



**Memorandum from the Office of the Inspector General**

March 27, 2008

E. Wayne Robertson, SP 5A-C

**REQUEST FOR FINAL ACTION – AUDIT 2007-11348 – INFORMATION SERVICES  
ORGANIZATIONAL EFFECTIVENESS**

Attached is the subject final report for your review and final action. Your written comments, which addressed your management decision and actions planned or taken, have been included in the report. Please notify us within one year from the date of this memorandum when final action is complete.

If you have any questions, please contact Sylvia J. Whitehouse, Senior Auditor, at (865) 632-2640 or Jill M. Matthews, Director, Information Technology Audits, at (865) 632-4730. We appreciate the courtesy and cooperation received from your staff during the audit.

(For) Robert E. Martin  
Assistant Inspector General  
(Audits and Inspections)  
ET 3C-K

SJW:JP  
Attachment  
cc (Attachment):

Steven A. Anderson, SP 5A-C  
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OIG File No. 2007-11348



# **Information Services Organizational Effectiveness OIG Audit 2007-11348**

March 27, 2008



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# Summary

## Positive Findings

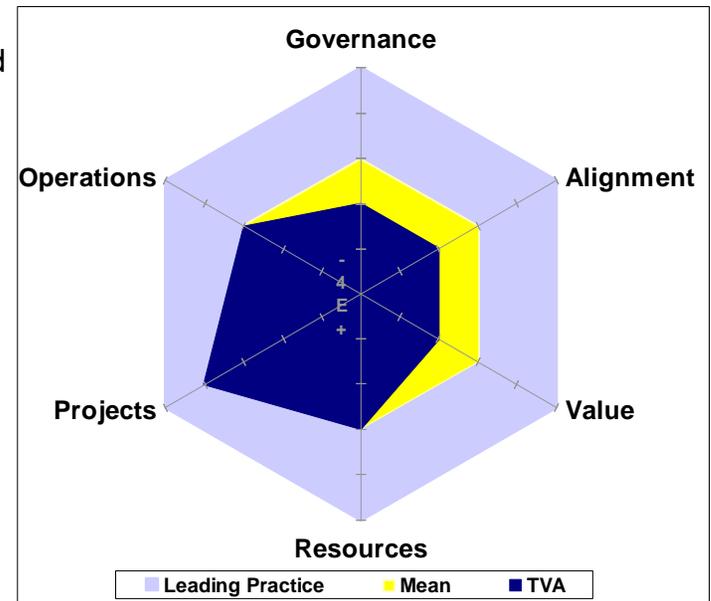
- New IS management is committed to breaking down the barriers within IS to become a more integrated organization focused on service delivery.
- The restructure of infrastructure operations and engineering and its use of standard processes mirror the leading practices.
- IS has the organizational structures, methodologies, and tools to conduct IT projects at a level above its peers among utilities.
- IS implements large IT projects above a \$100K investment with a high rate of success.

## Opportunities for Improvement

- Better integrate governance with TVA business strategy to attain the greatest value for TVA.
- Improve focus on strategic business partnering and communication with customers to foster good relations and deliver business value.
- Target organization and policy changes, performance measures, and service management toward aiding customers to achieve business goals.
- Develop strategy for handling the risk of the aging workforce and ensuring knowledge transfer.
- Coordinate governance of TVA IT investments at an enterprise level to achieve optimum value.

TVA management agreed with our recommendations with one exception related to project budgeting. TVA management proposed actions to implement program improvements and scheduled action plans for completion by December 31, 2008. We concur with TVA management's proposed actions. (See the Appendix for the complete response.)

## TVA IS Organizational Effectiveness Current State





# Project Overview

## Project Objective

Evaluate the effectiveness of the IS organization and high-level practices to determine if any significant gaps exist (or will remain after reorganization).

## Approach

- Enlisted the support of an external consulting firm with subject matter expertise.
- Interviewed 50 IS and business personnel.
- Gathered and reviewed documentation related to:
  - Reorganization
  - Historical Strategy
  - Policies/Procedures
  - IS Tools
  - Service Level Management
  - Previous Evaluations of IS
- Analyzed interview results, mapped to leading practices, and rated based on professional opinion.
- Referenced standards and materials from:
  - Consultant's Benchmarks
  - CoBIT 4.1 *Control Objectives for Information and related Technology*
  - IT Governance Institute
  - IT Infrastructure Library (ITIL)
  - Capability Maturity Model Integration (CMMI)
  - Help Desk Institute





# Project Overview (cont.)

## Scope

This audit was included in our annual audit plan and was conducted in accordance with generally accepted government auditing standards for performance audits. The scope of this audit was policies, procedures, and practices in place during our fieldwork period of November and December 2007.

We relied on subject matter expertise provided by the external consulting firm for:

- Identifying leading and average IT organization practices and
- Rating TVA effectiveness in performance of these practices.

We collaborated with the subject experts to develop action steps for improving TVA performance and moving toward recommended future state.





# Background

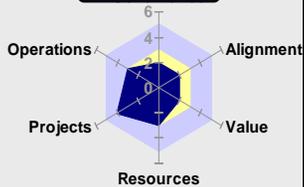


- IS is in the process of undergoing significant changes:
  - The IS organization has a new management team effective the summer of 2007.
  - The new management team is reviewing and redesigning the organization structure within IS. The new structure is being implemented in a phased approach.
- Historically, the IS organization was not tightly integrated.
  - The new management team is striving to change that aspect of the organization.
- In addition to IS, TVA has other IT organizations (e.g., Nuclear Power Group and Power System Operations) that perform functions similar to IS such as managing network segments and administering servers.
- The IT industry faces a shortage of skilled, experienced talent in the workforce. The IS workforce is impacted by:
  - Sustainable Performance Initiatives that are driving reductions in the IS headcount.
  - Skilled, experienced talent choosing retirement or taking more lucrative offers.



# Governance & Planning

## Governance



## Current State

- TVA's IS organization continues to evolve its approach to governance and planning. IS recognized the previous approach yielded suboptimal results and has launched efforts to define a more effective program.
- An integrated mapping of frameworks and standards is not in place to provide a holistic view of how standards will be used to ensure effective governance. The IS governance framework being adopted, CoBIT, is the industry standard.
  - IS previously defined a governance structure including committees; the documentation and interviews indicate this governance was primarily project based. However, the committees were put on hold until the new governance model is rolled out.
  - Multiple governance processes are used for different IT groups in TVA business units.
- A documented strategy exists for 2005 through 2007. A more recent version is not yet available.
  - The 2005-2007 strategy did not explicitly show how IS objectives and goals supported overall TVA corporate objectives and goals.
- Performance measures are IT-based and tactical rather than strategic.
- IT projects are prioritized primarily by customers. IS uses tools such as spreadsheets to track projects.

## Recommended Future State

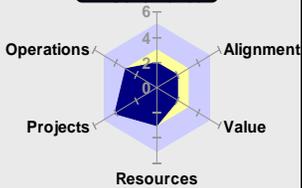
- A current three-year strategy that clearly ties to TVA's business strategy and value.
- IS governance framework that outlines all aspects of governance and planning including plan, organize, policies, and measure controls.
- All of TVA's IT businesses and functions are governed through a single framework.
- IS governance committees span all aspects of IT processes. Business units are actively involved in setting IT direction.
- Performance measures are geared to TVA value and gauge customer satisfaction.
- Application and project portfolio management are closely integrated.



# Governance & Planning

## Recommendations and Costs/Benefits

### Governance



The recommendations are geared to integrating IS governance with TVA business strategy to attain the greatest value from TVA's IT investment. IS must understand the costs and benefits from both projects and existing applications. The costs to implement action steps are projected at a medium range but may be offset by savings from reduced duplication of work. Multiple benefits are expected in all aspects of IT management.

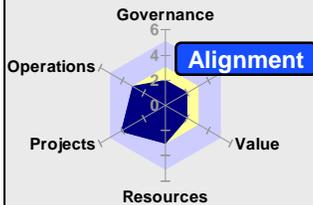


#	Recommendation	Cost Elements	Benefits	\$\$
1	<u>Governance Definition &amp; Planning</u> Accelerate governance project and integrate with business strategies. <ul style="list-style-type: none"> <li>Update the formal IS strategy and ensure it articulates the business alignment.</li> <li>Incorporate all TVA IT functions including other business units within the framework.</li> <li>Reestablish the governance committees including scope, roles, and responsibilities.</li> <li>Rework performance measurement.</li> </ul>	<ul style="list-style-type: none"> <li>Internal IT personnel (both IS and others)</li> <li>Business units</li> <li>Consulting (if needed)</li> </ul>	<ul style="list-style-type: none"> <li>Clearly articulated IS direction in business terms</li> <li>Reduced redundant functions</li> <li>Enhanced IS/business relations</li> <li>Improved management of IT investments</li> <li>IT investments aligned with strategy</li> <li>Integrated IS organization</li> </ul>	<u>Costs</u> Medium  <u>Benefits</u> High
2	<u>Portfolio Management</u> Integrate project and application portfolio management at an enterprise-wide level. <ul style="list-style-type: none"> <li>Implement software tools to manage and identify the highest value portfolio of IT investments.</li> </ul>	<ul style="list-style-type: none"> <li>Software license</li> <li>Implementation</li> <li>Training</li> <li>Internal IS personnel</li> <li>Business units</li> </ul>	<ul style="list-style-type: none"> <li>More projects completed</li> <li>Highest valued projects selected</li> <li>Reduced maintenance costs</li> <li>Enhanced project reporting</li> <li>Reduced time to prioritize projects</li> </ul>	<u>Costs</u> High  <u>Benefits</u> High

\$\$: **Low** < \$250K    **Medium:** \$250K to \$1M    **High:** \$1M+



# Business Alignment



## Current State

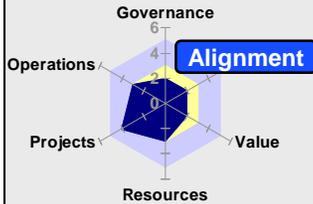
- IS' new management team voices commitment to changing the perceptions about IS within the customer base.
- Most TVA business units do not include IS in their strategic planning processes.
  - Although pockets of IS appear to be proactive, IS generally does not bring changes in technology to the business. Technology changes are typically driven by business units, and IS is included postdecision.
  - IS-driven changes are not fully budgeted.
- Customer interfaces are not consistently effective; relationships between IS and the business tend to be tactical or reactive rather than strategic and proactive.
  - IS plans to replace the existing Account Manager roles with a revised Service Management structure to provide three primary business interface resources – one each for infrastructure, applications, and customer coordination. By eliminating a single point of contact for each of TVA's many business units, the potential confusion could create greater distance between IS and its customers and work against alignment with the business.
  - Many customers are confused about proper channels of communication with IS and do not know who to contact.
  - Business units commented there was not enough communication, and it typically focused on what was going on in IS versus how IS was aiding the business.
  - Communication with IS often requires translation from technical jargon to plain English; business units often have to learn IT to communicate with IS. Business savvy is not always present in IS.
  - Service Level Agreements (SLAs) do not reflect business needs.
- Two tools used to track customer requirements for help desk issues and software service requests are independent of customer satisfaction tracking.

## Recommended Future State

- IS provides the tools and services necessary for customers to meet their missions. IS monitors external technology trends and proactively brings solution options to the business. IS is integrated into business strategy and operations processes.
- IS provides a clear single point of contact for customer management that is knowledgeable of the customer's business needs, industry/IT trends, and IS resources.
  - IS delivers frequent, targeted communication with key messages in layman terms.
  - SLAs are defined in terms of business processes.



# Business Alignment Recommendations and Costs/Benefits



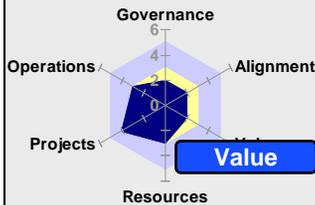
The recommendations are geared to improving communications and delivering business value. Focus should be from the customer's point of view looking into IS versus IS' operations.

#	Recommendation	Cost Elements	Benefits	\$\$
3	<p><u>Communication Plan</u> Provide a structured overarching plan of communication to ensure consistent interaction with customers.</p> <ul style="list-style-type: none"> <li>• Seek inclusion in business strategy and operational meetings. Continue cultural shifts to proactive involvement.</li> <li>• Focus on key messages, timing, and delivery mechanisms.</li> <li>• Ensure projects include non-IS technology costs.</li> <li>• Increase emphasis of customer communication in performance measurement.</li> </ul>	<ul style="list-style-type: none"> <li>• Internal IS personnel</li> </ul>	<ul style="list-style-type: none"> <li>• Clearly articulated IS direction in business terms</li> <li>• Improved IS/business relations</li> <li>• Reduced chances of rework</li> <li>• More successful projects</li> </ul>	<p><u>Costs</u> Low</p> <p><u>Benefits</u> Medium</p>
4	<p><u>Customer Management</u> Redefine the customer management role from the customer's point of view.</p> <ul style="list-style-type: none"> <li>• Reevaluate the revised IS structure for service management and how it will be deployed; ensure IS staff has the skill set needed to foster collaboration.</li> <li>• Establish SLAs to measure business process results.</li> </ul>	<ul style="list-style-type: none"> <li>• Internal IS personnel</li> </ul>	<ul style="list-style-type: none"> <li>• More strategic customer relations</li> <li>• Clear points of contact</li> <li>• Less confusion for business</li> </ul>	<p><u>Costs</u> Low</p> <p><u>Benefits</u> Medium</p>

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# Value Realization



## Current State

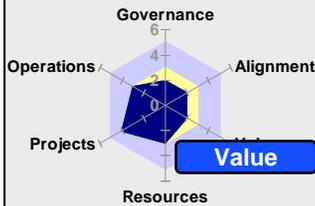
- IS has conducted a number of comparison initiatives that demonstrate the tactical components of IS functions are better than at most utilities.
- The measured components have driven behavior away from aligning with the needs of the business.
  - Business unit customers stated that SLAs provide limited to no value to them, and the customer does not use the SLAs in evaluating the effectiveness of IS.
  - The measured elements of the SLAs are more effective for benchmark comparisons than they are for aligning the service with the business customers' needs.
  - Reviews of IS performance from the customer perspective are informal with most areas not having a set review schedule.
- Overall business unit customer satisfaction with IS is moderate with pockets of excellence.
  - Areas with high customer satisfaction are typically characterized by having knowledgeable IS staff that communicate in layman terms or the customers' business language.
  - Customers stated that researching and sharing how technology is impacting the customers' business was important to them; yet, a small minority reported receiving this service from IS.
  - The 100+ procedures related to IS are highly redundant and confusing to both customers and IS personnel or do not address business needs.
- IS uses and publishes a project scorecard that highlights the status of mid-to-large projects.
- TVA has multiple organizations besides IS that provide IT services to the business.

## Recommended Future State

- Business customers and IS jointly agree on SLAs that reflect the needs of the business.
  - Performance reviews are held with customers on a regular basis.
  - Metrics demonstrate to the business the value that IS provides.
- Customer satisfaction is high across the customer base.
  - Business trends enhanced by technology are actively researched and reported to the business.
  - IS communicates in business terms or plain English.
  - Policies and procedures are consolidated, simplified, and understood by the appropriate audience.
- Project scorecards continue to be updated and published.
- IS and other IT organizations continue to work together and seek ways to reduce duplication of work.



# Value Realization Recommendations and Costs/Benefits



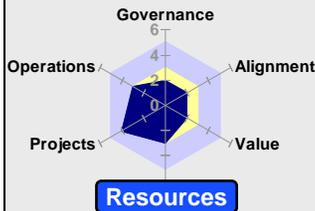
Business customers realize value when their business processes are enhanced through technology. The following recommendations are aimed at channeling existing IS programs into a more customer value-oriented direction.

#	Recommendation	Cost Elements	Benefits	\$\$
5	<p><u>Service Level Management</u> Redefine the service level management program to be more customer-focused.</p> <ul style="list-style-type: none"> <li>• Work with customers to define how to measure IS' impact on the business process.</li> <li>• Define a process and program for measurement.</li> <li>• Build service level measures based on business process outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>• Internal IS personnel</li> <li>• Consulting (if needed)</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to gauge value from IS</li> <li>• Improved evaluation of services</li> <li>• Closer alignment with business value</li> <li>• Increased customer satisfaction</li> </ul>	<p><u>Costs</u> Low</p> <p><u>Benefits</u> Medium</p>
6	<p><u>Procedure Refresh</u> Consolidate procedures to reduce redundancy and increase usability.</p> <ul style="list-style-type: none"> <li>• Unify procedures for all IT groups including other business units to enhance collaboration and standardization.</li> <li>• Align procedures to enhanced standards.</li> <li>• Define the procedures to support the revised governance and service level management programs.</li> </ul>	<ul style="list-style-type: none"> <li>• Internal IT personnel (both IS and others)</li> <li>• Consulting (if needed)</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced duplication of effort</li> <li>• Increased comprehension of policies</li> <li>• Lower cost to maintain and train</li> </ul>	<p><u>Costs</u> Low</p> <p><u>Benefits</u> Low/ Medium</p>

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# Resources



## Current State

- As a preferred employer, TVA has attracted and retained high-quality talent.
- Customers are concerned with losing organizational and application knowledge resident in the TVA IS staff.
  - 22 percent of IS employees are over 55 years of age.
  - 69 percent of IS employees are over 45 years of age.
  - The average age of IS workers at 47½ is greater than the average age of TVA as a whole.
- Resource leveling is informal and based on management's perception of employee workloads.
- With the recent restructuring and work pressures, IS has experienced a sagging morale.
- TVA uses a blend of employee, contractor, and managed task to support the business needs.
- The large number of represented IS employees presents unique challenges not seen in large, investor-owned utilities.

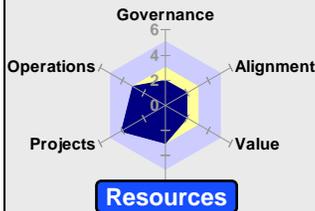
## Recommended Future State

- IS continues to attract high-caliber resources to support the business.
  - IS employees are retained and backfilled based on the needs of the business.
  - A recruiting plan is in place to mitigate the potential exodus of organizational and subject matter expertise over the next ten years by better balancing the IS staff's years of service.
  - Contractors and managed task resources continue to be used to augment the employee workforce and preserve the flexibility changing demands require.
- Customers are confident in receiving a high level of service from their support staff over the long term.
- Resource leveling is based on job time and level of effort and is coordinated across large and small projects.
- Stabilization of the workforce and closer alignment with the business improve morale.



# Resources

## Recommendations and Costs/Benefits



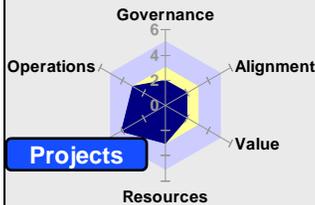
Resources are the key to delivering the level of services required by the business line. IS has a critical mass of potential retirees who possess a tremendous amount of technical and organizational knowledge. With the limited availability of resources in the marketplace and the aging of the workforce, IS must have a means to capture the knowledge of the workers.

#	Recommendation	Cost Elements	Benefits	\$\$
7	<p><u>Knowledge Transfer</u></p> <p>Develop a strategy to capture the knowledge of subject matter experts and incorporate in overall IS management for the long term.</p> <ul style="list-style-type: none"> <li>Identify resources likely to migrate out of TVA over the next 3 to 5 years.</li> <li>Build out a formal redundancy capability in the higher risk areas.</li> <li>Capture important organization and application knowledge for those exposures over time.</li> <li>Document and implement a formal set of practices to off-board and on-board resources for all IS services.</li> <li>Identify areas where outside talent will be recruited.</li> </ul>	<ul style="list-style-type: none"> <li>Internal IS personnel</li> </ul>	<ul style="list-style-type: none"> <li>Reduced chance of gaps in expertise for critical applications</li> <li>Improved long-term supportability of applications</li> <li>Shallower learning curves and enhanced risk mitigation during resource transitions</li> <li>Increased multi-skilled resources</li> </ul>	<p><u>Costs</u> Low</p> <p><u>Benefits</u> Medium</p>
8	<p><u>Resource Leveling</u></p> <p>Enhance staff planning and resource management to utilize time-based information and level of effort.</p> <ul style="list-style-type: none"> <li>Leverage existing TVA time tracking systems to capture time for all work efforts.</li> <li>Establish individual tracking codes for all efforts greater than 40 hours.</li> </ul>	<ul style="list-style-type: none"> <li>Internal IS personnel</li> </ul>	<ul style="list-style-type: none"> <li>Reduced duplication of effort</li> <li>Increased comprehension of policies</li> <li>Lower cost to maintain and train</li> </ul>	<p><u>Costs</u> Low</p> <p><u>Benefits</u> Medium/High</p>

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# Projects



## Current State

- IS has adopted a project methodology and tools to assist in the adherence to that methodology. This, combined with documented processes and review councils, places TVA ahead of the general industry practices.
  - Project Management Body of Knowledge (PMBOK) is the methodology.
  - The Summit Ascendant tool is used for the templates and structure around PMBOK methodology.
  - Other IT organizations in TVA do not use PMBOK or Summit Ascendant.
  - Business and section IS managers review all projects in their work scope.
- Smaller projects are not managed with standard methodologies or optimized for best business value.
- The business funds and prioritizes large projects.
- Projects that cost more than \$100K are evaluated by the Project Review Board and directed by resources from the IS Project Management Office (PMO).
  - A Project Management Success Index (PMSI) is utilized to measure project outcome.
  - Customer satisfaction with large project work is rated high at 93 percent.
- Some people were concerned that not all needed business functions would be included in Enterprise System Program (ESP) projects. However, others indicated the goal of the ESP was to transform business processes.

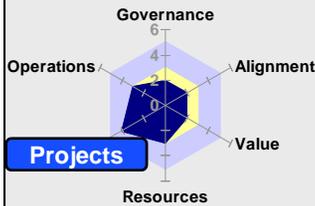
## Recommended Future State

- IS continues to employ and enhance the methodology and tools in place today.
  - Executives expand the requirement to use the tools and methodologies to other non-IS IT organizations as applicable.
- The business justifies the expenditure on IT projects, but the budget is allocated to IS to promote the holistic approach and resource leveraging.
  - IS resources are allocated to the highest value projects across TVA.
- PMO approach is used for projects requiring 40 hours or greater.
  - Resources practiced in PMO methodology continue to lead the smaller projects facilitated by quick templates.
- PMSI is enhanced to measure delivered functionality versus original functionality requirements.
- IS is a lead within project management for large technology-based projects and acts as the overall IT advisor of the project.



# Projects

## Recommendations and Costs/Benefits



Consistent project implementation is key to future successes. TVA is investing over \$100M in the ESP effort to redefine business processes and supporting technology. Enterprise-level governance will optimize use of IS resources to support all projects in the portfolio.

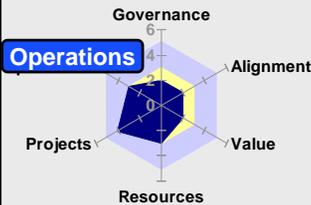
#	Recommendation	Cost Elements	Benefits	\$\$
9	<p><u>Project Methodology Standardization</u>            Coordinate governance of TVA IT investments at an enterprise level.</p> <ul style="list-style-type: none"> <li>• Work with IT groups in other business units to adopt IS' tools and methodologies.</li> <li>• Transfer project budgets to IS versus holding in the business unit.</li> <li>• Extend standard methodology to projects requiring 40 hours and greater.</li> <li>• Create quick templates for smaller work.</li> </ul>	<ul style="list-style-type: none"> <li>• Internal IT personnel (both IS and others)</li> </ul>	<ul style="list-style-type: none"> <li>• Consistent quality level across TVA</li> <li>• Increased supportability across organizations</li> <li>• Increased optimization of IS resource usage</li> </ul>	<p><u>Costs</u> Low</p> <p><u>Benefits</u> Medium</p>



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# Operations



## Current State

- IS Infrastructure Operations and Engineering functions compare favorably with that of the industry.
  - All major ITIL processes have been identified and are executed against.
  - IS utilizes a tiered support structure for increased efficiencies.
  - IS uses tools (HP Service Desk and ClearQuest) to administer the customer requests.
  - SLA metrics are gathered.
- Current processes are driven from an IT perspective.
- IS is transitioning from a silo approach to a more integrated approach built around operations and engineering functions.
- Benchmarking is conducted regularly, and there is a high focus on monitoring the effectiveness of the organization.
  - Overall benchmark data shows IS as a strong performer.
  - Benchmark data indicates that staffing levels supporting servers and help desk functions are potentially a bit high.
  - First call resolution is roughly 70 percent, which could be improved.
- Resolution rates for problems beyond the help desk are not as consistently measured and reported.

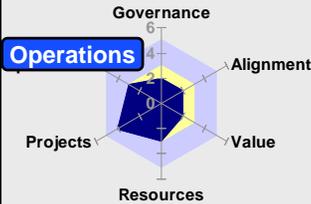
## Recommended Future State

- IS continues to improve its strong operations practices.
  - The focus is shifted from an IT-process-driven function to a business-process-driven function.
  - IS evolves to a fully integrated team for operation and engineering functions.
  - One system is utilized to track all requests.
  - All service level measurement is done within the IT service center function.
  - Server and help desk staffing levels are confirmed and rebalanced if necessary.
  - First call resolution improves to 80 percent of addressable calls.



# Operations

## Recommendation and Costs/Benefits



TVA's overall IS Operations performance is commensurate with peers among utilities. Minor enhancements to existing processes and procedures would elevate the group's performance to leading practice ahead of the peer group.



#	Recommendation	Cost Elements	Benefits	\$\$
10	<u>Help Desk Tools and Measures</u> <ul style="list-style-type: none"> <li>Standardize the tracking of issues in one system (multiple systems can be used for documentation, but one tool should be used as system of record and tracking).</li> <li>Consolidate all service request measurement and reporting into the help desk function.</li> <li>Build out the database of help desk problems.</li> </ul>	<ul style="list-style-type: none"> <li>Internal IS personnel</li> </ul>	<ul style="list-style-type: none"> <li>Improved first call resolution</li> <li>Central repository of information</li> <li>Ability to accurately report all help desk issues quickly and consistently</li> </ul>	<u>Costs</u> Low  <u>Benefits</u> Low

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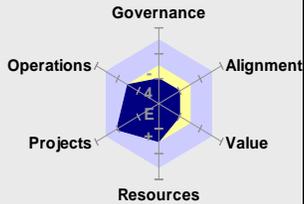
# IT Organization Practices



	Level V (Leading Practice)	Level III (Average)
<b>Governance &amp; Planning</b>	<ul style="list-style-type: none"> <li>Documented 3+ year strategy linked to corporate and business strategies and tied to changes in technology.</li> <li>Fully documented and deployed framework with supporting methodologies interwoven.</li> <li>Resources are optimized to create greatest value for company.</li> </ul>	<ul style="list-style-type: none"> <li>Documented 3+ year strategy.</li> <li>Fully documented governing framework. Supporting methodologies exist but are independent of the governance framework.</li> <li>Projects are prioritized based on value for company.</li> </ul>
<b>Business Alignment</b>	<ul style="list-style-type: none"> <li>IT identifies technological impacts proactively for the business.</li> <li>Active participation in the business' strategy and governance committees.</li> <li>IT relates to business in business or layman terms.</li> </ul>	<ul style="list-style-type: none"> <li>IT occasionally identifies technological impacts for the customer.</li> <li>IT is invited to attend customer strategy meetings.</li> <li>IT relates to business in business or layman terms.</li> </ul>
<b>Value Realization</b>	<ul style="list-style-type: none"> <li>Documented and managed SLAs are based on value drivers for the business.</li> <li>Performance reviews take place with regularity.</li> </ul>	<ul style="list-style-type: none"> <li>SLAs slanted toward comparing IT to other IT shops versus mapped to the business function.</li> <li>Performance reviews infrequent and informal.</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>There is a resource management plan with fully defined acquisition, development, and retirement components.</li> <li>Customer views the IT resources as high caliber.</li> </ul>	<ul style="list-style-type: none"> <li>There is a resource management plan with defined acquisition and development components.</li> <li>Customer views the IT resources as high caliber.</li> </ul>
<b>Projects</b>	<ul style="list-style-type: none"> <li>Standard project management methodologies exist for different types and sizes of projects.</li> <li>Project Review Board approves changes in scope, budget, or schedule.</li> </ul>	<ul style="list-style-type: none"> <li>Standard project management methodologies exist for large projects.</li> <li>Project Review Board approves changes in scope, budget, or schedule.</li> </ul>
<b>Operations</b>	<ul style="list-style-type: none"> <li>Employs a standard IT service management best practice framework (e.g., ITIL).</li> <li>One system for tracking tickets (both software service requests and help desk calls).</li> </ul>	<ul style="list-style-type: none"> <li>Employs a standard IT service management best practice framework (e.g., ITIL).</li> <li>Multiple systems for tracking service requests.</li> </ul>



# Levels of Effectiveness

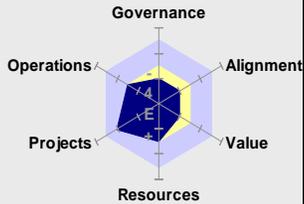


	TVA	Rationale
<b>Governance &amp; Planning</b>	2	<ul style="list-style-type: none"> <li>• IS does not act as a strategic, technology advisor to most business customers.</li> <li>• There is not a current strategy document to show how IS objectives support TVA business goals or how IS optimizes TVA's IT investments.</li> <li>• The IS governance framework being adopted, CoBIT, is the industry standard.</li> <li>• Multiple IT groups exist within TVA under separate governance structures and operating processes.</li> </ul>
<b>Business Alignment</b>	2	<ul style="list-style-type: none"> <li>• IS does not participate in customer business planning and tends to be tactical and reactive versus strategic and proactive.</li> <li>• Customer management is designed to optimize IT processes, which creates confusion and is compounded by the lack of business-focused communications.</li> <li>• Service level management does not reflect business needs.</li> </ul>
<b>Value Realization</b>	2	<ul style="list-style-type: none"> <li>• TVA compares favorably to utility IT benchmarks on the technical, infrastructure-focused IS functions.</li> <li>• SLAs are not reviewed regularly with the business and do not measure overall customer satisfaction, which is generally moderate.</li> <li>• Procedures are numerous, redundant, and confusing both to IS and customers. Other IT service groups follow separate business unit procedures.</li> </ul>

TVA effectiveness ratings on a 5-point scale:  
 5= Leading Practices; 3= Average Practices; 1= Minimal or Ad Hoc Practices



# Levels of Effectiveness (cont.)



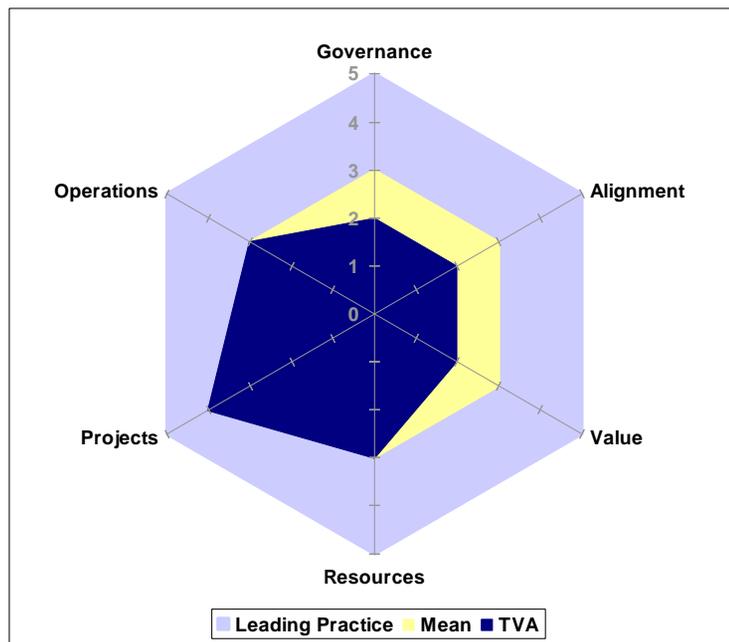
	TVA	Rationale
<b>Resources</b>	3	<ul style="list-style-type: none"> <li>The IS staffing plan includes the use of employees, contractors, and managed task work to meet the changing demands from the business.</li> <li>IS has highly skilled staff with tremendous technical and organizational knowledge; however, 69 percent of the IS workforce is 45 or older.</li> <li>Resource leveling is informal and based on management perception of workload.</li> </ul>
<b>Projects</b>	4	<ul style="list-style-type: none"> <li>The success rate for implementing large IT projects is high. IS follows a standard project methodology with Project Review Board oversight.</li> <li>Standard tools are not followed for small projects or by other TVA IT service groups.</li> </ul>
<b>Operations</b>	3	<ul style="list-style-type: none"> <li>Tactical/internally focused aspects of running the IT business are managed well and are aligned to leading service delivery standards.</li> <li>IS monitors trends for managing an IT business and actively engages other IT organizations and experts to gain insight on how to improve.</li> <li>Processes are driven from an IT perspective rather than what drives TVA business.</li> <li>IS uses two tools to administer customer requests, which make tracking issues for the business cumbersome and slow problem resolution.</li> </ul>

TVA effectiveness ratings on a 5-point scale:  
 5= Leading Practices; 3= Average Practices; 1= Minimal or Ad Hoc Practices

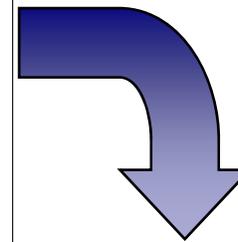


# Recommended Future State

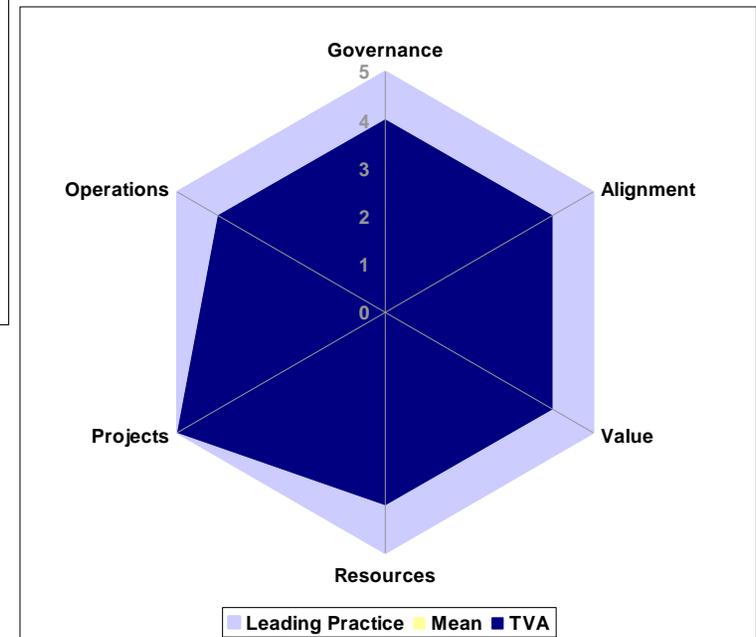
The tactical elements of the IS organization and processes have enabled it to adequately function. Modest investments focused on the underpinnings of governance, alignment, and value will increase TVA's return on investment in IS.



Current



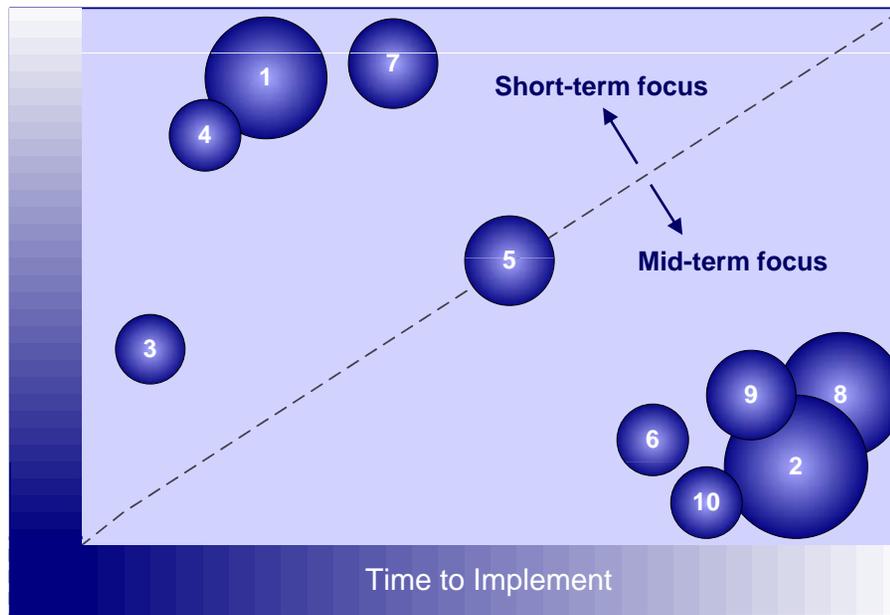
Future





# Prioritization

By revitalizing the governance and establishing improved customer relations, IS will position itself to increase its value to TVA. IS should also focus attention in the near term to knowledge transfer aimed at capturing technical and organizational knowledge of potential retirees.



Size of circle represents net value to TVA

- 1 Governance Definition
- 4 Customer Management
- 3 Communication Plan
- 7 Knowledge Transfer
- 5 Service Level Management
- 6 Procedure Refresh
- 9 Project Methodology
- 10 Help Desk Tools & Measures
- 2 Portfolio Management
- 8 Resource Leveling



# Appendix

## **TVA Management's Response**

TVA management agreed with our recommendations with one exception related to project budgeting. TVA management provided a response outlining planned actions to implement program and organizational improvements and scheduled action plans for completion by December 31, 2008.

## **Auditor's Response**

We concur with TVA management's proposed actions. The alternative approach to project budgets outlines responsibilities and incorporates IS architectural oversight.



March 24, 2008

Robert E. Martin, ET 3C-K

REQUEST FOR COMMENTS - DRAFT AUDIT 2007-11348 - INFORMATION  
SERVICES ORGANIZATIONAL EFFECTIVENESS

Our comments to your request dated February 26, 2008 regarding the findings of the  
above subject report are attached.

If you have any questions, please contact Steve Anderson or myself.



E. Wayne Robertson  
Vice President  
Information Services  
SP 5A-C

SAA:JSE

Attachment

cc (Attachment):

Steven A. Anderson, SP 5A-C  
William R. Brandenburg, Jr., MP 3B-C  
Peyton T. Hairston, Jr., WT 7B-K  
John E. Long, Jr., WT 7B-K  
Jill M. Matthews, ET 3C-K

Janice W. McAllister, EB 7D-C  
Charles H. McFall, Jr., SP 2D-C  
Sylvia J. Whitehouse, ET 3C-K  
EDMS, WT CA-K

AUDIT 2007 - 11348 - INFORMATION SERVICES ORGANIZATIONAL EFFECTIVENESS

NUMBER	RECOMMENDATION	RESPONSE	DATE
1	<p><u>Governance Definition &amp; Planning</u> Accelerate governance project and integrate with business strategies Update the formal IS strategy and ensure it articulates the business alignment</p> <ul style="list-style-type: none"> <li>▪ Incorporate all TVA IT functions including other business units within the framework</li> <li>▪ Reestablish the governance committees including scope, roles, and responsibilities</li> <li>▪ Rework performance measurement</li> </ul>	<p>Management agrees. Overall governance project has been accelerated. Objectives of the project are to:</p> <ul style="list-style-type: none"> <li>▪ Revise and update IT Governance agency-wide</li> <li>▪ Establish and adopt a governance framework, COBIT (Control Objectives for Information and Related Technology)</li> <li>▪ Align and monitor IT with SBU objectives</li> <li>▪ Review, update and simplify governing committees to include scope, roles, and responsibilities</li> <li>▪ Capture IT work and funding with proper controls and monitoring for all TVA organizations</li> <li>▪ Continually review IT legacy systems to ensure timely retirement and decommission</li> <li>▪ Update and simplify our processes and procedural environment</li> <li>▪ Review performance measures</li> </ul>	5/30/08
2	<p><u>Portfolio Management</u> Integrate project and application portfolio management at an enterprise level.</p> <ul style="list-style-type: none"> <li>▪ Implement software tool to manage and identify the highest value portfolio of IT investments.</li> </ul>	<p>Management agrees. Enterprise implementation of the IT Architecture Review Board (ARB) will be utilized to ensure all IT projects are included in the IT project portfolio are prioritized to ensure optimization of available resources, funding allocations and implementation of highest valued projects. The Enterprise-wide implementation of the ARB is planned for 05/30/08; the integration process will be on-going as new projects are presented to the ARB. An effective, integrated project portfolio will be operational by 06/30/08.</p> <p>Applications Development is currently researching methodologies and planning to implement an Application Portfolio Management (APM) program. The APM program will build on the previous Applications Rationalization initiative and provide life cycle management for IS supported production applications. The planned approach is to integrate the applications portfolio with the project portfolio to create an IT Portfolio for IS. An APM approach/process is to be defined by 7/15/08, with implementation beginning during the 4th quarter of FY08.</p>	9/30/08

AUDIT 2007 - 11348 - INFORMATION SERVICES ORGANIZATIONAL EFFECTIVENESS

NUMBER	RECOMMENDATION	RESPONSE	DATE
3	<p><b>Communication Plan</b> Provide a structured over-arching plan of communication to ensure consistent interaction with customers</p> <ul style="list-style-type: none"> <li>▪ Seek inclusion in business strategy and operational meetings. Continue cultural shifts to proactive involvement.</li> <li>▪ Focus on key messages, timing, and delivery mechanisms</li> <li>▪ Ensure projects include non-IS technology costs</li> <li>▪ Increase emphasis of customer communication in performance measurement</li> </ul>	<p>Management agrees. A communication plan incorporating these recommendations is in progress and will be a part of our revised Service Level Management (SLM) and Customer Relationship Management (CRM) (complete by April 30). Specifically, kick off meetings are currently being held with business units to introduce the SLM and CRM concepts, request inclusion in business/operational strategy planning, communicate awareness of key IS messages, and to review performance measurements for customer input and suggestions. Quarterly review meetings are planned to obtain feedback, review successes and areas for improvement in SLA compliance and business alignment, including customer satisfaction measurements. SLM and CRM staff will meet regularly to partner in communications of business needs and service alignment. Plans to formalize communications between ARB and CRM contacts are underway, to ensure consideration of business needs and introduction of evolving technology as warranted.</p>	4/30/08
4	<p><b>Customer Management</b> Redefine the customer management role from the customer's point of view</p> <ul style="list-style-type: none"> <li>▪ Reevaluate the revised IS structure for service management and how it will be deployed; ensure IS staff has the skill set needed to foster collaboration.</li> <li>▪ Establish SLAs to measure business process results</li> </ul>	<p>Management agrees. The structure is already in place within the revised IS organization for service management and how it will be deployed. Service Level Management (SLM) will be handled at the program level by three program managers focusing on the overall program, workplace services and application development. Day-to-day customer relationship management will be handled by business unit aligned managers. Documentation for the CRM/SLM Support Model is available. The SLAs will be established during the annual business planning process for the upcoming FY.</p>	4/30/08
5	<p><b>Service Level Management</b> Redefine the Service Level Management Program to be more customer-focused.</p> <ul style="list-style-type: none"> <li>▪ Work with customers to define how to measure IS' impact on the business process</li> <li>▪ Define a process and program for measurement</li> <li>▪ Build service level measures based on business process outcomes.</li> </ul>	<p>Management agrees. Redefining the Service Level Management Program has already begun. Customer discussions begin March 10th. Building measures are in progress.</p>	5/30/08

AUDIT 2007 - 11348 - INFORMATION SERVICES ORGANIZATIONAL EFFECTIVENESS

NUMBER	RECOMMENDATION	RESPONSE	DATE
6	<p>Procedure Refresh</p> <p>Consolidate procedures to reduce redundancy and increase usability</p> <ul style="list-style-type: none"> <li>▪ Unify procedures for all IT groups including other business units to enhance collaboration and standardization.</li> <li>▪ Align procedures to enhance standards</li> <li>▪ Define the procedures to support the revised governance and service level management programs.</li> </ul>	<p>Management agrees. Consolidation of over 118 SPPs, SDPs and TIs has begun. A team is currently in place reviewing all procedures for consolidation and reduction and mapping to COBIT. IS will unify procedures with SBUs, align to standards, revised governance and SLM.</p>	8/30/08
7	<p>Knowledge Transfer</p> <p>Develop a strategy to capture the knowledge of subject matter experts and incorporate in overall IS management for the long term.</p> <ul style="list-style-type: none"> <li>▪ Identify resources likely to migrate out of TVA over the next 3 to 5 years</li> <li>▪ Build out a formal redundancy capability in the higher risk areas</li> <li>▪ Capture important organization and application knowledge for those exposures over time</li> <li>▪ Identify areas where outside talent will be recruited</li> </ul>	<p>Management agrees. IS will develop a strategy to capture knowledge of subject matter experts and incorporate in overall management through the processes HR has established for succession planning, talent management, 3-5 year workforce plan and COBIT PO4.12 (IT Staffing) and PO4.13 (Key IS Personnel).</p>	12/31/08
8	<p>Resource Leveling</p> <p>Enhance staff planning and resource management to utilize time-based information and level of effort.</p> <ul style="list-style-type: none"> <li>▪ Leverage existing TVA Time Tracking</li> <li>▪ Systems to capture time for all work efforts</li> <li>▪ Establish individual tracking codes for all efforts greater than 40 hours</li> </ul>	<p>Management agrees. IS is planning to enhance resource planning and management using Primavera Enterprise (P3e) which is a project planning and control software application. The Portfolio Management and Analysis group currently has oversight for P3e.</p>	5/30/08

AUDIT 2007 - 11348 - INFORMATION SERVICES ORGANIZATIONAL EFFECTIVENESS

NUMBER	RECOMMENDATION	RESPONSE	DATE
9	<p>Project Methodology Standardization Coordinate governance of TVA IT investments at an enterprise level</p> <ul style="list-style-type: none"> <li>▪ Work with IT groups in other business units to adopt IS' tools and methodologies</li> <li>▪ Transfer project budgets to IS versus holding in the business unit</li> <li>▪ Extend standard methodology to projects requiring 40 hours and greater</li> <li>▪ Create quick templates for smaller work.</li> </ul>	<p>Management agrees with the recommendation with the exception listed as follows: IS currently holds project budgets for the IT infrastructure excluding control systems and for applications that support IS business needs. The business units hold the budgets for their control system infrastructure and applications that support their business needs. Each business unit will initiate request through the ARB to ensure architectural compliance, capacity requirements, etc. The BU is responsible for identifying and developing the business case for projects that have ARB approval and support their business needs. The BU will prioritize the IT project with their other non-IT projects to determine if they are valuable enough to pursue. IS plans to scale its standard project methodology and apply it to smaller/less complex projects. This effort will include templates.</p>	6/15/08
10	<p>Help Desk Tools and Measures</p> <ul style="list-style-type: none"> <li>▪ Standardize the tracking of issues in one system.</li> <li>▪ Consolidate all service request measurement and reporting into the help desk function.</li> <li>▪ Build out the database of help desk problems.</li> </ul>	<p>Management Agrees. Applications Development Process Improvement Team is currently developing an improved approach to handle Software Service Requests (SSR) and eliminate the need for the currently redundant process. In the planned future state all SSRs will be processed utilizing HP Service Desk (HP-SD) and the currently required ClearQuest product will no longer be required. This tools consolidation will also consolidate reporting within the help desk function and the database of help desk problems will be built out accordingly.</p>	9/30/08