Technology Services

Focus Area: **Operational Excellence**
Strategic Objective: **Efficiency & Effectiveness**
Owner: **Tom Nolan and Vicki Evans**

Summary of proposed action

Optimize SPU's technology systems to support core utility services, in alignment with Strategic Business Plan (SBP) objectives. This Action Plan focuses on an approach to address known priority business and technology needs, as well as anticipated future needs. The specific requests in this Action Plan will help SPU achieve necessary business and technology improvements including: better management of information assets; quality assurance testing; enhanced business analysis; improved systems integration; expanded security and mobile workforce solutions; and sufficient funding to accommodate rising software licensing and maintenance costs.

Description of the problem this action solves

The effective use of information technology (IT) is critical to meeting SPU's strategic objectives and is an essential element of SPU's business and operations. IT tools increase efficiency and effectiveness in delivering Utility services and meeting regulatory requirements.

More detailed description of the proposed action

SPU provides a broad spectrum of IT-related services to the department and the City including: project and portfolio management; business system development; Utility and citywide GIS application development; data maintenance; strategic planning and governance; business analysis; end-user support services for employees located in 30 sites; technology procurement and contracting; system integration; application upgrades and maintenance; database administration; cyber and physical security monitoring; and active participation on Citywide projects and initiatives such as the Next Generation Data Center and the PeopleSoft Financial System Reimplementation. IT entails much more than desktop computers and office software.

SPU's reliance on information technology to deliver utility services has been and continues to increase. As business needs change and grow, so too do IT services and products. In 2014, SPU will begin work on a Technology Plan to strengthen the alignment between our technology investments and operations, and the SBP. Not only will this six-year tactical plan make recommendations in support of our meeting the SBP's objectives, but it will also address known IT service delivery and product issues. The Technology Plan and its recommendations will be completed in 2015 with no funding required. Any additional resource recommendations that arise in the strategic planning process beyond what is requested in this Action Plan will be met through careful planning and possibly reallocations within the existing baseline.

There is currently an urgent need to fund several new positions and to add to the IT O&M budget in advance of completing the Technology Plan. The section below describes 11.0 needed positions though this Action Plan is requesting 6.0 new positions. SPU will prioritize its position needs over the next few months.

Known Problems, Gaps and Opportunities to be addressed by the Technology Plan:
1. SPU's Information assets (e.g. data, documents, engineering plans) are not well organized, often of inconsistent or questionable quality, and difficult to find and share. To address these issues, we require new skills and additional capacity to design and create document management, records management, and data stewardship systems. Position needs include:
   - 1.0 FTE - Data Architect (baseline = 0.0 FTEs)
   - 1.0 FTE - SharePoint Administrator (baseline = 0.5 FTE to support 200+ SharePoint sites)

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2. New systems and business applications are sometimes deployed without sufficient business analysis or quality assurance (QA) testing. This has resulted in extended project schedules and higher consultant costs to test and fix bugs and develop needed enhancements. Additional business and quality assurance analyst skills would vastly improve software quality, usability and reliability and reduce life-cycle costs. Position needs include:
   - 2.0 FTE - QA Analyst / Testers (baseline = 0.0 FTE)
   - 1.0 FTE - Business Analyst (baseline = 1.0 FTE)
   - 1.0 FTE – Specialized software developer for CADD (baseline = 0.0 FTEs)

3. SPU's business systems, hardware, software, products, and platforms are rapidly growing in numbers and complexity and do not always "talk" to each other. This can significantly limit their usability and hinder the productivity of users. The value of business systems and data is diminished if they are not carefully designed to be flexible and integrated. Lack of integration causes users to spend inordinate amounts of time moving between different systems and databases to find, retrieve, analyze and deliver information. System integration requires advanced software development practices and best practices in back-end server configurations, data administration and vendor product management. Position needs to accomplish this work include:
   - 2.0 FTE - Software Developer (baseline = 12.0 FTEs)
   - 1.0 FTE - Systems Integration Technician (baseline = 5.0 FTEs)

4. Cyber security measures, prevention of data loss and strong internal controls are critical for protecting Utility operations. SPU must ensure that the necessary system controls are in place to protect both customers and employees from malicious intent including fraud, theft and breach of privacy or confidentiality. This is especially true as SPU expands its use of internet (i.e. 'Cloud') based software and infrastructure services. Additional staffing capacity with strong technical skills related to Cloud, network and system security will be needed in the future:
   - 1.0 FTE – Security Technician (baseline = 1.0 FTEs)

5. SPU's changing workforce expects to use modern technologies that allow employees to easily collaborate real-time with co-workers and do their jobs from any location. Key to meeting SPU's stated objective of "transforming the workforce" will be a commitment to modernize IT provisioning practices so that employees are more mobile and have easier access to information from remote locations. Position needs include:
   - 1.0 FTE – Mobile Solutions Technician (baseline = 0.0 FTE)

6. Annual costs for software maintenance and licensing are rising steeply and well above the rate of inflation. The cost drivers include:
   - Increased use of commercial software requiring licensing and vendor maintenance contracts. Vendor support costs for existing software, hardware and tools are also rising.
   - The growing volume of maintenance contracts, including ones required by the City (e.g. security). In 2006, SPU renewed 26 contracts at a cost of cost of $505K; in 2014, 62 contracts will be renewed at a cost of $1.4M.
   - Increasing number of new and premium-level licensing due to larger user pool and need for additional vendor services.
   - Built-in annual price increases that exceed the rate of inflation in some contracts (e.g. the City's IBM *Cognos* contract allows for 10% increases).

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As a result of this trend, this Action Plan requests an escalator of $100K per year be added to the baseline IT non-labor budget of $1.4M. This would provide sufficient funding for the rapidly rising costs to license and maintain all software, hardware, tools, and IT infrastructure assets.

Benefits of the proposed action

In general, technology investments and IT operational spending provide employees with the services, tools and information they need to deliver SPU services more effectively and efficiently and help meet regulatory requirements. A few specific examples of the benefits of this Action Plan include:

- Improvements to SPU's asset management practices, including data-driven decision-making through availability of higher-performing business and information systems that deliver high quality asset, customer and financial data. This supports reliable and effective performance monitoring, problem solving, preventative maintenance, reporting, and planning.

- A well-designed, integrated, fully tested and supported business systems environment encourages improved, more efficient utility operations as well as fewer stand-alone business applications being developed and having to be maintained. It may also allow for the retirement of several obsolete legacy systems that increase complexity, pose risks, and add to costs.

- A modernized, usable and well-integrated business systems environment that is tightly aligned with the operations, business needs and practices of the Utility will increase productivity and help to meet several key efficiency objectives.

- A quality assurance program staffed by skilled in-house testers will improve software and system quality, usability, and flexibility, while also reducing schedule and budget impacts on all technology projects.

- Significant productivity improvements among employees and external business who regularly create, share and consume information in the form of documents and graphics (i.e. content). Leading document and records management practices are foundational for leveraging and protecting corporate information assets, ensuring information security and preventing fraud, misrepresentation, and error.

Implementation plan and timeline

- Development of the Technology Plan will begin in Q2 2014 with a targeted completion date of Q3 2015 (no funding request is associated with the Technology Plan).
- Prioritize staff needs, as described above. Begin hiring new positions in January, 2015.

Budget and FTE Changes (in $000s)

The table below provides approximate costs to fund forecasted software maintenance costs and six (6) of the staffing needs described above.

Fund: All three funds.

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	2015	2016	2017	2018	2019	2020	Total
O&M Labor*	$400	$580	$580	$580	$580	$580	$3,300
O&M Non-Labor (Software Mtce)	$100	$200	$300	$400	$500	$600	$2,100
O&M Subtotal	$500	$780	$880	$980	$1,080	$1,180	$5,400
CIP	$0	$0	$0	$0	$0	$0	$0
Total O&M and CIP	$500	$780	$880	$980	$1,080	$1,180	$5,400
FTE	6.00	6.00	6.00	6.00	6.00	6.00	6.00

*Note: Most, but not all, of the costs associated with the 6.00 new positions impact the O&M. 2015 assumes a 3-month hiring lag. Labor costs are not inflated.

Plan for evaluating success or progress
- Regularly evaluating SPU's technology asset, service and performance metrics
- Ongoing review and governance of technology asset management practices (e.g. prioritization, portfolio review) in alignment with SPU's Strategic Business Plan objectives and goals
- Ongoing review and management of development and software development and maintenance costs