



Memorandum from the Office of the Inspector General

September 14, 2006

John E. Long, Jr., WT 7B-K

FINAL REPORT – INSPECTION 2006-513I – REVIEW OF TVA’S SUCCESSION PLANNING

Attached is the subject final report for your review and action. Please advise us of your planned actions in response to our findings within 60 days of the date of this report.

For your information, we are forwarding all final audit and inspection reports to two Congressional committees in accordance with a requirement which applies to other Inspectors General as well. In addition, we are considering whether this report and/or a summary should be posted on the OIG Web page. Please advise us if you believe this report contains any sensitive information which should be withheld. If we have not heard from you within 20 calendar days of the date of this memorandum, we will assume you have no objection to release of this report in its entirety.

If you have any questions, please contact Rick C. Underwood, Senior Auditor, at (423) 751-3108 or Gregory C. Jaynes, Deputy Assistant Inspector General, Inspections, at (423) 751-7821. We appreciate the courtesy and cooperation received from your staff during this review.

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Tennessee Valley Authority
Office of the Inspector General

Inspection Report

REVIEW OF TVA'S SUCCESSION PLANNING

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2006-513I
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EXECUTIVE SUMMARY

Challenges facing power utilities as a result of the aging workforce include the loss of critical knowledge, the inability to find replacements with utility-specific skills, and the lack of bench strength within the organization. According to a survey by EnergyCentralJobs.com, “Close to 80 percent of utility industry workers are older than 40 years of age.”ⁱ Per documentation provided by Tennessee Valley Authority (TVA) Human Resources (HR), much like the industry overall, the average age of a TVA employee was 47 in 2005 and around 46 in 2006. In turn, the documentation states that one-third of TVA’s workforce can retire in the next five years. This poses potential problems for TVA with knowledge retention, the timing of replacements, and ensuring adequate bench strength.

We conducted a review to determine what TVA has done to address challenges arising from TVA’s aging workforce, retirements, and the resulting knowledge loss. We found TVA has adopted an Integrated Staffing Plan Principle, as well as several initiatives to support this principle which address the challenges arising from TVA’s aging workforce. These initiatives include (1) Strategic Talent Management; (2) Work Force Planning; (3) Knowledge Retention; (4) Training Pipeline; and (5) Recruiting. We also found that TVA’s succession planning initiatives include many recognized best practices, and TVA is a recognized best practice organization related to knowledge retention. For example, an article written in the July 24, 2006, issue of *Fortune* magazine addressing TVA’s knowledge retention initiatives stated that (1) TVA has found a better way to pass on knowledge; and (2) John Deere, Chevron, and the World Bank have adopted many of TVA’s methods.

While TVA has taken actions to address the issues arising from an aging workforce, the implementation of TVA Corporate HR initiatives by the business units can be improved. For example:

- The accuracy of self-reported retirement data could be improved.
- No organization other than TVA Nuclear (TVAN) had provided knowledge retention plan information for high priority positions to HR, and the information provided to HR indicated TVAN was lacking in the development and implementation of knowledge retention plans for identified high-priority positions.

ⁱ *EnergyBiz* Magazine, January/February 2006, Metrics, page 75.

- The number of experienced hires still greatly outweighs the number of pipeline hires. One of the best practices identified during our review is for an organization “Being developmentally oriented rather than replacement oriented.”

We recommend the Executive Vice President, Administrative Services:

- Consider educating employees on the importance of self-reported retirement dates and how that information is used, along with providing on-going education on retirement benefits and planning from early in a TVA employee’s career;
- Ensure complete implementation of the Knowledge Retention Initiative, which supports compliance with and the success of the Integrated Staffing Plan Principle; and
- Emphasize the importance of pipeline hiring to move TVA more towards being a developmentally oriented business.

BACKGROUND

Challenges facing power utilities as a result of the aging workforce include the loss of critical knowledge and the inability to find replacements with utility-specific skills. According to a survey by EnergyCentralJobs.com, “Close to 80 percent of utility industry workers are older than 40 years of age.”¹ Per the Center for the Advancement of Process Technology at the College of the Mainland in Texas, the average age of the current process or manufacturing plants’ staff is 50 or over; and it is estimated that 40 percent will retire in the next 10 years, which will create an additional demand for skilled employees.²

As of March 31, 2006, Tennessee Valley Authority (TVA) had 12,624 employees. The 12,624 employees consisted of 12,349 permanent and 275 temporary employees. Much like the industry overall, according to documentation provided by TVA Human Resources (HR), the average age of a TVA employee was 47 in 2005 and around 46 in 2006. That documentation further indicated that one-third of TVA’s workforce can retire in the next five years. This poses potential problems for TVA with knowledge retention, the timing of replacements, and ensuring adequate bench strength. As stated by the American Public Power Association, the most significant challenges created will be the loss of knowledge due to retirements, the difficulty finding replacements, and the lack of bench strength within the organization.³ An article written by a senior manager of HR, published in *EnergyBiz* magazine, states that since February 1998, 6,701 employees have left TVA, and 4,723 new employees have been hired. TVA HR has worked to address the aging workforce challenges through an integrated approach.

Several succession planning initiatives have been initiated by Corporate HR, including (1) Strategic Talent Management (STM); (2) Work Force Planning; (3) Knowledge Retention; (4) Training Pipeline; and (5) Recruiting. These initiatives support the following policy, principle, and practices which govern TVA’s succession planning efforts:

- Recruitment Policy, Employee Relations Manual Policy 21.

¹ *EnergyBiz* Magazine, January/February 2006, Metrics, page 75.

² “Re-thinking Hiring Strategies,” Energy Central Energy Pulse, www.energypulse.net, Ken Silverstein, Editor-in-Chief, EnergyBiz Insider, Energy Central, March 9, 2006, page 1.

³ “Work Force Planning for Public Power Utilities: Ensuring Resources to Meet Projected Needs,” American Public Power Association, 2005, page 1.

- Integrated Staffing Plan, Principle, TVA Principles and Practices (P&P).
- STM, Integrated Staffing Practice 1, P&P.
- Staffing Benchmarks, Integrated Staffing Practice 2, P&P.
- Workforce Analysis, Integrated Staffing Practice 3, P&P.

RECRUITMENT POLICY

“This policy outlines all of TVA’s external recruitment programs, processes, organizational responsibilities, and applicant processes.” The policy recognizes that “It is TVA’s challenge to recruit, retain, and reward a highly qualified, diverse workforce that has the skills to meet current and future business needs. In support of this challenge, TVA recruits external candidates for positions identified through the workforce planning process and Recruitment Plan.” The policy states that each business unit is responsible for identifying positions to be filled with external applicants providing accurate position requirements, interviewing candidates, and making candidate selections.

INTEGRATED STAFFING PLAN, PRINCIPLE

The Integrated Staffing Plan discusses key elements needed to have an “integrated workforce planning process which links to organization business plans.” The Integrated Staffing Plan states:

Corporate Human Resources is responsible for the TVA-wide oversight, including:

- TVA-wide data analyses and identification of trends, significant skill gaps, and workforce issues.
- Providing tools to enable business unit managers to assess the workforce needs to support their business functions.
- Providing programs and policies which contribute to attracting and retaining a competitive workforce.
- Assessing and measuring the “value add” of initiatives, programs, and policies.

Business unit HR organizations partner with business unit managers to strategically plan for future workforce needs, including:

- Understanding business requirements and potential impacts on workforce.

- Identifying strategies for developing and enhancing skills of the workforce based upon business requirements.
- Partnering with Corporate HR to ensure changing business unit needs are understood and addressed.

STRATEGIC TALENT MANAGEMENT, INTEGRATED STAFFING PRACTICE 1

“This practice defines the leadership/succession planning process which will be utilized to ensure that TVA can fill key organizational positions with qualified internal candidates, in advance of actual need; and to assist in managing diversity and workforce planning.” Among other things, the process includes the following steps:

- (1) Establishing leadership planning boards;
- (2) Identifying key positions;
- (3) Establishing criteria for key positions;
- (4) Identifying potential candidates, assigning mentors and development plans to those candidates; and
- (5) Tracking/reviewing the candidates.

This practice defined roles for the Board of Directors/Chief Officers, Leadership Planning Boards, Business Unit HR, and Corporate HR.

During the course of our inspection, this practice was updated and renamed STM. The practice now requires the development of a STM team in each major TVA organization that has responsibility for process implementation. Among other things, the process states that:

- Each TVA organization will inventory current talent in the areas of leadership capability, performance, and promotability.
- Each organization will identify positions for inclusion in its succession plan and determine, “organizational benchstrength.”
- Management and specialist employees will prepare individual development plans (IDP).
- Each organization will develop a Workforce Action Plan to identify and address critical and strategic workforce issues.
- Bi-annually TVA will convene a meeting of senior leaders to discuss its talent.

STAFFING BENCHMARKS, INTEGRATED STAFFING PRACTICE 2

This practice is designed to provide valuable comparison data “to allow TVA organizations to compare its staffing levels with external competitors and best of class organizations.” The practice requires Corporate HR to analyze TVA-wide data and identify trends and issues. Business unit HR representatives must (1) analyze organization data and identify trends and issues and (2) assist organization managers in obtaining staffing benchmark data.

WORKFORCE ANALYSIS, INTEGRATED STAFFING PRACTICE 3

This practice “addresses attrition replacement in critical knowledge areas and skills/abilities gaps which may occur as a result of process improvements, technology advancements, and changing business needs. Each organization will utilize the HR Data Warehouse Workforce Planning module to analyze the current staffing, projected attrition, and replacement needs.” The practice further defines key roles of Corporate HR, business unit HR representatives, TVA University, business unit managers, and the employee.

OBJECTIVE, SCOPE, AND METHODOLOGY

Our objective was to determine what steps TVA has taken to address challenges arising from TVA’s aging workforce, retirements, and employee/knowledge retention as of April 2006. To achieve our objective, we:

- Performed internet and intranet searches to identify best practices in the area of succession planning.
- Performed intranet searches to identify any policies, procedures, or practices TVA had in place addressing succession planning.
- Interviewed HR personnel to identify actions taken by TVA to address the issues arising from TVA’s aging workforce.
- Reviewed documentation provided by HR personnel documenting succession planning, workforce planning, and knowledge retention programs in place and information gathered.
- Reviewed benchmarking analysis provided by HR comparing TVA staffing to comparable companies.

This inspection was conducted in accordance with the “Quality Standards for Inspections.”

OBSERVATIONS AND RECOMMENDATIONS

We found that TVA has developed several initiatives to address TVA succession planning. However, we did identify some opportunities for improvement.

THE STRATEGIC TALENT MANAGEMENT INITIATIVE

STM is a comprehensive process for identifying future leaders of TVA and supported Integrated Staffing Practice 1 – STM. As part of the STM process, key TVA Leadership Competencies were identified, and management should assess talent using the identified competencies. The Leadership Competencies are defined as (1) leadership, (2) business orientation, (3) change orientation, (4) problem solving and thinking, (5) emotion and motivation, (6) interpersonal relations and communication style, and (7) understanding of self and others. Implementation of STM began on June 23, 2005, with an executive briefing and Business Council buy-in. STM actions have included conducting program pilots (e.g., TVA Nuclear (TVAN), assessing organization managers, identifying succession planning positions, identifying replacement candidates, evaluating succession planning, and preparing workforce action plans. One of the STM key implementation steps calls for Leadership Offsite meetings to be held twice per year to review organization talent and key succession planning positions. According to documentation reviewed, these meetings have been conducted.

THE WORKFORCE PLANNING INITIATIVE

This initiative also supported Leadership/Succession Planning as well as Integrated Staffing Practice 2 – Staffing Benchmarks. It focuses on timing of replacements, building a pipeline, and managing labor costs. One of the key elements of workforce planning is projected retirement information. TVA uses the “Just Ask” survey to identify when employees expect to retire. Since its inception more than 80 percent of employees have voluntarily provided their projected retirement dates to TVA. An integrated staffing plan has been developed which includes this self-reported employee retirement data. For TVA employees who do not self-report a projected retirement date, a default retirement age of 56 has been used for planning purposes.

While TVA has significantly increased the number of employees self-reporting retirement data since it was first requested, the accuracy of this data could be improved. For fiscal year 2005, HR data showed that 64 percent of retiring employees retired prior to their reported or projected retirement date.

Several factors were noted by HR as contributing to this problem including (1) line-level employees having a level of discomfort with how the data will be used by TVA management and (2) a lack of knowledge of retirement programs and needs by employees.

KNOWLEDGE RETENTION INITIATIVE

TVA's Knowledge Retention Initiative has received industry awards and been identified as a best practice. This practice supports Integrated Staffing Practice 1 – STM as well as Integrated Staffing Practice 3 – Workforce Analysis. This initiative has three major action items:

- Conducting a knowledge loss risk assessment;
- Determining the approach to capture knowledge; and
- Monitoring and evaluating the approach to knowledge capture.

Knowledge Loss Risk Assessment

The knowledge loss risk assessments had been conducted for 2,600 employees as of April 2005. Data within the TVA workforce planning database is used to conduct the knowledge risk assessment, and two criticality factors are assigned to positions within TVA – the Retirement Factor and Position Risk Factor.

- The Retirement Factor is based on the projected retirement dates in the workforce planning system (either self-reported or the system default). Each position is assigned a retirement factor of 1 – 5 with 5 being the most critical--an expected retirement date within the current or next fiscal year.
- The Position Risk Factor is a number from 1 – 5 that is assigned based on the estimated difficulty or level of effort required to replace the position incumbents. These factors are assigned by the manager/supervisor with 5 again being the most critical--critical and unique knowledge and skills with the potential for significant reliability or safety impacts.

The Retirement Factor and the Position Risk Factor are multiplied to generate a Total Attrition Factor (TAF). The TAF is defined as the estimate of the effort and urgency necessary to effectively manage the attrition. Positions identified as high priority (having a TAF of 20 or greater) indicate that immediate action is needed to address potential knowledge loss. These positions require specific replacement action plans with due dates.

The replacement plans should include details on the:

- Method of replacement;
- Knowledge management assessment;
- Specific training requirements; and
- On-the-job training/shadowing needs with the incumbent.

Approach to Capture Knowledge

Once positions are identified as high priority, the approach to capture any critical knowledge is determined. The approach determination involves conducting interviews to identify the potential knowledge loss areas and assessing the consequences of the knowledge loss. The potential losses are then prioritized and options to retain or mitigate the loss are identified. HR data identified four major methods for retaining or mitigating knowledge loss:

- Codification of tasks performed.
- Identification of alternative resources (e.g., contractors, rotational assignments, multi-skilling, cross-training, and retirees).
- Re-engineering the process.
- Education and training.

Monitoring and Evaluation

After determining the approach for knowledge retention, a Knowledge Retention Plan is developed and implemented. This information is also tracked with the workforce planning database. HR stated that through their assessments thus far, TVA has found that less knowledge is at-risk than previously thought; and the greatest risk is in specialized technical positions and problem solving strategies.

TVA's workforce planning system showed 41 high priority positions, as of April 2006. Of the 41 high-priority positions, 23 were concentrated in TVAN. The remaining 18 positions applied to River System Operations and Environment (RSO&E), Fossil Power Group (FPG), or Customer Service and Marketing (CS&M). (See Table 1.)

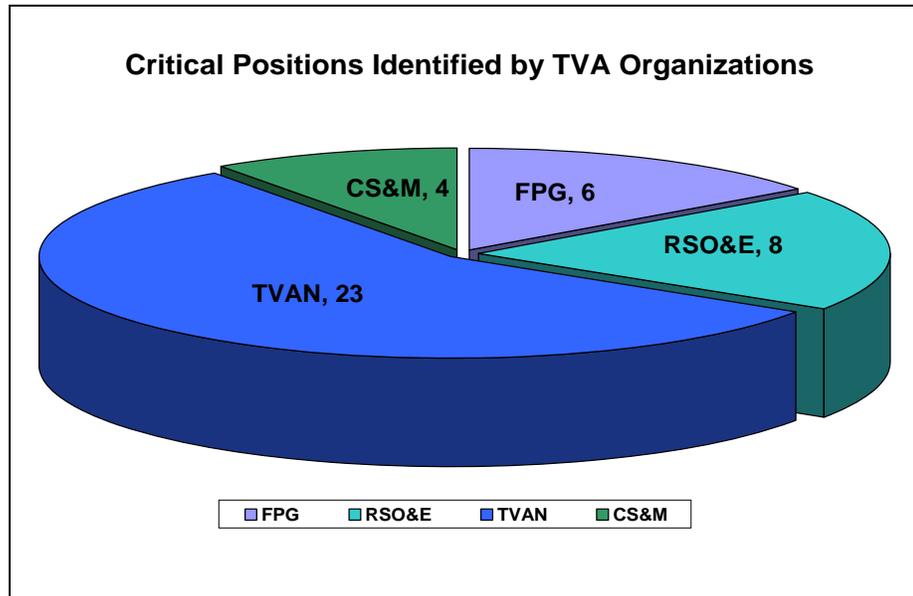


Table 1

We found that of the 41 positions identified as high priority, the only organization that provided HR with data indicating the need for knowledge retention plans and the progress in implementing those plans was TVAN. None of the 18 positions identified as high priority for CS&M, FPG, or RSO&E had any data provided to HR addressing their knowledge retention progress. For those positions identified as high priority in TVAN, we noted varying degrees of progress, as shown in Table 2.

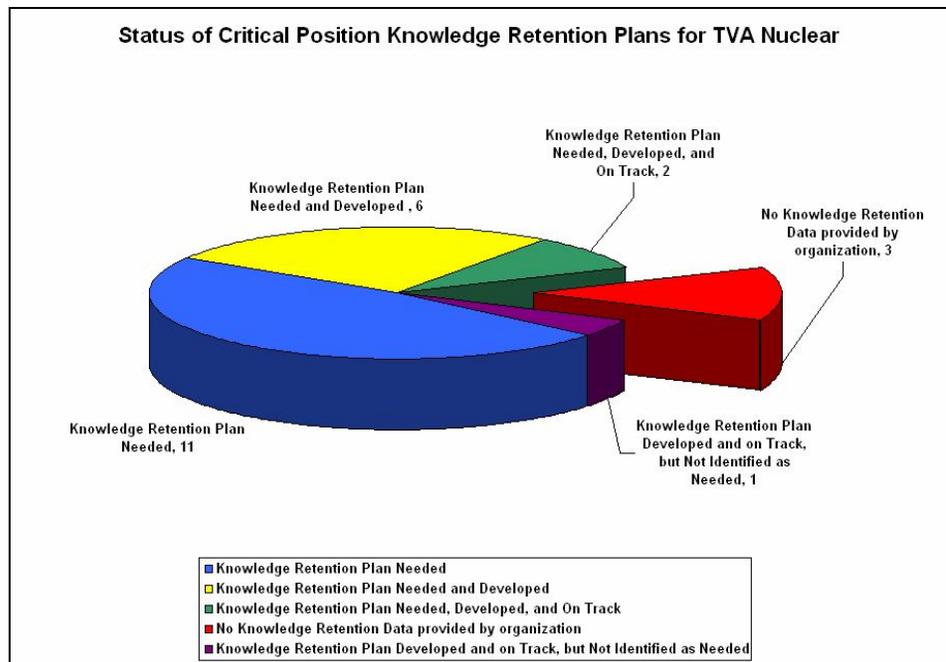


Table 2

THE TRAINING PIPELINE INITIATIVE

The Training Pipeline Initiative supports the Employee Relations Manual Policy 21 – Recruitment. In addition to the knowledge retention plans, pipeline training⁴ and multi-skilling initiatives play a role in knowledge transfer. According to HR data, 626 trainees were in the pipeline training program as of April 2005. This represented 534 skilled craft employees⁵ and 92 engineers or technical personnel.

To assist in the knowledge transfer, additional initiatives have been implemented that:

- Increased entry-level hiring requirements. According to HR documentation, the increased hiring requirements have aided in reducing training programs from 4 to 2.5 years.
- Use experienced craft and retirees as subject matter expert training instructors.
- Cross-train incumbent employees (multi-skilling).
- Use benchmarking to improve training programs (faster to work).

While these and other processes have been put in place to train employees for higher-level jobs, our review of the HR data determined that the number of experienced⁶ hires still greatly outweighs the number of pipeline hires. For example, our review of HR data showed that for fiscal year 2006, as of March 31, 2006, TVA had hired 114 pipeline hires and 279 experienced hires.

THE RECRUITING INITIATIVE

TVA's current Recruitment Policy, adopted in February 2006, recognizes that it is TVA's challenge to recruit, retain, and reward a highly-qualified, diverse workforce that has the skills to meet current and future business needs. The policy states that TVA recruits external candidates for positions identified through the workforce planning process and Recruitment Plan to address this challenge. TVA's external recruiting focuses on college candidates, student interns and co-ops, experienced/professional candidates, and trades and labor candidates (training/apprenticeships and journey-level).

⁴ Pipeline – Any position to be used as a replacement for a current position in the work force. This includes positions in formal craft training programs, college recruitment positions, and any position using on-the-job training, including progression programs for professionals.

⁵ Craft training programs include maintenance technicians, instrument mechanics, plant operators, and linemen/groundmen/yard electricians.

⁶ "Experienced hires" refers to TVA recruits from outside companies/agencies.

Per the policy, recruiting managers and staff members are to develop and maintain relationships with appropriate representatives of 2-year and 4-year colleges and universities, labor unions, community organizations, and professional societies for recruitment purposes. Staffing and Recruiting is authorized to engage professional search firms to assist in identifying candidates for management, executive, specialized, or difficult-to-fill positions. Recruiting tools include:

- TVA's employment website
- Industry-specific websites
- College career fairs and special events
- College career centers
- Open houses
- Advertisements in publications/newspapers
- Presentations
- Community contacts
- Employee and union referrals

BEST PRACTICES

We reviewed several articles and websites to identify best practices for succession planning. In the table below, we included those best practices we saw that were consistently mentioned in the documentation reviewed. Our comparison of the identified best practices to processes that TVA has in place noted the following:

Best Practices	TVA Succession Planning Initiatives
Characteristics of a succession planning system include:	Characteristics of TVA Initiatives include:
Non-bureaucratic, uncomplicated processes	TVA's initiatives are supported by a web-based database that allows organizations to easily input and access data and reports without having to go through corporate HR.
Consistent policies and processes across organizations	TVA has adopted agency-wide procedures: <ul style="list-style-type: none"> • Principle – Integrated Staffing <ul style="list-style-type: none"> • Practice 1 – STM • Practice 2 – Staffing Benchmarks • Practice 3 – Workforce Analysis • Employment Policy Number 21 – Recruitment Policy
Being developmentally oriented rather than replacement oriented	HR has put process documentation in place holding the individual employee, line HR, and organization/site management responsible for development of IDPs. In addition, the STM initiative focuses on developing candidates for leadership roles. The Pipeline Training initiative also focuses on having TVA develop its own personnel rather than replacing open positions through external hires.

The ability to spot gaps in talent and identify important positions	Workforce planning identifies critical positions through senior management review of positions based on (1) critical and unique knowledge and skills with the potential for significant reliability or safety impacts, and (2) projected retirement dates.
Continual refinement and adjustment of processes and procedures	TVA has performed some benchmarking. For example, TVAN completed recent benchmarking in January 2006, HR completed a self-assessment of their knowledge retention program in September 2004, and FPG completed a staffing survey for 2005.
Succession Planning Employee Development includes:	TVA initiatives addressing employee development include:
Developing potential through job assignments/work experience/job rotation	TVA develops employees using the multi-skilled program. Documentation showed TVA cross-trains skilled craft personnel for multiple lines of work. Employees also have the potential for being identified as a dual role candidate when supervisors are absent.
Developing potential through mentoring/coaching	HR has put process documentation in place which should hold line HR and organization/site management responsible for supplying a mentor/coach, as required, for candidates identified as having management and leadership potential.
Web-based learning with Computer-Based Technology to monitor educational activities	TVA has a robust web-based training site on its intranet as well as offering regular courses to TVA employees through Employee Technical Training and Organizational Effectiveness. TVA uses the web-based system to monitor educational courses attended and web-based courses completed by each employee.
IDP	HR has put process documentation in place holding the individual employee, line HR, and organization/site management responsible for development of IDP. In addition, the STM initiative focuses on developing candidates for leadership roles.
Use of Technology in Succession Planning Systems should:	TVA's technology use for succession planning includes:
Give managers access to succession planning information	TVA's initiatives are supported by a web-based database that provides easy access to data and reports.
Provide timely information and reduce the time necessary to manage the system	The TVA Work Force Planning database is updated monthly.
Evaluation of Employees in the Succession Planning System:	TVA employee evaluation processes include:
Core set of competencies and behavior for simplicity	STM has established leadership competencies for TVA as leadership, business orientation, change orientation, problem solving and thinking, emotion and motivation, interpersonal relations and communication style, and understanding of self and others.
360-degree feedback	Per HR personnel, 336 TVA employees have completed the 360-degree feedback program. The majority of employees completing the program have been on the management and specialist schedule, including all members of the Business Council.

As seen in the above table, TVA's initiatives incorporate many identified best practices. During our attempt to identify best practices, we noted that TVA has regularly been identified as a best practice organization for knowledge retention and has been recognized for its succession planning efforts.

- TVA was awarded "the prestigious 2003 Innovative Practice Award in the Large Company category" as sponsored by the Society for Human Resource Management, *HRMagazine*, and Automatic Data Processing, Inc." for its knowledge retention initiative.
- TVA has been identified in presentations by the American Productivity and Quality Center as a best practice organization for knowledge retention.
- Numerous agencies and corporations have contacted TVA for information and advice on knowledge retention programs. In addition, TVA employees have been requested as speakers for other organizations.
- A TVA employee has had an article published on TVA's approach to succession planning in *EnergyBiz* magazine.
- An article was published in *Fortune* magazine highlighting TVA's knowledge retention strategies and listing companies which have adopted TVA's methods.

RECOMMENDATIONS

We recommend the Executive Vice President, Administrative Services:

- Consider educating employees on the importance of self-reported retirement dates and how that information is used, along with providing ongoing education on retirement benefits and planning from early in a TVA employee's career.
- Ensure complete implementation of the Knowledge Retention Initiative which supports compliance with, and the success of, the Integrated Staffing Plan Principle.
- Emphasize the importance of pipeline hiring to move TVA more towards being a developmentally oriented business.