ANNEX 18: IT STRATEGY

Contents

1.Executive Summary

We use IT as an enabler of customer service rather than an end in itself. As such, the role of the IT strategy is to provide the direction required for an evolving IT&T function whose core purpose is to support the delivery of our company goals and deliver business value.

Our IT strategy for RIIO-ED1 and the plans that it supports, enable us to deliver:

- Day-to-day business as usual requirements
- Transformational business change
- Organisational whole-life cost efficiency goals
- New requirements emerging from the move to a low carbon economy and smart networks

Our 2012 benchmarking exercise with Gartner[1] suggested that our operating costs were approximately £1 million higher than industry peers. However, our IT strategy and plans for RIIO-ED1 will not only deliver the enhanced capability needed for the future, but will also reduce costs significantly from previous levels. Hence, we aim that by 2023 we will have removed almost 30% of our IT & Telecoms (IT&T) business support costs compared with the 2011-12 levels.

---

[1] Gartner are ISO9001 certified, employ over 100 benchmarking professionals worldwide, and benchmark around 5,500 client environments annually.

2. Purpose

The primary purpose of IT investment throughout DPCR5 and RIIO-ED1 is to provide reliable and affordable IT systems and services that support our business goals. Therefore our IT strategy is one that:

- Enables delivery of our RIIO-ED1 plans
- Adds value to our business through innovation and continuous improvement
- Supports emerging future network requirements
- Promotes development of successful partnership with key suppliers and service providers
- Is responsive to changing stakeholder and user needs
- Aspires to upper-quartile performance for IT&T business support costs
- Is environmentally and socially responsible in the delivery and management of IT services.

In particular, this strategy should be read in conjunction with Annex 13 – Smart Grid Strategy.

3. Key Principles

The key principles for our IT strategy are to:

- Invest in a commercial off-the-shelf (COTS) network management solution to ensure there is a sustainable, reliable and affordable platform to support the anticipated scale of the functional enhancement deemed to be required to meet the future requirements of the emerging Smart Grid
- Exploit prior investment in strategic systems such as the Geospatial Information System (GIS) to reduce reliance on legacy technologies and improve asset data quality and accuracy
- Re-implement the SAP platform on standard functionality to streamline Back Office processes
- Enhance customer service through consolidated customer information, integrated telephony and closer integration between front office and real time systems
- Take advantage of the increasing use of devices such as smart phones to drive efficiency and productivity, in particular through extending the use of mobile technologies for field data capture and provision of timely access to electronic records
- Strengthen the potential for innovation through enhanced business intelligence and the ability to explore innovation opportunities via a flexible sourcing model and agile infrastructure
- Increase affordability and reliability through convergence of the corporate IT and Operational Technology estates into two data centres, and continued exploitation of our high performance 21st Century telecommunications network (ENW21CN), built to mitigate the risks arising from the BT 21st Century project . This will then enable further convergence of back office and operational IT teams, delivery and management processes, and supporting technologies.

4. Key Investments

4.1 Non-operational IT Strategy

The first half of DPCR5 was dominated by securing complete independence from United Utilities and strengthening our long-term relationship with a new IT service provider.

2012-13 saw the implementation of a centralised customer contact centre, enhanced asset management solutions, enhanced reporting capabilities for operations and preparatory work for the mobilisation of our field force and implementation of enhanced work management solutions. Additional investment was also made in the areas of technical refresh to ensure continuing levels of reliability and ongoing compliance with regulatory and legislative requirements. For example, foundation work for the migration from Windows XP (which goes out of extended support in April 2014) to Windows 7 is well underway and will complete in 2013-14.

Over the remainder of DPCR5, we will be investing in a number of strategic technology-enabled initiatives including:

- Expanding the use of mobile technologies to improve the efficiency and productivity of the field force through extending field data capture and timely access to electronic records
- Increasingly effective use of work and asset management solutions and geospatial technologies through a rationalised suite of systems and improved asset data quality and accuracy
- Enabling augmented customer service by investment in a strategic, central customer information system, an integrated telephony solution and closer integration with Work Management and Network Management systems
- Enhancing our back office efficiency and reducing our associated business support costs by using appropriate tools and adopting industry best practice and processes;
- Expanding our decision making capabilities, reporting efficiency, and improving integrity across the organisation through a roadmap of Management Information (MI) projects delivering incremental solutions using a strategic and cost-effective platform
- Optimising the overall IT and telecommunications estate to achieve lowest whole life costs through, for example, data centre consolidation, continued exploitation of our high performance ENW21CN network, and convergence and consolidation of back-office and operational IT teams, delivery and management processes, and technologies
- Implementation of call centre, scheduling and dispatch capabilities to support the smart meter roll out which starts in September 2015.

Having implemented this future-proof, flexible and cost effective IT estate, investment through RIIO-ED1 is that of pragmatic cost minimisation. As with any asset, IT assets and applications degrade over time. As they age, the cost to operate also increases as they require increasing resource and potentially scarcer skills to operate, support and maintain. Therefore the programme is focussed primarily on refresh activities, with all IT-enabled discretionary business change being self-funded from the benefits it delivers, thus ensuring our strategy is the most affordable solution for our customers.

4.2 Operational IT Strategy

During early DPCR5, as the potentially significant impact of the low carbon economy and smart meter roll out became clearer, we concluded that continuing to develop bespoke real time systems in house would incur significant additional cost and present an increasing risk to the business in the future sourcing and training of additional system experts due to the scale and complexity of future "Smart" requirements.

In order to address these issues we conducted a number of expert reviews of many elements of our DPCR5 Operational IT strategy including our Network Management System (NMS) platform, Supervisory Control and Data Acquisition (SCADA) platform, security infrastructure, data centre infrastructure and operational radio infrastructure. These reviews focused on systems being fit for purpose in terms of current and future functionality (sustainability), simplification of infrastructure complexity (reliability) and reduction in total cost of ownership (affordability).

The recommendations from the above reviews, along with reference client engagements with both GB DNOs and US electricity and gas companies, led to the creation of a strategy for the Operational IT investment which runs through the remainder of the DPCR5 period and throughout the RIIO-ED1 period. The core investments within this strategy are:

- Implementation of a scalable and reliable strategic NMS platform allowing for the future deployment of new smart grid technologies as they are developed through research and supplier partnerships. This transformation of our Operational IT core systems will also create benefits from integration of smart meter data much earlier in the investment period than would have been previously possible
- Asset data quality initiatives in order to simplify the creation of HV and LV connectivity models, enable future integration of 'smarter' analysis tools and prepare our systems for taking advantage of smart meter data once it is available
- Consolidation of core infrastructure into two highly resilient and secure purpose-built data centres that will also support storage of smart meter data once available
- Implementation of our smart meter data infrastructure to support our Smart Energy Code obligations and to realise the benefits for usage of smart meter data within network monitoring and management activities eg utilising profile data and alerts for advanced management of the distribution network
- Continued investment in the extension and refresh of our Remote Terminal Unit (RTU) and telecoms assets in order to provide greater reliability in the face of increased demand through significantly increased automation
- Implementation of outputs from innovation projects such as contract management (C_2C), and energy management (CLASS) as well as other DNO initiatives.

As with Non-Operational IT, refresh activities will be undertaken balancing cost reduction with risk mitigation.

5. Strategy Execution

Efficient execution of our IT strategy will be achieved through the right-sizing, right-skilling and right-sourcing of our IT services to match the current and future requirements of the IT estate through use of internationally recognised change management standards and supported by appropriate collaboration tools such as SharePoint.

Opportunities to optimise processes will be regularly reviewed to ensure the forecast IT&T business support efficiencies are achieved.

5.1 Project Portfolio Management (PPM) and Portfolio Management Office (PMO)

The IT&T PPM capability and supporting Portfolio Management Office (PMO) is well established and operates using the Office of Government Commerce (OGC) P3O[2] and

---

[2] The purpose of the Portfolio, Programme and Project Offices (P3O) guidance is to provide universally applicable guidance that will enable individuals and organisations to successfully establish, develop and maintain appropriate structures to support all types of business change.

Management of Portfolio standards of best practice. The PMO supports the definition and delivery of our portfolio of IT-enabled change through the provision of information management capabilities including:

- Financial Management - the preparation and presentation of financial data including project and programme forecasts against sanction value and budget
- Delivery Assurance - a common approach to assurance activities including internal/external audits and, where applicable, the engagement of third party assurance providers
- Controls – detailing a consistent approach to the management of risk, change and approvals.

The PMO will continue to operate as a coordinating function, ensuring that change is delivered consistently and well, through standard processes and competent staff. It provides standards, consistency of methods and process and knowledge management. It also provides strategic oversight, scrutiny and challenge across the IT&T portfolio of projects and programmes. The 'Centre of Excellence' is a function of the PMO and provides a focal point for driving the implementation of improvements to increase the IT&T organisation's capability and capacity in programme and project delivery.

5.2 Governance

Robust governance is at the heart of the IT&T function's approach to the execution of the IT strategy. Investment approval, technical assurance, risk management, change management and the release of contingency will continue to be managed in line with our Internal Control Manual and IT&T governance processes.

For major projects and programmes, Programme or Project Steering Groups (PSGs) meet regularly, monitoring progress, performance and risk, and providing a forum for sponsors and key stakeholders to challenge and direct the delivery team appropriately.

The Capital Programme Management Group (CPMG) oversees the delivery of all IT&T led initiatives. The main focus for this forum will continue to be ensuring that the initiatives and programmes being progressed by IT&T are fully aligned to our IT&T strategy and emerging business needs.

The virtual Design Authority (DA) team will continue to utilise both in-house and external expertise to provide technical assurance of all IT-enabled change.

5.3 Service Management

The first half of DPCR5 saw the strategic development of our long-term relationship with a new IT service provider including the introduction of an ITIL[3]-based service management model. Additional efficiencies were achieved through re-negotiation of contracts and Service Level Agreements for key non-operational systems.

To support our strategic aims, a review was undertaken during 2012-13, post separation from United Utilities, to benchmark our operating model and cost-to-serve. Taking the output of the review we are seeking to exploit opportunities during 2013-14 and 2014-15 to right-size and right-source a number of service management functions for which capabilities and

---

[3] The Information Technology Infrastructure Library (ITIL) is a set of internationally recognised practices for IT service management (ITSM) that focuses on aligning IT services with the needs of business.

capacity exists either within the in-house team or can be more efficiently found within the expertise of third party providers.

Post data centre rationalisation, the service management function will be further developed to take advantage of the consolidated data centre strategy. Support functions, both internal and third party, will become holistic from the previous segregated Operational and Non-Operational services. The management structure will become flatter with greater business focus. Common service management processes will operate across the organisation ensuring a uniform approach to such things as service levels, incident handling, problem management and change control. The revised IT operating model will have optimised resources and processes and utilise a mixed sourcing model to extract maximum efficiency savings.

For each business area, services will be delivered from the same team as projects such that there will be efficient utilisation of skills and resources. Management will work with the business areas to optimise the delivery of service issues such as problem fixes and minor enhancements with major implementations in a consolidated plan.

After embedding the revised operating model made possible by the data centre reconfiguration, we will continue to extract the maximum cost savings from the new model through:

- Regular market testing of systems and services in conjunction with contract reviews and commercial re-negotiations to ensure best value
- Use of best practice procurement processes led by the specialist central procurement team
- Further exploitation of our strategic systems and high performance ENW21CN network to maximise the value from previous investment
- Undertaking continuous service improvement exercises.

5.4 Sourcing

We anticipate that right-sizing, right-skilling, and right-sourcing our IT services will result in the most efficient outcome and that this will be achieved through approximately half of our IT&T business support cost base being supported by third party providers. This mixed sourcing strategy will ensure the best blend of in-house and third party resources to maximise advantages from economies of scale and retain in-house skills where they provide the greatest benefit using options such as Software as a Service (SaaS).

The majority of in-sourced costs will be incurred supporting specialist Operational IT activities and information security activities where there are known to be shortages in skills in the national and international resource markets or where, through innovation activities, we wish to maintain our position at the forefront of research.

The remaining in-sourced costs will almost exclusively be incurred supporting activities where IT industry experts, such as Gartner[4], advocate retaining in-house skills. These include areas such as strategy, architecture, assurance, commercial and contract management and key subject matter experts, particularly for front office systems such as work management, where competitive differentiation is crucial to success.

---

[4] Gartner is the world's leading information technology research and advisory company and has 5,600 associates, including 1,400 research analysts and consultants, and clients in 85 countries.

6. IT Security

The overall cyber-threat landscape is subtly changing. In the last ten years the main threat has been from relatively unskilled amateur attackers using widely available hacking tools. Typically, their aim was to deface web sites or to deny operations. Defences against these attacks include commercial anti-virus software which identifies and blocks known malware signatures and firewalls to block specific types of traffic.

The future is very hard to predict as attackers become better funded and trained. Cyber attackers are now using advanced techniques, often funded by criminal gangs or even nation states, to penetrate organisations in targeted attacks. These typically extract information such as financial plans or intellectual copyright material for commercial gain. The threat from terrorists is currently seen as low but increasing as examples of cyber-warfare with the goal of causing physical damage or widespread disruption are now being seen. Such targeted attacks are harder to defend against as attackers look to exploit known or new vulnerabilities in systems. However, the basic principles of defence in depth and a good understanding of valid network traffic will help mitigate the risk.

Given the increasing likelihood of cyber crime, an on-going programme of vulnerability and penetration testing of our estate identifies areas of weakness and mitigating actions are then taken. Dialogue with security vendors, special-interest groups and organisations such as the Centre for the Protection of National Infrastructure (CPNI) enables a good awareness of emerging technologies which can be assessed and deployed in a cost-effective manner in the future to mitigate identified risks.

For these reasons, investment in operational and non-operational IT security will be required throughout RIIO-ED1 to combat the ever-increasing threat from cyber criminals to an increasingly electronically-run organisation and distribution network.

We will maintain our compliance with ISO27001[5] and continue to follow the UK principles-driven regime, where core principles are agreed nationally and implemented by relevant parties.

Our active engagement in external forums such as E3C (Energy Emergencies Executive Committee) will remain, alongside our collaboration with other critical national infrastructure providers in order to share information on new threats and strategies for risk mitigation.

7. Green IT

Our Green IT strategy is simple in its goal of fully supporting our aims to both recognise our impact on the environment and manage our IT estate in as sustainable way as possible in the context of the UK's move towards a low carbon economy.

The most significant activity to support this Green IT strategy is the in-flight Data Centre Consolidation project which aims to consolidate the number of IT buildings in use today by moving from four existing facilities to two new facilities and to rationalise the computing infrastructure to improve both operational efficiency and long term sustainability. The intention behind the design of the new facilities, and the servers and environmental systems

---

[5] ISO 27001 is the international standard describing best practice for an Information Security Management System, often shorted to 'ISMS'.

used within them, is such that green technology and innovation will be used wherever possible to reduce energy consumption and long term carbon output.

The Data Centre project will also seek opportunities to make use of the government scheme for managing climate change. Where applicable, industry best practice is being applied throughout designs to optimise energy usage and emissions by implementing efficient solutions, such as 'free cooling' and 'heat re-use' in the IT Data Centre facilities. In addition, IT system virtualisation and commodity components that consume less power will be factored into the refresh of technology platforms.

Additional activities supporting our Green IT agenda include:
- Working to ensure the ethical and CSR credentials of potential IT suppliers are considered during IT procurement activities
- Ensuring the ethical disposal and recycling of IT equipment as it reaches end of life
- Implementing a managed print service and environmentally friendly printing policies such as default double sided printing
- Provision of video and tele-conferencing facilities to reduce travel between sites
- Development of an End User Computing strategy that allows for increased home working and opportunities for Bring Your Own Device (thus reducing the need to provide additional company owned devices to staff and contractors)
- Use of hosted shared services
- Increasing staff awareness of power usage effectiveness activities that can reduce overall power and cooling requirements for example through turning down brightness and turning up contrast, looking after laptop batteries through regularly draining completely and then fully re-charging, fully closing laptop lids when using an alternative monitor, and turning off Wifi and Bluetooth when not in use
- Improving asset life-cycle management techniques to sweat assets and extend refresh cycles
- Provision of hot desks rather than permanent workstations for staff and contractors who regularly work in multiple locations.