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Secretary to the Committee  
Public Accounts Committee  
GPO Box 3721  
DARWIN NT 0801

Att: Mr Russell Keith

Dear Sir

## **PAC Inquiry into Management of ICT Projects**

I refer to the letter from the Chair of the Public Accounts Committee dated 4 September 2013 and enclose herewith a Submission from the Power and Water Corporation.

Yours sincerely



John Baskerville  
**Managing Director**

3/ October 2013

# Public Accounts Committee

## Inquiry into Management of ICT Projects

### Power and Water Corporation Submission

#### **BACKGROUND**

In 2006 Power and Water Corporation (PWC) initiated a project to enhance its asset management capabilities including the upgrade of its asset related management systems. A key driver for the project was the need to replace or upgrade a suite of old systems which were no longer supported by vendors, poorly integrated and beyond their economic life.

The initial objective of the project was to implement standard off the shelf asset management software which would be integrated with a new Geographical Information System (GIS) and an existing upgraded finance system. This would be coupled with standardised processes which could be applied across the Corporation.

In 2008 an independent review of the project identified that the planned solution and delivery approach would potentially not deliver the business benefits intended. This was mainly due to a changing operating environment which included significant changes to the regulatory environment, substantial increases in the Corporation's asset management program and the need for more sophisticated asset management capabilities. The conclusion that an "off the shelf" system would not meet PWC's business requirements was not surprising given that PWC is a multi-utility, operating within a complex statutory framework and required to conform with government timelines and requirements.

As a result a revised delivery strategy and business case were developed and endorsed by the PWC Board. Key elements of the revised strategy included the use of experienced business consultants to support the project along with process improvement, data quality improvement, enhanced asset management capability and greater systems integration.

A tender process was undertaken in December 2008 to select an implementation partner which was awarded to IBM in early 2009. KPMG were also appointed to assist with project planning, process design and to provide quality assurance services. A revised business case was approved by the Board based on the cost estimates derived during the procurement process.

A revised business case was developed and approved in 2010 at the completion of the solution design stage as planned. This included cost increases associated with project delays, scope changes and requests for additional functionality.

Variations to the business case were developed and approved in 2011 and 2012. These variations were required due to project delays stemming from issues related to data cleansing, testing, business readiness and a large number of defects. It should also be noted that the failure of the Casuarina Zone Substation, the associated Mervyn Davies Report and subsequent increases in the Corporation's capital program had a significant impact on the required capabilities and management resources available for the AMC project.

The AMC software went live in August 2012.

#### **Project Governance**

The project governance structure for the AMC project included a Steering Committee with the Managing Director, Chief Financial Officer, Chief Information Officer, General Counsel and all General Managers as members. This Committee operated with a defined charter and met regularly throughout the project.



In addition, project status reports were provided to the Executive Management Team and Board on a regular basis as oversight bodies.

In the lead up to go-live from late 2011 until August 2012, the Steering Committee was rationalised, a new project manager was appointed and a General Manager assigned to oversee the final stage of the implementation.

Independent reviews, which included analysis of the governance structure, were conducted at various stages of the project.

## **Project Planning**

A project execution plan was developed for the project and base-lined in 2008. In addition, other relevant planning documents were produced including a project charter, resource plans, test plans quality plans, change management plans.

The project planning process was independently reviewed (by Ernst & Young) in early 2009 with no improvements identified at that stage.

## **Risk Management**

Project risk management processes were established for the project including creation of risk registers and associated reporting.

The risk management process was independently reviewed (by Ernst & Young) in early 2009 with a number of changes being recommended and implemented by the AMC Project team.

## **Quality Management**

The Corporation engaged KPMG to provide quality assurance, project planning and process design services throughout the project. In addition, audits were undertaken at various stages by the Corporation's internal auditors Ernst & Young.

The quality management process was independently reviewed (by Ernst & Young) in early 2009 with no improvements identified at that stage.

## **Scope Management**

The scope of the project was base-lined in 2008 with variations submitted to the AMC Steering Committee and Board (where relevant) for approval.

The scope of the project changed on a number of occasions for the reasons outlined in the background section of this document.

It is important to note that changes to scope were formalised and managed through a robust process to ensure key stakeholders were aware and understood the impacts of the recommended changes.

## **Contractor Management**

A number of contractors were involved in the delivery of the AMC project with IBM and KPMG being the two major providers.

These contracts were managed by the AMC Project Director and later the General Manager AMC Project with support provided by a dedicated contracts officer within the project.

Meetings were held on a regular basis with contractors regarding service delivery, contractual requirements or identified issues.

## **Organisational Change Management**

A change management strategy was developed for the project in 2008. A Change Manager was also appointed as it was seen as a key risk area for the project.

The change management process included a broad range of activities including training, briefing sessions, meetings, regular newsletters and internal marketing information.

The change management process was independently reviewed (by Ernst & Young) in early 2009 with no improvements identified at that stage.

## **Terms of Reference:**

The following commentary relates specifically to the Power and Water Asset Management System Project as required by the Public Accounts Committee Terms of Reference.

### **1(a) Cost**

There were a number of factors which impacted on the overall cost of the project, including:

- A change in approach from a single asset management system implementation to a more complex integrated asset management solution;
- Lack of availability of key PWC staff who had to balance operational priorities in addition to the AMC project priorities;
- Lack of availability of local specialist information technology and project management skills;
- Increases in the scope of the project (including customisation of the solution) to take into account regulatory changes, the recommendations of the Mervyn Davies report, significant increases in the capital program and changes to the asset maintenance regime; and
- A large number of defects were identified at various stages throughout the implementation which required remediation.

### **1(b) Time**

The AMC project commenced in 2006 with an estimated completion in 2011. Changes to the business case and project variations resulted in the project being completed in August 2012.

The delay in the implementation timeline was caused by a number of factors including:

- changes to the scope;
- greater number of system defects than planned;
- availability of resources both internally and externally;
- data issues which were more significant than expected; and
- longer than planned system configuration and integration activities.

### **1(c) Meeting User Needs**

Users from across the Corporation were involved in the project from its onset. This involvement increased significantly in the later stages of the project, which resulted in a number of scope changes as users started to understand the systems capabilities and requested improvements.

The AMC system has delivered a number of improved processes for the Corporation and the systems users. However as with other system implementations of this magnitude, further activities have been required post go-live to embed the system into the Corporation, improve processes and address post go-live system issues.



## **1(d) Meeting Project Objectives**

The key objective of the AMC Project was to implement an asset management solution to replace an existing suite of outdated systems which were no longer supported by vendors, poorly integrated and beyond their economic life. This included:

- the provision of more complete and accurate information on asset performance and condition;
- the provision of more efficient asset management and related business processes to support delivery of improved customer services; and
- effective change management processes to ensure the successful implementation of the new system.

As mentioned above, a major focus of the Project was aimed at changing the organisations culture and capabilities associated with asset management. The implementation of the system is one step in a continuing journey to enhance asset management capabilities and performance, however the changes in culture and acquiring of knowledge by the Corporation's staff and contractors is a major and continuing process.

## 2 & 3 Lessons Learned / Improvement Opportunities

- The Corporation originally set out to implement an off the shelf asset management solution with standardised processes to replace a suite of existing highly customised systems. However as the project implementation progressed changes were made to the project scope to meet user needs. These scope changes, while improving usability and functionality and meeting government and statutory requirements impacted on project costs and increased the complexity of the solution which resulted in time delays. Decisions relating to scope changes need to be carefully considered to determine that they are essential and also against the potential costs and benefits. Ideally the full scope of the project should be included as part the solution design. Scope changes in the implementation phase should be avoided where possible.
- A significant number of project scope changes were requested throughout the implementation phase of the project. These occurred for a number of reasons including:
  - customisation of the project solution;
  - project solution not matching adequately the project requirements;
  - increased operational requirements of the project solution arising from the changing regulatory environment, the increasing size of the Corporation's capital program and the implementation of the recommended changes arising from the Mervyn Davies Report.

Whilst a number of these functions leading to scope change could not be foreseen at the projects commencement, changes to scope of future IT projects should be resisted or made only after close scrutiny and consideration of the potential risks and benefits that will flow.

- The significant number of project scope changes impacted on the ability to provide adequate training to staff in a timely fashion. As mentioned above, significant scope changes should be resisted.
- It has been increasingly recognised throughout the Project's implementation that the multi-utility nature of the Corporation has impacted significantly on its ability to develop a universal solution, particularly the differing nature and requirements of each business unit function. Careful consideration of this multi-functional nature needs to be given in the development and undertaking of future IT and other projects.
- The Corporation was seeking to replicate existing customised systems and processes within the new software, however in order to achieve this customisations were required within the new off the shelf software. Decisions need to be considered at an early stage as to whether the Corporation should change processes to suit the system or the system customised to meet more efficient business processes. In many cases, it is not possible for the Corporation (or other government instrumentalities) to alter many aspects of business processes because they have been designed to comply with whole of government or regulatory requirements.
- Data quality issues greatly impacted the timing and delivery of the project. Prior to the commencement of the implementation phase of the project, an adequate gap analysis had not been done between the quality of existing data and the data requirements of the new system. This lack of appreciation of the data issues involved meant that the cleansing and transfer of data to the new system could not be completed by the go live timeframe. The analysis of the existing data and cleansing should be recognised as an important requirement when implementing replacement systems. Part of the preparation for replacement systems is that data transfer should be staged and completed as early and efficiently as possible.
- The contingency for the project could have been higher. It is not unusual to have contingencies of 50% in these types of projects.
- The recruitment and allocation of appropriately qualified resources to the project was an important element in order to meet the project objectives. The project encountered difficulties in recruiting and retaining skilled resources due to market conditions and the availability of

staff from internal Business Units due to operational requirements. It would have been preferred to ensure internal resources were removed from operational activities and dedicated full time to the project at an early stage of the project. While a number of staff were dedicated to the project in the delivery stage, this occurred later than planned.

### **Other Asset Management Projects**

It should be noted that PWC is not the only organisation to experience issues with asset management system implementations. There are a number of recent examples where these types of projects have resulted in significant delays and cost overruns. Sydney Water is an example where the initial project of \$18mil increased to over \$41mil for the same software purchased by PWC (Maximo). This was without the complexities of being a multi-utility.

Examples such as this highlight the complex nature and risks associated with asset management system implementations.