent and quality of the data that is held by your organisation is, therefore, directly related to the quality of the decisions that your organisation makes in regards to its assets. Our observations in this area are as follows:*

- ▶ The majority of asset data is stored in the electronic asset management systems. The remaining outstanding information is in the process of being collected.
- ▶ Lifecycle cost histories of assets other than plant are not well recorded

#### **4.1.4 Commercial (Service Delivery) Tactics**

*Commercial or Service Delivery Tactics form the basis for the implementation of asset management planning into the field through internal or external service providers. Good service delivery tactics are necessary for your organisation to drive efficiency through these activities in all life cycle functions from conception to disposal. Our observations in this area are as follows:*

- ▶ Council has robust practices for service delivery and these are usually systematic but ad hoc processes are also used.
- ▶ Process for ensuring good feedback of data and knowledge back into the business from all contracted and in-house service providers is generally poor.

#### **4.1.5 Organisational Issues**

*The organisational structure of your business determines its ability to optimise resources to deliver an efficient outcome and provide flexibility in line with the changing needs of the customer. This section relates to the way Council supports asset management and its effective service delivery. Our observations in this area are as follows:*

Council has a well developed commitment to asset management from all levels within the organisation. This has lead to well integrated processes and practices throughout the organisation.

- ▶ Some of the asset management tasks are not fully integrated into the established asset management systems developed within the organisation. This has lead to some personnel operating in silos.
- ▶ Council's corporate vision with regards to asset management has a heavy emphasis on asset sustainability.



#### **4.1.6 People Issues**

*People, their skills and attitude drive the business to achieve its goals and deliver services in an efficient way. Your organisation is your people and the outcomes that you deliver are therefore dependent upon them. Our observations with regard to this area are as follows:*

GHD was impressed by the knowledge and cohesiveness of the senior management team and its approach to asset management.

ADC does not appear to have developed a skills matrix to match staff asset management skills and knowledge with staff asset management performance obligations. It is considered the organisation should have a clear HR process in which the knowledge and skills and age of individual staff members within the asset management area is known to ensure resources availability and capability as well as promote succession planning, which is a common issue requiring attention with most Councils.

#### **4.1.7 Total Asset Management Plan**

*Asset Management Plans are the collation of all asset management practices, within an organisation and form the basis of the external interface with customers and regulators. Without a robust and substantiated Asset Management Plan for all your assets that clearly outlines level of service and cost, your organisation will potentially lack the both direction and focus. Our observations in this area are as follows:*

Council has management plans for all critical asset classes.

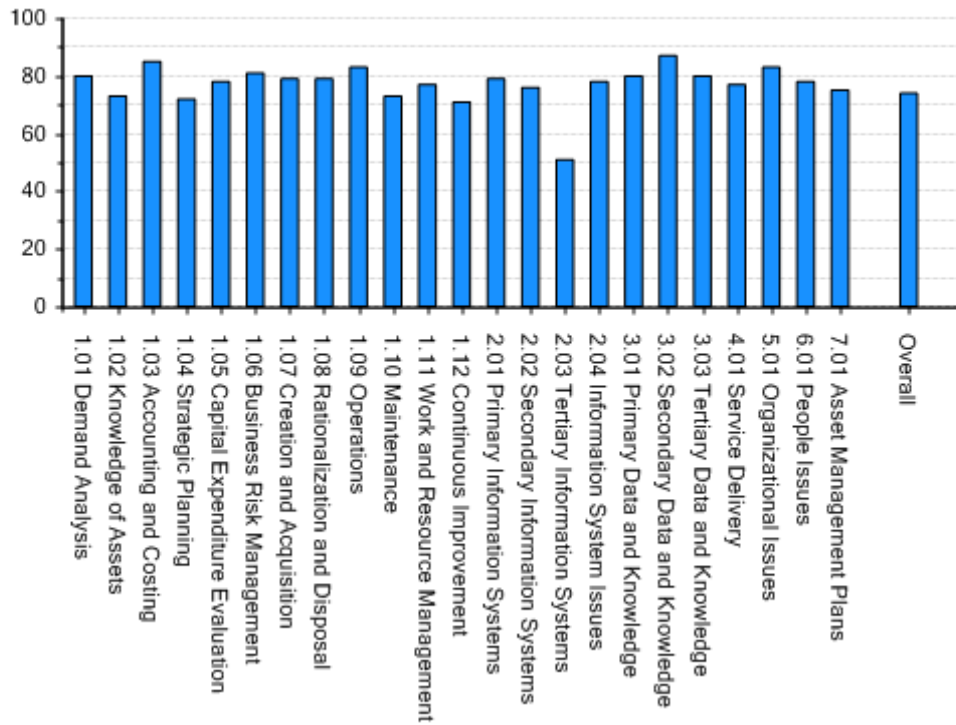
- ▶ Each management plan is in a different format. The format should be standardised across all plans.
- ▶ The plans should include a record of service levels and track performance across those service levels.

## **4.2 TEAMQF Secondary Element Ratings**

Figure 3 illustrates the overall secondary element ratings as they contribute to the primary level results shown in Figure 2. The detailed questionnaire completed with Council, detailing their scores against BAP can be found in Appendix A.



**Figure 3 Overall Secondary Element Ratings**



### 4.3 Target Performance

GHD considers that ADC is performing at an acceptable level but that some improvements could be made, which would drive council’s asset management systems and processes towards best appropriate practice. A rural Council such as ADC should be aiming to achieve a target rating of 86% quality element score across all quality elements over the long term as an appropriate BAP target.



## 5. Priority Areas of Improvement

### 5.1 Project Identification and Selection

A number of priority improvement areas for ADC to consider, have been identified through the Gap Analysis process. This process ranks each secondary quality element on the value chain, taking into account:

- ▶ The gap between the current quality rating and the Best Appropriate Practice quality rating
- ▶ The relative weighting (importance) allocated to given elements.

As mentioned earlier, the value chain weightings for the long-term case and GHD's sustainable benchmark for a municipal organisation of GTCC's size were purposely aligned. This ensures that the improvement project listing is primarily based on the long-term element weighting based on the need to create a more sustainable development of the function and the asset portfolio alike.

It should be noted that whilst this review is targeted at the primary element level, we have given Council a score against each of the secondary elements in order to provide further detail on the required improvement areas. Based on this assessment we have developed a series of improvement projects as shown in Table 4. Although there are many others that require improvement, these have been identified as having primary importance.

**Table 4 Priority Improvement Projects**

Improvement Project	
1	AM Information Systems
2	AM Plans
3	Service Delivery
4	Processes and Practices

### 5.2 Asset Management Improvement Program

#### 5.2.1 Asset Management Information Systems

It was clear that whilst Council had introduced a comprehensive suite of information management systems they were not being used to their full potential.

It is recommended that Council should investigate the potential of the various modules and ascertain how the use of additional features such as the maintenance management module might enhance their operations. Once this is done an implementation plan should be developed and staff suitably trained.

Refresher courses should be provided on a regular basis in all aspects of the systems.



### **5.2.2 Asset Management Plans**

Staff identified that whilst Council had developed comprehensive management plans for the various assets classes the plans vary in presentation style and content.

It is recommended that Council develop a standard format for all management plans. The format should include a section in each plan that records levels of service and develop methods of tracking performance;

### **5.2.3 Service Delivery**

Council has good processes and practices for asset related Service Delivery but the processes are not well documented.

It is recommended that Council should develop detailed guides should be prepared that formalise processes and practices for service delivery. One particular feature that was found to be lacking was a formal processes for incorporating feedback from service providers to improve service delivery in the future;

### **5.2.4 Processes and Practices**

Some processes and practices were found to be lacking or poorly executed.

It is recommended that Council should develop systematic processes for tracking projects from the strategic planning stage through to the final service delivery and also to develop processes for assuring the quality of maintenance manuals and instructions.

Council should also refine the maintenance strategies to incorporate the overall business drivers for maintenance, capital investment and system performance.



## 6. Conclusions

It was clear from the review that Council sees sustainable asset management of its asset portfolio as a key objective. Clear evidence for this was shown by the active participation of the Council Senior Management team throughout the review process. This objective has seen Council implement a robust set of asset management practices and processes which have been embedded in Council's culture.

ADC still has a way to go to achieve Best Appropriate Practice considered appropriate for a local authority of this size and nature.

The quality assessment process has identified those improvement activities or projects that represent the greatest value to ADC in terms of contributing to business objectives and drivers from an Asset Management perspective.

GHD has identified, prioritised and scoped in general terms, the following four Asset Management Improvement Projects to be pursued by Council:

- ▶ Review of AM Information Systems
- ▶ Asset Management Plans
- ▶ Service Delivery and
- ▶ Formalisation of Policy, Practices and Process

This high level review should be considered as an integrated part of Council's business improvement process. It should not take the place of the detailed reviews, analyses and strategies developed by ADC. It should be considered more as part of the Asset Management improvement "jigsaw" to assist the difficult process of prioritisation.



Appendix A  
Completed Questionnaire



## Summary scores

Assessment Questions	Assessment Scores			
	Level of Practice	Score	Extent of Practice	Score
<b>1 Processes and Practices - 1.01 Demand Analysis</b>				
1.01.01 For managing historic records of customer and stakeholder demands on the infrastructure system. (eg How does the organization determine what data that reflects historical demand to collect, how it is to be maintained, and who should be responsible to maintain it?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
1.01.02 For breaking up customer demand for services into key drivers and understanding their influences on future demand. (eg. Does the organization understand the impacts on customers of demographic changes in customer base, growth, aging infrastructure, key stakeholders, state and nature of economy, pending or proposed changes in regulations, etc)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
1.01.03 For undertaking, analysing and responding to customer and stakeholder surveys. (eg. Are surveys conducted and information reported on for future demand forecasting analysis on a recurrent (at least every three years) basis?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
1.01.04 For defining levels of service. (eg. customer response time, permit compliance, odour levels, etc. Are "Customer Charters or Contracts" developed and maintained? Are customer survey results used to set levels of service?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3.5
1.01.05 For predicting future trends in demand for services based on historic and external influences. (eg. Does the organization undertake demand predictions developing pessimistic and optimistic scenarios?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3.5	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4



## Summary scores

Assessment Questions	Assessment Scores			
<b>1 Processes and Practices 1.02 Knowledge of Assets</b>				
1.02.01 For defining the structure of the asset register and the level of detail of asset information that is collected and managed down to the maintenance managed item (MMI). (eg. Is there a defined hierarchical registry structure that is followed consistently? Is the structure and level of detail regularly reviewed?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
1.02.02 For defining the collection and management of asset attribute information. (eg. Is there a data standard defining this and how is the standard maintained? Is it clear what information is required to be collected on assets?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	2
1.02.03 For determining what assets to collect condition data on, when these assessments should be undertaken, and for determining the potential remaining useful lives of the assets. (eg. Are there written protocols defining how these are to be done? How are these protocols maintained? Is accurate data regularly and systematically gathered?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
1.02.04 For determining what assets to collect performance and reliability data on and for undertaking the collection. (eg. Does the organization know how well each asset is performing? How reliable it is? Is there a data standard defining this? Is there a systematic review of performance and reliability? Are problem assets systematically identified and addressed?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	2.5



## Summary scores

Assessment Questions	Assessment Scores			
1.02.05 For determining what assets to collect utilization on and for undertaking the collection. (eg. How often or extensively is an asset used? Is there a data standard defining this? Is there a systematic review of utilization?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3.5	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	2.5
<b>1 Processes and Practices - 1.03 Accounting and Costing</b>				
1.03.01 Processes for undertaking asset valuations. (eg. Are asset valuations undertaken at the asset level and is the method documented? Is there a method to assess the quality of that valuation?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
1.03.02 Processes for determining the effective lives or remaining useful lives of all assets in the register. (eg. Are effective lives determined for each asset? Are remaining useful lives calculated on a periodic basis? Do these lives reflect the asset's actual operating environment?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
1.03.03 Processes for tracking and reporting operational costs. (eg. Are these costs capable of being aggregated from a suitably low asset level up to a facility level and reported on?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4



## Summary scores

Assessment Questions	Assessment Scores			
1.03.04 Processes for tracking and reporting maintenance costs. (eg. Are these costs available at a "maintenance managed item" (work-order) level? Are they capable of being rolled-up to a facility or asset level and being reported on?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
1.03.05 Processes for determining future renewal liabilities. (eg. Is the projected future expected expenditure for renewal of assets calculated for at least the next 10 - 20 years?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
1.03.06 Processes for determining residual business risk exposure. (eg. Is predicted operational risk exposure that is due to the aging and consumption of assets calculated? Is it incorporated into the organization's budget process?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3.5	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
1.03.07 Processes for determining what historical cost data should be collected on individual assets and how should this be archived. (eg. Can all historic costs associated with a critical asset be retrieved and reported?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
<b>1 Processes and Practices - 1.04 Strategic Planning</b>				



## Summary scores

Assessment Questions	Assessment Scores			
<p>1.04.01 Processes for predicting expected failure modes for all assets. (eg. Does the organization understand the likely failure modes - that is, how the asset is likely to fail - for individual assets? Does it understand which of the major failure modes is most imminent? Does it link the imminent failure mode with projecting remaining useful life?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>1</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>1</p>
<p>1.04.02 Processes for undertaking risk assessments of asset failure for inclusion within the planning process. (eg. What is the probability and consequence of a particular asset failing?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>2</p>
<p>1.04.03 Processes for making optimized asset renewal decisions by identifying the most economical renewal (repair, refurbish, replace) solution and point in time to renew an asset. (eg. Does the process include all feasible options for life extension? Does it include life cycle cost analysis?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3.5</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>4</p>
<p>1.04.04 Processes for assessing the life cycle cost of new assets. (eg. Are all capital, maintenance, and operational costs that are associated with a specific asset systematically accounted for? Are these costs archived in a readily retrievable manner?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>2.5</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3.5</p>



## Summary scores

Assessment Questions	Assessment Scores			
<p>1.04.05 Processes to identify cost reduction or service level improvement opportunities. (eg. Do the budget and rate setting processes specifically and systematically consider the trade-offs among level of service, cost of service, and business risk?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	5	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	4
<p>1.04.06 Processes for producing Asset Management Plans from a strategic perspective (the quality of these plans are dealt with elsewhere). (eg. Is the generation of a periodic enterprise asset management plan a systematic and efficient process? For facility asset management plans?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	4	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	3
<p>1.04.07 Processes for working with customers, regulators and other stakeholders during long term strategic planning. (eg. Is there a systematic process for informing customers and stakeholders of strategic asset issues and investment alternatives and for seeking and incorporating feedback from them?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	3	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	3
<p>1.04.08 Processes for linking capital and O&amp;M expenditure programs with overall business goals in triple bottom line terms (social, economic and environment). (eg. Are there clear and demonstrable links between the asset management program and organizational budgets? Between organizational Levels of Service targets and their impact on the community, financial condition of the utility, and environmental impact?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	3	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	3



## Summary scores

Assessment Questions	Assessment Scores			
1.04.09 Processes for budget rationalization. (eg. Is the asset management plan with its forecasted expenditures systematically matched with available financial resources? Does the Asset Management Plan actually tie to the organization's budget at the line item level?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
<b>1 Processes and Practices - 1.05 Capital Expenditure Evaluation</b>				
1.05.01 Policy for the evaluation of capital expenditure projects (CIP). (eg. Does an organization- wide uniform policy and clear CIP process exist? Does it ensure a business like approach to capital investment decision making? Does it define roles and responsibilities for key activities?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
1.05.02 Processes for categorizing the strategic drivers of capital expenditure. (eg. Are capital expenditure categorized into growth, renewal, regulations / levels of service and business efficiency investment categories?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
1.05.03 Processes for linking the sophistication and extent of the evaluation processes for a specific project to the level of expenditure and the risk it represents to the organization. (eg. Are more extensive evaluation techniques used for larger investments and higher risks to the business?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3.5	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3



## Summary scores

Assessment Questions	Assessment Scores			
<p>1.05.04 Processes for linking service demand with the level of expenditure necessary to achieve long term sustainability. (eg. Has the organization developed a budgeting process that reports each capital investment project in terms of its impact on stakeholders in terms of meeting service demand? Does the budget process clearly denote the project's capacity for generating income on a long term sustainable basis?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3.5</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p>1.05.05 Processes for evaluating supply or program delivery options. (eg. Are various methods of delivery - such as Internal or external resources, private / public partnerships, design and construct - considered and evaluated for each project?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>4</p>
<p>1.05.06 Processes to ensure the appropriate quality of operation and maintenance expenditure cost estimates (budgets) used in capital expenditure evaluation. (eg. Are maintenance and operation costs related to a specific CIP project forecast over the expected life of the asset?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3.5</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p>1.05.07 Processes for investigating and recording alternative options to the lowest life cycle cost option for capital expenditure projects for use in budget rationalization activities. (eg. Are "out of the box" solutions such as "do nothing", project deferral, "manage the risk", and "non-asset" solutions and the like considered and recorded as options?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>



## Summary scores

Assessment Questions	Assessment Scores			
1.05.08 Processes for economic evaluation of all capital and recurrent investment projects, including a clear policy by which each project should be evaluated. (eg. Are Internal Rate of Return, Benefit Cost Ratios, and the like in present value terms considered for all projects?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
<b>1 Processes and Practices - 1.06 Business Risk Management</b>				
1.06.01 Policy for the evaluation of all business risk exposure on an organization wide basis. (eg. Does a corporate wide business risk management policy exist? Does it clearly define roles and responsibilities for the key risk areas of strategy, finance, and operations?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3.5	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
1.06.02 Processes for risk identification for the entire organization as a whole. (eg. Do the risks considered include at a minimum strategic, financial, information technology, engineering, and operational?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
1.06.03 Processes for quantifying probability and consequences of failure. (eg. Is this a simple point score or are full economic costs considered?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4



## Summary scores

Assessment Questions	Assessment Scores			
1.06.04 Processes for analysing risks, including the understanding of its make up and the ranking of the risks. (eg. Which part of the business represents the greatest risk? What is the greatest risk?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
1.06.05 Processes for managing risk reduction, including the assessment of mitigation options. (eg. Are identified risks linked to specific mitigation strategies and responsibilities? Are the risks and associated mitigation strategies tracked and reported?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
<b>1 Processes and Practices - 1.07 Creation and Acquisition</b>				
1.07.01 Processes for the successful program management of the asset creation or acquisition program. (eg. Are projects systematically tracked from the strategic planning stage (project identification) through to the final service delivery including commissioning and handover?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	2	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
1.07.02 Processes for Contract Administration. (eg. Are processes in place for managing all the contractors necessary for the projects and their interface with the asset owner?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4



## Summary scores

Assessment Questions	Assessment Scores			
1.07.03 Processes for Project Management. (eg. Are systematic processes in place for the financial cost control and timely delivery of a project and the mitigation of risks involved.)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3.5	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
1.07.04 Processes for Value Engineering. (eg. Does the organization systematically incorporate "value engineering"? How is the optimum design assessed and adopted?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	2
1.07.05 Processes that ensure the optimum maintainability / operability of new assets is achieved. (eg. Are design reviews systematically and thoroughly undertaken by the operations and maintenance staff prior to final design. Are these reviews carefully assessed and appropriately incorporated?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
1.07.06 Processes for ensuring appropriate construction standards and quality control is achieved in all asset creation and acquisition work. (eg. Are systematic examinations of contractor work and other quality control mechanisms used?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4



## Summary scores

Assessment Questions	Assessment Scores			
1.07.07 Processes for asset commissioning and handover. (eg. Is all required operational and maintenance information collected at time of commissioning, including as-constructed drawings, operations/maintenance procedures and manuals, and maintenance programs? Is the initial "burn-in" performance of the asset reviewed and recorded?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
<b>1 Processes and Practices - 1.08 Rationalization and Disposal</b>				
1.08.01 Processes for rationalizing the existing asset portfolio and disposal of unwanted assets. (eg. Are assets periodically and systematically reviewed to identify assets for disposal, mothballing, or transfer to improve business effectiveness, to reduce risk and cost, and to release funds for other purposes?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
1.08.02 Processes for disposing of assets. The processes for good governance and ethical behaviour in the release of assets. (eg. Are these assets removed from the asset register and on other asset systems, - eg. financial records, CMMS, GIS - in a timely manner?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
<b>1 Processes and Practices - 1.09 Operations</b>				
1.09.01 Processes for developing and maintaining operating procedures. (eg. Are operating procedures periodically reviewed with respect to lowest life cycle cost at a target level of service/performance and risk?). Are new assets automatically added to the review?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4



## Summary scores

Assessment Questions	Assessment Scores			
<p>1.09.02 Processes (standard operating procedures) for the successful operation of all assets during normal and emergency operations. (eg. Do such procedures exist, and do they cover all areas and assets down to the maintenance managed item level?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	4	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	4
<p>1.09.03 Processes for developing and maintaining operation manuals. (eg. Are new assets automatically included; are they periodically updated and purged?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	3	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	3
<p>1.09.04 Processes to assure the quality of Operating Manuals and Standards. (eg. Are all manuals clear, complete, graphically effective, current, and relevant? Are updates timely?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	3	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	3
<p>1.09.05 Processes for handling customer and stakeholder complaints. (eg. Are these tracked through the business from receipt to resolution? Is the customer kept informed of the progress of the complaint?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	4	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	4



## Summary scores

Assessment Questions	Assessment Scores			
1.09.06 Processes for the development and maintenance of Emergency Response Plans, including for what events and against what level and criticality of asset the plans are to be completed. (eg. Are new assets automatically included? How often are the Plans reviewed? Are "triggers" for the need for upgrades identified?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
1.09.07 Processes to assure quality of the actual Emergency Response Plans. (eg. Do such quality assurance processes exist and cover all asset services? Are they to the appropriate level of detail? Are they quickly available to relevant staff? Is staff trained in the Plans?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
<b>1 Processes and Practices - 1.10 Maintenance</b>				
1.10.01 Processes for setting a strategic level maintenance framework (such as Reliability Centred Maintenance, Zero Breakdown Maintenance, Six Sigma, etc.) that defines how the organization undertakes maintenance of its assets.(eg. Does such a corporate wide policy exist and is it tied to business goals and cost analysis?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	NA	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	NA
1.10.02 Processes for maintenance planning. (eg. Is there a process for defining how each asset / asset type will be maintained? Is the basis for determining the maintenance procedure or activity for a single asset clear? Does this process cover all assets?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3



## Summary scores

Assessment Questions	Assessment Scores			
1.10.03 Processes for maintenance scheduling. (eg. Does the organization have a clear process to determine maintenance schedules or intervals for the prescribed maintenance activity for each asset?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
1.10.04 Processes for monitoring and controlling the maintenance program. (eg. Is there adequate reporting and feedback from field staff and information systems to enable the complete understanding of what is happening to the assets?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
1.10.05 Processes for recording and reporting maintenance costs down to the maintenance managed item level. (eg. Are asset costs reported and accessible? Is there a clear methodology on what is required?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
1.10.06 Processes for developing and maintaining contents of maintenance manuals and instructions. (eg. Are new assets automatically included and how often are they reviewed? What is the process by which the responsible staff can update them? Is the format specified?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3



## Summary scores

Assessment Questions	Assessment Scores			
1.10.07 Processes for assuring the quality of maintenance manuals and instructions. (eg. Do these exist and cover all business units/divisions and assets types?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	2	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	2
1.10.08 Processes for reviewing and analysing maintenance programs. (eg. Have key maintenance performance indicators been adopted and reported? Are maintenance trigger points understood by all? Are maintenance strategies matched to condition and stage in the life cycle? Are "problem assets" periodically identified and associated failure modes assessed? Are failure codes relevant to the class of asset incorporated in the work order process? Is condition and other asset attribute data updated as work orders are executed and closed? Is the "return on maintenance investment" regularly calculated and reported?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
1.10.09 Processes for developing maintenance strategies that incorporate the overall business drivers for maintenance, capital investment, and system performance. (eg. Do strategic Levels of Service link directly to required asset performance levels and subsequently to maintenance planning and scheduling? )	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	2	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	2
<b>1 Processes and Practices - 1.11 Work and Resource Management</b>				
1.11.01 Processes for matching skills to the demand for services / activities and allocating resources across the organization. (eg. Is resource demand for designated maintenance skills matched with available supply? Is it across the organization?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3



## Summary scores

Assessment Questions	Assessment Scores			
<p>1.11.02 Processes for prioritizing work orders. (eg. Are work orders allocated based on a criticality score that measures the probability and consequence of failure?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p>1.11.03 Processes for managing projects that involve multiple tasks and tracking of those costs. (eg. Are work orders recorded in a timely manner? Can cost tracking be assigned to a project in a manner accessible by users?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>4</p>
<p>1.11.04 Processes for managing inventory or stock. (eg. Are work orders linked to the required spare parts? Are these spare parts ordered in advance of completing the work order?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p>1.11.05 Processes for planning future work load and required resources. (eg. Does the organization predict and balance future work load for different skills and numbers of staff for all life cycle functions?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p><b>1 Processes and Practices - 1.12 Continuous Improvement</b></p>				



## Summary scores

Assessment Questions	Assessment Scores			
<p>1.12.01 A knowledge management system that contains all the processes and practice materials described previously that is available to practitioners (eg. Does such a knowledge base exist - in paper or digital form? Does it cover all life cycle Asset Management functions and best practices? Is it periodically updated?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>2.5</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p>1.12.02 Asset Management Process Diagrams and Flowcharts. (eg. Are internal Asset Management processes mapped? Do they cover all Asset Management functions? Are they readily available to staff?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p>1.12.03 Processes for internal quality assurance. (eg. Are internal review processes in place to ensure that those best appropriate asset management practices adopted by the business are followed across all business units?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>2</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>2</p>
<p>1.12.04 Processes for externally reviewing and benchmarking Asset Management practices for both input (process) and output (cost activity) benchmarking. (eg. Does the organization undertake external input and output benchmarking for asset management best practices?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>2.5</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>



## Summary scores

Assessment Questions	Assessment Scores			
1.12.05 Processes followed for identifying cost reduction opportunities. (eg. Does the organization have a process by which new ideas and suggestions are reviewed?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	5	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
1.12.06 Processes for implementing and reporting on the progress achieved with approved Asset Management improvement programs. (eg. Does the organization measure and track the progress of these programs?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	1	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	0
<b>2 Information Systems - 2.01 Primary Information Systems</b>				
2.01.01 Financial System. (eg. The system to record and store asset costing information, chart of accounts, general ledger, approved budget appropriations, encumbrances, etc.)	Level of practice : 0 1 2 3 4 5  0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated	4	Extent of practice : 0 1 2 3 4 5  0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,	4
2.01.02 Customer and / or Property Records System. (eg. System to track customer and related served property details such as address, land use, parcel size, etc.)	Level of practice : 0 1 2 3 4 5  0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated	4	Extent of practice : 0 1 2 3 4 5  0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,	4



## Summary scores

Assessment Questions	Assessment Scores			
<p>2.01.03 Complaints or Enquiries System. (eg. System to store and track customer complaints and enquires from receipt to resolution.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>3</p>
<p>2.01.04 Asset Register System. (eg. System to assign unique asset identification numbers within an asset hierarchy and to store associated asset attributes for all assets that make up the asset system.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>3</p>
<p>2.01.05 Plans and Drawings Information System. (eg. System to manage, store, and access the detailed drawings of all facilities and buildings.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>4</p>	<p>Extent of practice : 0 1 2 [3] 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>3</p>
<p>2.01.06 Geographic Information System. (eg. System to spatially store asset locations and key attributes for all distributed and linear / networked assets including the base locations of assets.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>4</p>



## Summary scores

Assessment Questions	Assessment Scores			
<p>2.01.07 Maintenance Management System. (eg. System to manage maintenance activities including activities / work orders / scheduling / controlling and costing for all assets down to maintenance managed item level.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>2</p>
<p>2.01.08 Operations and Maintenance Manuals Storage System. (eg. Electronic System to store and track operations and maintenance manual materials.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>2</p>	<p>Extent of practice : 0 1 2 [3] 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>2</p>
<p>2.01.09 Emergency Response Plans Information System. (eg. System to store and track emergency response plans, linked through to the asset register in accordance with the data standard.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>1</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>4</p>



## Summary scores

Assessment Questions	Assessment Scores			
<p>2.01.10 Job Resource Management System. (eg. System to create and track work orders covering labour, plant, specialist tools and materials.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>2</p>
<p><b>2 Information Systems - 2.02 Secondary Information Systems</b></p>				
<p>2.02.01 Knowledge Management System. (eg. System to store papers, guidelines, manuals, policies in relation to life cycle Asset Management of the organization's asset portfolio etc.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>4</p>	<p>Extent of practice : 0 1 2 [3] 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>3</p>
<p>2.02.02 Inventory Spares and Purchasing System. (eg. System to track quantity and purchasing of spare parts. This system is linked to the construction and maintenance / operations systems and staff needs.)</p>	<p>Level of practice : 0 1 2 [3] 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>4</p>



## Summary scores

Assessment Questions	Assessment Scores			
<p>2.02.03 Condition Assessment Records System. (eg. System to store condition data, and to analyse this with respect to the parameters or required levels of service.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>3</p>	<p>Extent of practice : 0 1 2 [3] 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>3</p>
<p>2.02.04 Predicting Asset Capacity and Utilization. (eg. Capacity modelling tools are in place for determining / simulating current asset capacity, eg. Pipeline hydraulic capacity models, road traffic models, etc.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>3.5</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>4</p>
<p>2.02.05 Asset Failure Prediction. (eg. Prediction of failure in terms of capacity, reliability, condition, performance and outages/ emergency failures. These allow the organization to model the full range of level of service failures.)</p>	<p>Level of practice : 0 1 2 [3] 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>1</p>
<p><b>2 Information Systems - 2.03 Tertiary Information Systems</b></p>				



## Summary scores

Assessment Questions	Assessment Scores			
<p>2.03.01 Risk Assessment Information System. (eg. System used for undertaking and storing risk assessments for both the consequences of failure and probability of failure.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>4</p>	<p>Extent of practice : 0 1 2 [3] 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>1</p>
<p>2.03.02 Data Warehouse. (eg. System to store, manage and report on data derived from independent information systems. This system should be able to produce both recurrent and ad hoc reports.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>3</p>
<p>2.03.03 Life Cycle Cost Modelling System. (eg. System for modelling the life cycle costs of different asset options and solutions for new assets where no spent costs are involved. It allows all supply options to be considered.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>0</p>	<p>Extent of practice : 0 1 2 [3] 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>0</p>
<p>2.03.04 Mobile Computing Facilities. (eg. Pocket PC's, laptops and tablets PC's to be used by field operations and maintenance staff for rapid data entry and live access and updating of work orders.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>2</p>



## Summary scores

Assessment Questions	Assessment Scores			
<p>2.03.05 Project Management Support Tools. (eg. Tools for tracking the timing and costing of multiple project tasks / resources to produce the deliverables required.)</p>	<p>Level of practice : 0 1 2 [3] 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>2</p>
<p>2.03.06 Store/Stock Optimization Systems. (eg. Systems for optimizing the level of stores and spare parts to be carried for like assets across the organization.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>4</p>	<p>Extent of practice : 0 1 2 [3] 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>4</p>
<p><b>2 Information Systems - 2.04 Information System Issues</b></p>				
<p>2.04.01 User Friendliness Of Information Systems/Applications. (eg. Are the existing AM related information systems automated? Are systems/applications well used because they are easy to use, quick to learn and make data input / extraction easy?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>2</p>



## Summary scores

Assessment Questions	Assessment Scores			
2.04.02 Information systems are well integrated. (eg. The information systems are linked and data can be accessed from different access / entry points, eg. GIS /CMMS. Only one point of data input is required.)	Level of practice : 0 1 2 3 4 5  0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	2
2.04.03 Access and Response of Information Systems. (eg. Staff has ready access to the information systems and response times are acceptable for both data entry and update.)	Level of practice : 0 1 2 3 4 5  0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated	4	Extent of practice : 0 1 2 3 4 5  0 = No systems, hence no response time, 1 = Unacceptable response times across all applications, 2 = Some acceptable response times, most not, 3 = Mix of acceptable and not acceptable, 4 = Mostly acceptable, 5 = Entirely acceptable	3
2.04.04 Information Technology System Strategy. (eg. Does a corporate strategy exist? Is it comprehensive and include Asset Management systems? Does it accommodate expected usage and the growth in Asset Management data and information, access and system response times etc.)	Level of practice : 0 1 2 3 4 5  0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
<b>3 Data and Knowledge - 3.01 Primary Data and Knowledge</b>				



## Summary scores

Assessment Questions	Assessment Scores			
<p>3.01.01 Asset Categorization. (eg. Ability to group assets by type, location, material, facility etc. for reporting and manipulation.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	4	<p>Accuracy : 0 1 2 [3] 4 5</p> <p>0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date</p>	1
<p>3.01.02 Asset Hierarchical Structure. (eg. The level (maintenance managed item) to which asset information is collected and the ability to amalgamate asset costs and performance.)</p>	<p>Completeness : 0 1 2 3 4 5</p> <p>0 = None, 1 = Service type, 2 = Facility or system level, 3 = Asset type level, 4 = Asset level, 5 = Maintenance managed item level</p>	4	<p>Accuracy : 0 1 2 3 4 5</p> <p>0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date</p>	3
<p>3.01.03 Asset Spatial Data. (eg. Spatial data stored within GIS, especially all distributed linear assets and locations of larger facilities.)</p>	<p>Completeness : 0 1 2 3 4 5</p> <p>0 = 0% complete (no data), 1 = 35% complete, 2 = 50% complete, 3 = 65% complete, 4 = 80% complete, 5 = 95% complete</p>	4	<p>Accuracy : 0 1 2 [3] 4 5</p> <p>0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date</p>	1
<p>3.01.04 Drawing / Plans. (eg. Drawings and plans of assets and facilities.)</p>	<p>Completeness : 0 1 2 3 4 5</p> <p>0 = 0% complete (no data), 1 = 35% complete, 2 = 50% complete, 3 = 65% complete, 4 = 80% complete, 5 = 95% complete</p>	4	<p>Accuracy : 0 1 2 3 4 5</p> <p>0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date</p>	5
<p>3.01.05 Basic physical attributes. (eg. Size, material, installation date, model etc.)</p>	<p>Completeness : 0 1 2 3</p> <p>0 = Assets are unable to be grouped, 1 = Assets can be grouped in one way only, 2 = Assets can be grouped in two or more ways, 3 = Assets can be grouped in any way</p>	3	<p>Accuracy : 0 1 2 3 4 5</p> <p>0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date</p>	4



## Summary scores

Assessment Questions	Assessment Scores			
<p>3.01.06 Asset valuation data. (eg. Current asset replacement values / historical value and depreciated values.)</p>	<p>Completeness : 0 1 2 3</p> <p>0 = Assets are unable to be grouped, 1 = Assets can be grouped in one way only, 2 = Assets can be grouped in two or more ways, 3 = Assets can be grouped in any way</p>	<p>3</p>	<p>Accuracy : 0 1 2 3 4 5</p> <p>0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date</p>	<p>4</p>
<b>3 Data and Knowledge - 3.02 Secondary Data and Knowledge</b>				
<p>3.02.01 Detailed physical attributes. (eg. Manufacturer, material, size, date deployed, spare parts and numbers etc.)</p>	<p>Completeness : 0 1 2 3 4 5</p> <p>0 = 0% complete (no data), 1 = 35% complete, 2 = 50% complete, 3 = 65% complete, 4 = 80% complete, 5 = 95% complete</p>	<p>4</p>	<p>Accuracy : 0 1 2 3 4 5</p> <p>0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date</p>	<p>4</p>
<p>3.02.02 Asset condition data. (eg. Rating of asset condition data.)</p>	<p>Completeness : 0 1 2 3 4 5</p> <p>0 = 0% complete (no data), 1 = 35% complete, 2 = 50% complete, 3 = 65% complete, 4 = 80% complete, 5 = 95% complete</p>	<p>3</p>	<p>Accuracy : 0 1 2 3 4 5</p> <p>0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date</p>	<p>4</p>
<p>3.02.03 Asset performance data. (eg. Recording and rating of asset performance.)</p>	<p>Completeness : 0 1 2 3 4 5</p> <p>0 = 0% complete (no data), 1 = 35% complete, 2 = 50% complete, 3 = 65% complete, 4 = 80% complete, 5 = 95% complete</p>	<p>5</p>	<p>Accuracy : 0 1 2 3 4 5</p> <p>0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date</p>	<p>4</p>
<p>3.02.04 Maintenance Data. (eg. Detailed maintenance history including activity and timing.)</p>	<p>Completeness : 0 1 2 3 4 5</p> <p>0 = 0% complete (no data), 1 = 35% complete, 2 = 50% complete, 3 = 65% complete, 4 = 80% complete, 5 = 95% complete</p>	<p>5</p>	<p>Accuracy : 0 1 2 3 4 5</p> <p>0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date</p>	<p>4</p>



## Summary scores

Assessment Questions	Assessment Scores			
3.02.05 Operations Data. (eg. Operations history and data on operational aspects of asset failure.)	Completeness : 0 1 2 3 4 5  0 = 0% complete (no data), 1 = 35% complete, 2 = 50% complete, 3 = 65% complete, 4 = 80% complete, 5 = 95% complete	4	Accuracy : 0 1 2 3 4 5  0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date	3
3.02.06 Works and / or resource management data. (eg. Data related to the management of the resource elements required to execute work including work force, skills, and materials availability, in both capital and operational activities.)	Completeness : 0 1 2 3 4 5  0 = 0% complete (no data), 1 = 35% complete, 2 = 50% complete, 3 = 65% complete, 4 = 80% complete, 5 = 95% complete	5	Accuracy : 0 1 2 3 4 5  0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date	3
<b>3 Data and Knowledge - 3.03 Tertiary Data and Knowledge</b>				
3.03.01 Risk Assessment (eg. Risk assessment data including probability and consequence of failure, and the subsequent business risk exposure down to the asset level.)	Completeness : 0 1 2 3 4 5  0 = 0% complete (no data), 1 = 35% complete, 2 = 50% complete, 3 = 65% complete, 4 = 80% complete, 5 = 95% complete	3	Accuracy : 0 1 2 3 4 5  0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date	3
3.03.02 Cost history (eg. Full cost history of maintenance and operation activities together with depreciation and capital use charges where applicable down to the asset level.)	Completeness : 0 1 2 3 4 5  0 = 0% complete (no data), 1 = 35% complete, 2 = 50% complete, 3 = 65% complete, 4 = 80% complete, 5 = 95% complete	5	Accuracy : 0 1 2 3 4 5  0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date	4
3.03.03 Costing of options. (eg. Cost data for standard construction and renewal costs, including maintenance and operational activities and options down to the asset level.)	Completeness : 0 1 2 3 4 5  0 = 0% complete (no data), 1 = 35% complete, 2 = 50% complete, 3 = 65% complete, 4 = 80% complete, 5 = 95% complete	5	Accuracy : 0 1 2 3 4 5  0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date	4



## Summary scores

Assessment Questions	Assessment Scores			
<p>3.03.04 Life Cycle Cost Histories. (eg. Stored history of life cycle costs and analysis down to the asset level)</p>	<p>Completeness : 0 1 2 3 4 5</p> <p>0 = 0% complete (no data), 1 = 35% complete, 2 = 50% complete, 3 = 65% complete, 4 = 80% complete, 5 = 95% complete</p>	<p>1</p>	<p>Accuracy : 0 1 2 3 4 5</p> <p>0 = mostly inaccurate / out of date, 1 = 35% accurate / up to date, 2 = 50% accurate / up to date, 3 = 65% accurate / up to date, 4 = 80% accurate / up to date, 5 = 95% accurate / up to date</p>	<p>4</p>
<p><b>4 Service Delivery - 4.01 Service Delivery</b></p>				
<p>4.01.01 Core and non-core business processes have been identified. (eg. Have business processes that are core to the business been identified as well as those not core to the business?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p>4.01.02 Processes to ensure contracts packaged to achieve economic efficiencies in the short and long term. (eg. Does the organization have processes in place to optimize its contracts to get to get the lowest overhead costs and total costs of service delivery?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p>4.01.03 Processes to ensure high quality contracts / specifications for contracts and service agreements. (eg. Do contracts deliver the full requirements of the organization and are they regularly updated?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3.5</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>



## Summary scores

Assessment Questions	Assessment Scores			
<p>4.01.04 Processes for ensuring contractors have access to the required information and data. (eg. Can external contractors efficiently access data required to perform their tasks, with the integrity of the data protected?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>4</p>
<p>4.01.05 Processes exist for ensuring good feedback of data and knowledge back into the business from all contracted (external) and in-house (internal) service providers. (eg. Are service providers regularly providing feedback into the business? What is the quality of that information including completed work orders?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>2</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>1</p>
<p>4.01.06 Processes for monitoring the performance of sub-contractors. (eg. Are regular reviews and/or audits completed? Does the organization have a system to do this and link to performance based contract payments?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p>4.01.07 Processes for assessing and selecting contractors. (eg. Is there a systematic process for different sized jobs? Is more than cost taken into account?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>4</p>



## Summary scores

Assessment Questions	Assessment Scores			
<p>4.01.08 Information and communication systems to support contract administration. (eg. Do the organization's information systems create an efficient environment in which contract scopes, approvals, and payments are significantly automated?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = No relevant information systems in place, 1 = Very few automated systems/applications in place, 2 = Some automated systems in place, most manual, 3 = Mix of automated and manual systems, 4 = Most work processes are automated, 5 = All work processes automated</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = No systems in place, hence no use, 1 = For the most part, the systems are archaic and outdated; poorly used, 2 = A few systems are well used, most are not, 3 = Mix of well used and not used, 4 = Most are well used, 5 = All are well used,</p>	<p>3</p>
<p><b>5 Organizational Issues - 5.01 Organizational Issues</b></p>				
<p>5.01.01 Organizational commitment to Asset Management. (eg. Is this documented in corporate policy / business plans, organizational objectives and mission statements in such a way as to show its importance to the business?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p>5.01.02 Single executive manager with defined Asset Management responsibility. (eg. Is it clearly documented who has the responsibility for asset decisions in the organization? Are the roles and responsibilities clearly defined throughout the structure?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>4</p>
<p>5.01.03 Asset Management roles and responsibilities. (eg. Are roles and responsibilities clearly defined right across and down the organization? Are they linked to job descriptions?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>2</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>



## Summary scores

Assessment Questions	Assessment Scores			
5.01.04 Asset Management Coordinating Group or Steering Committee. (eg. Is there an Asset Management steering committee with links into the board and executive management?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
5.01.05 Asset Management team or coordination group. (eg. Does this group exist within the business?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
5.01.06 Asset Management manager or coordinator whose major role is to build organizational AM capabilities and provide staff support to the Asset Management Steering Committee. (eg. Does this position exist within the business?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
5.01.07 The corporate vision reflects a commitment to best practice in Asset Management. (eg. Does the organization display a documented vision for Asset Management?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3.5	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
<b>6 People Issues - 6.01 People Issues</b>				



## Summary scores

Assessment Questions	Assessment Scores			
<p>6.01.01 Working knowledge of the organization's staff AM skills and knowledge. (eg. Has an employee asset management skill and knowledge matrix been developed?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p>6.01.02 Good AM attitude and culture. (eg. Is the organization keen to apply AM practices down to the asset level? Is such application the cultural norm? Is the staff AM culture and attitude/enthusiasm treated as critical by the organization?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p>6.01.03 Processes to manage and implement change through the business. (eg. How does the organization respond to change? What mechanisms have been put in place to assist the change process and organizational learning in asset management and make it part of the culture?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>2</p>
<p>6.01.04 Processes for reviewing whether the appropriate skills and staff numbers are available. (eg. Can the required AM skills be accessed? Are staff levels appropriate for implementing best practices?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>



## Summary scores

Assessment Questions	Assessment Scores			
6.01.05 Processes for managing asset management human resources across the business. (eg. Are staffing skills and numbers known and predictions made of future needs? Are new staff inducted and trained in Asset Management to suit requirements? Is succession planning provided for?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
6.01.06 Processes for the development and implementation of asset management training programs. (eg. Are regular training sessions held? Have skill deficiencies been identified? Is training matched to the organization's business needs?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
6.01.07 Processes for the management of knowledge throughout the business. (eg. How does the business update and manage critical business and sector knowledge? How is this disseminated to staff?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3.5	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
<b>7 Asset Management Plans - 7.01 Asset Management Plans</b>				
7.01.01 Asset Management Plans (AMP's) exist for each service provided. (eg. Separate plan for roads, potable water, wastewater, drainage, parks and gardens, buildings and facilities etc.)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3



## Summary scores

Assessment Questions	Assessment Scores			
<p>7.01.02 AMP's include a record of current levels of service. (eg. Are these documented?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>2.5</p>
<p>7.01.03 AMP's include knowledge of the assets. (eg. Can the reader quickly understand the state of the assets including age, condition, performance, value, cost and location? The whole asset portfolio should be included.)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>2.5</p>
<p>7.01.04 AMP's include projected (future) demands and levels of service. (eg. Does the organization have a vision of the future demands including growth / decline and levels of service? Are the key impacts identified?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>4</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>3</p>
<p>7.01.05 AMP's include predictions of major failure modes. (eg. Are all failure modes identified including capacity, physical mortality, levels of service, and business efficiency? Could the organization save money if it vested in new technology?)</p>	<p>Level of practice : 0 1 2 3 4 5</p> <p>0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level</p>	<p>3</p>	<p>Extent of practice : 0 1 2 3 4 5</p> <p>0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed</p>	<p>2</p>



## Summary scores

Assessment Questions	Assessment Scores			
7.01.06 AMP's include the risk exposure to the business of failure if the assets are not maintained and renewed. (eg. Are the probabilities of failure estimated? Are the consequences of not maintaining or renewing assets adequately quantified and summarized? Is the role of redundancy in business risk exposure understood and incorporated into the business risk exposure metric?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
7.01.07 AMP's include optimal renewal strategies to extend the life of individual assets, facilities and systems. (eg. Are lowest life cycle cost renewal strategies identified and future funding requirements predicted?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	0	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	0
7.01.08 AMP's include the capital projects necessary to service new customers or requirements. (eg. What new projects will be undertaken, when, and how much will they cost? Has the program been validated?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
7.01.09 AMP's include operations and maintenance programs. (eg. Are the operational and maintenance strategies and their predicted costs rolled into this plan?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	2	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4



## Summary scores

Assessment Questions	Assessment Scores			
7.01.10 AMP's should include the most cost effective option for asset improvements. (eg. Have all asset options been considered, including non-asset solutions and the 'do nothing' option?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	3	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	3
7.01.11 AMP's should include reference to customer or stakeholders for consultation clearly showing them the future sustainable cost and levels of service over a period of at least 30 years. (eg. Are customer / stakeholders consulted with this information and is their feedback taken into account? Are full cost service projections provided that extend well into the future?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4
7.01.12 AMP's include links to the businesses goals which should be related to customer and stakeholder expectations.(eg. How does the plan demonstrate that it is meeting these business goals and customer expectations?)	Level of practice : 0 1 2 3 4 5  0 = "Innocence", 1 = Aware but no practice, 2 = Low practice level, 3 = Modest practice level, 4 = Substantial practice level, 5 = "World class" practice level	4	Extent of practice : 0 1 2 3 4 5  0 = Never done, 1 = Ad hoc process rarely executed, 2 = Ad hoc process occasionally executed, 3 = Mixture of ad hoc and systematic process, partially documented, 4 = Mostly systematic process, pretty well documented, and regularly executed, 5 = Systematic, fully documented process, always executed	4



**GHD**

10 Bond Street Sydney NSW 2000



-

T: 2 9239 7100 F: 2 9239 7199 E: sydmail@ghd.com.au

**© GHD 2009**

This document is and shall remain the property of GHD. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.

**Document Status**

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	Dr Robert Smith / Andrew Sutherland	Dr Robert Smith		Dr Robert Smith		21/8/09