Successful Knowledge Retention Strategies for Water Utilities

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Terry Brueck
President

Greg DiLoreto
General Manager

This presentation has 5 sections

1. Knowledge Management Concepts and Approaches
2. Water Utility Factors
3. Example Utility Response: TVWD
4. Steps and Strategies
5. Conclusion
Four Types Of Knowledge Are Defined By Awareness
Explicit Is The Easiest; Tacit The Hardest Knowledge To Retain

Explicit Knowledge Is Known And Sometimes Shared Or Documented
Tacit Knowledge Is Unknown To All Until It’s Drawn Out!

Knowledge Management Approaches* are Based on Type of Knowledge and Level of Interaction

*APQC Studies
**Self Service KM: Tools and Systems That Allow Users to Self-serve Knowledge or Find Experts**

- **Explicit**
  - Self Service
  - Document Repositories
  - Discussion Boards
  - Expertise Locators
  - Search Engines

- **Tacit**
  - Process Based
  - Network Based
  - Facilitated Transfer

**Process Based KM: Systematic Tools to Gather Process-specific Knowledge and Reapply to Relevant Situations**

- **Explicit**
  - Process Based
    - After Action Reviews
    - Lessons Learned
    - Project Milestone Review

- **Tacit**
  - Network Based
  - Facilitated Transfer
Network Based KM: Groups That Share and Learn with Common Interest and Business Purpose

Facilitated Transfer KM: Sharing and Transfer of Best Practices for Knowledge Management
Converging Demographic Factors Mean the Storm is Brewing
Expected Utility Retirements Over Next Five Years Are Dramatic


<table>
<thead>
<tr>
<th>Utility Job Classification</th>
<th>Percent Retiring by 2012</th>
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</thead>
<tbody>
<tr>
<td>Executives</td>
<td>35%</td>
</tr>
<tr>
<td>Management/Supervisors</td>
<td>30%</td>
</tr>
<tr>
<td>Operators</td>
<td>25%</td>
</tr>
<tr>
<td>Engineers</td>
<td>20%</td>
</tr>
<tr>
<td>Purchasing</td>
<td>15%</td>
</tr>
<tr>
<td>Scientists</td>
<td>10%</td>
</tr>
</tbody>
</table>

In 2012 It Will Be An Employee’s Market With More Jobs Than People

The Average Water Utility Worker is Older than Workers in all Other US Industries


Water/Wastewater Utility Retirements Will Drain Utility Knowledge

Source: AwwaRF/WERF Study
Succession Planning is a More Pressing Matter in the Northeast

Plant Operators are Significantly Older


Plant Operators in Metropolitan Areas Are Older Than Those in Non-Metropolitan Areas

What Positions in Your Organization are Most Vulnerable?

- Eligible for Retirement
- Lack of Back-Up Staff
- Knowledge Not Available Externally

Where Are Your “HOT SPOTS”? 

Example Utility Response: TVWD
Tualatin Valley Water District

57,000 Service Connections
754 Miles of Pipe/24 Reservoirs
200,000 Customers
45 sq. mi.
110 employees

Our Mission Drives Our Performance

“To provide our community quality water and customer service”
Progressive Thinking, Strong Elected Officials & Top Management Support Drove Workforce Study

Our culture is the root of our success.

Annual goal planning process led to workforce study.

Board goal to be an employer of choice and have employees trained and qualified to compete for job openings.

Urgency of Workforce Study Fed by District Demographics

- 36% of our workforce is 50 or older
- Average age of our employees is 44
- Average tenure of employees is 10 years
- Every member of our Management Team save one is over 50
Workforce Management Practices Result in High Level of Customer Service

- Hire the right people
- Compensate well
- Foster accountability
- Show employees we care about them
- Implement workforce development program

Imperatives of Workforce Planning Project

- TVWD Management Team served as internal task force working with consultant to set workforce project rules
- Management Team developed and implemented a communication plan for all employees
- Employees must feel safe participating in the project
- Employees must feel safe if they do not participate in the project
Communication to Employees

• The future of the District holds an aging and shrinking workforce. Most of the Management Team will be retired when most of this comes about. We could say: “not my job, I won’t be here anyway”

• The prudent thing to do is to prepare our District for the future and with this Workforce Planning Project we are able to provide continuity of leadership for their future

• We presented the entire Workforce Planning Project to all employees and made participation available to everyone

Workforce Planning Project Desired Outcomes

• Standardize tools and methods we use to evaluate candidates for workforce development

• Understand future staffing expectations and develop a plan to meet them

• Develop and implement processes to capture institutional knowledge
Project Began With Prioritizing the Retirements & Critical Knowledge

TIER 1
25% or more of work is both high risk and high difficulty (regardless of retirement eligibility), or
Position is eligible for retirement within one year and 25% or more of work is either high risk or high difficulty

TIER 2
25% or more of work is both high risk or high difficulty (regardless of retirement eligibility), or
Position is eligible for retirement within five years and 25% or more of work is either high risk or high difficulty

TIER 3
All other positions

Identified 11 Positions in Tier 1 Due to Risk of Retirement or Critical Knowledge

- Senior Engineer
- Chief Engineer
- Distribution Crew Supervisor
- Locate Crew Lead
- Field Customer Service Supervisor
- Maintenance Crew Supervisor
- Valve Crew Supervisor
- Building and Grounds Maintenance Supervisor
- Senior Accounting Assistant
- Senior Accounting Assistant
- IT Manager
Work Catalogs For Each Position
Provide Basis for Knowledge Retention

- These catalogs identified how difficult and how critical is the work
- Identified what jobs have critical knowledge that needs to be captured
- Identified what is documented and where this information resides
- Identified who else has that knowledge or does that work (including contractors)

Document Inventory Forms
Repository of Policies and Practices

- Created knowledge documentation listing
  - Listed the item
  - Form of the information and where located
- Verified that the information existed and in the location noted
Objectives Realized for Workforce Planning and Knowledge Retention

- Institutional knowledge is captured
- Mindset in place to continually improve on work processes
- Plan is in place to develop and retain employees.
- Maintain continuity of leadership
- Successfully maintain a viable organization

Steps and Strategies
Three-Step Process Addresses a Utility’s Knowledge Management Needs

**STEP 1: Assess Knowledge Vulnerability**
- Mission Critical Services
- Utility Demographics by Position

**STEP 2: Plan for Knowledge and Succession**
- Select KM Approaches
- Involve Key Staff

**STEP 3: Implement Your Plan**
- Track and Manage
- Measure Results

*What Areas are Most Difficult for Your Utility to Retain Knowledge?*

*The Utility Business Architecture Shows Mission Critical Services*
Gap Analysis Includes Quantification of Future Workforce Needs

- New Regulations
- New Technology
- New Facilities
- Redesigned Practices
- New Hires
- Transfers
- Promotions
- Recalls
- Deficit Resources/Skills
- Surplus Resources/Skills
- Retirements
- Promotions
- Demotions
- Terminations
- Disabilities
- Lay-Offs

Workforce Changes Will Require New Approaches to Transfer Knowledge

- Experienced Workers
- New Workers
- Departing Workers
- Four Types of Knowledge
  - Capture
  - Reuse
  - Transfer
  - Attrition
Vulnerability Assessment: Dialogue with Employees to Identify Retirement and Position Risk Factors

- **Retirement Factor**
  - 5 – Within one year
  - 4 – Within two years
  - 3 – Within three years
  - 2 – Within five years
  - 1 – Within 10 years

- **Position Risk Factor**
  - 5 – No candidates ready
  - 4 –
  - 3 – Some candidates
  - 2 –
  - 1 – Ample Candidates

**IMMEDIATE ACTION** – Replacement plans, knowledge retention, job shadowing

**PRIORITY ACTION** – Recruiting and training

**ON-GOING ACTION** – Process improvement, career development, candidate pool outreach

Total Attrition Factor Prioritizes Workforce Planning Activities
You Can Use the Following Tools for Knowledge Retention (AwwaRF Project)

1. Document Repository
2. Incorporating Retirees
3. Mentoring
4. Organizational Learning and Training

**Document Repository**

**What is it?**
- Databases that have structured content in a standardized electronic format
- In-utility, electronic O&M manuals
- Examples of enterprise content management systems include Autonomy, Documentum, Xerox

**How is it used?**
- Have metadata to easily locate information
- Content is continually refreshed
- Has easy, “two click” access

**Key Benefit**
- “Allowed us to stop reinventing the wheel and start innovating”
**How to Develop It One Option**

- Everyone is encouraged to submit content
- Publishing process includes subject matter expertise responsibility for reviewing and determining what gets published
- Advantages
  - Increased consistency, quality and relevance of the content
- Disadvantages
  - Length of time to review and publish content
  - Not everything contributed is always used

**Keys to Success**

- Find a champion
- Start small with a pilot; let it grow
- Develop a good taxonomy
- Audit what you have currently
Incorporating Retirees

What is it?

• Retaining retired employees in part-time, full-time or consulting relationships to continue to work and provide expertise

How is it used?

• Varies a great deal by utility and state
• Key is to design the work so that the knowledge gets transferred to other employees
• Otherwise, it is a “stop gap” measure

Key Benefit:

• Can buy needed time to transfer knowledge

Keys To Success

Establish the expectation that employees are not returning to be employed in the very same role with the very same duties as in their previous position

Establish the expectation that knowledge transfer is a requirement

Allow sufficient time, resources and supporting technology

Consider tracking retiree expertise by database
Mentoring

What is it?
- Typically thought of in terms of career development programs
- Can help transfer technical, operational or managerial knowledge
- Helps transfer cultural knowledge and norms

How is it used?
- Requires significant time resources
- Therefore, use in most critical areas
- Provide training
- Create a supporting infrastructure to match, provide ongoing training, manage and coordinate

Key Benefit:
- Helps to transfer that deep tacit knowledge

Keys To Success

Make the program as inclusive as possible – everyone can learn and benefit

Provide training and assistance – there are lots of resources providing “how tos”

Beginning and ending the mentoring relationship can be the biggest challenge

Tailor the program to your organization
Organizational Learning and Training

What is it?
- Training which is inherently focused on knowledge sharing and transfer

How is it used?
- Address current and future knowledge needs
- Use the most effective formats available and measure knowledge transfer
- Target training towards employees expected to play an important future role

Key Benefit:
- The only way to transfer best practices

Tennessee Valley Authority Has a Comprehensive Knowledge Retention Strategy

Codification
- Documentation & Procedures
- Checklists, Inventories, etc.
- Performance Support Systems
- Concept Mapping

Collaboration
- Communities of Practice
- Peer Teams

Alternative Resources
- Agency/site/department expert
- Rotational or “Visiting” Staff
- Multi-skilling or Cross-training
- Contractors, part-timers, retirees

Engineer It Out
- Process Improvement
- Update Equipment
- “Smart” tools and technology
- Eliminate task, product or service

Education & Training
- Classroom and Simulator Training
- CBT, Video-based, and alternative delivery
- OJT and Targeted Work Assignments
- Coaching, Shadowing & Mentoring
- Apprenticeship Programs
Best-In-Class Companies Take Strategic Actions Toward Workforce Continuity

- 39% offer executive coaching
- 52% offer internal leadership development programs
- 32% offer mentorship programs
- 44% measure their bench strength

Conclusion

SECTION 5
What Positions in Your Organization are Most Vulnerable?

- Eligible for Retirement
- Lack of Back-Up Staff
- Knowledge Not Available Externally

Knowledge is a Component of the Total Resources of Your Workforce

KM Alone Cannot Overcome Lack of Skills or Experience
What Knowledge Management Approaches* Best Fit Your Utility’s Need?

Explicit

Process-Based
- After Action Reviews
- Lessons Learned
- Project Milestone Review

Self Service
- Document Repositories
- Discussion Boards
- Expertise Locators
- Search Engines

Facilitated Transfer
- Peer Assists
- Incorporating Retirees
- Internal KM Benchmarking

Network Based
- Communities of Practice
- Virtual Collaboration
- Special Interest Groups

Approaches

Tacit

Human Interactions

Planning Framework: Begin By Assessing Your Workforce Sustainability

Business Planning
- Workforce Business Strategy
- Compensation & Reward Strategy
- Optimize Processes

Workforce Planning
- Training & Dev.
- Knowledge Mgmt
- Career Planning
- Leadership Dev.
- Develop Workforce
- Recruit & Outreach
- Evaluate & Adjust

Assess Organizational Capacity, Competency, & Engagement
Use Knowledge Retention Strategies To Reduce Your Workforce Vulnerabilities

Immediate Action (URGENT)

- Identify Your Knowledge Vulnerabilities
- Define and Implement A Knowledge Management Approach To Fit Your Utility
- Use Proven Tools Adapted For Water Utilities

Strategic Action (VITAL)

- Assess Your Workforce Sustainability
- Develop and Implement A Workforce Sustainability Plan

Questions?

For more information, contact tbrueck@ema-inc.com or greg@tvwd.org