

The College Business Model

Colorado Springs Utilities Todd Thomas

1. Background Information – Colorado Springs Utilities

Colorado Springs Utilities is a 4-service municipal utilities company located at the foot of Pikes Peak in Colorado between Pueblo and Denver. Its 1800 employees supply natural gas, electricity, water, and wastewater services to a community of approximately 350,000 customers/owners.

2. Setting Training Priorities

Colorado Springs Utilities has a long history of making significant investments in both candidate development (through apprenticeship programs) and employee development.

Decentralized training drove many challenges.

In the past:

- Training was driven by productivity challenges without measuring results
- Training was the tool used to combat poor safety or job performance rather than true problem analysis
- Internal divisions with similar training requirements missed opportunities for leveraging similar training offerings
- Training tracking systems were disjointed, indefensible to audit and laden with unnecessary information
- Training quality varied greatly driving inconsistent behavior
- Budgets increased annually to match inflation without measure or clear objectives.

Centralizing training into a University Model provided many opportunities

Among those are:

- Training was deployed consistently, efficiently, and defensible to audit
- Training was efficiently offered enterprise wide and bolstered with leadership courses
- Duplication was eliminated completely.
- Accurate and efficient schedules were created well in advance so instructors and customers may plan for the year rather than suddenly when it becomes an emergency
- Design, Development of training was formalized with clear approval processes
- Training decisions were taken from Training Department and moved to customers avoiding blame and ensuring success.
- A model was built to assess whether problems were training related or performance related.
- Budgets were trimmed while more training was provided.
- Training requests or needs were linked to mission of the organization
- The model allowed one-stop shop for training needs
- Budgets were consolidated, and represented true corporate employee development numbers
- All training had the same look and feel with centralized Instructional designers
- Cross-functional trainers became a reality forming new innovative ideas

3. The Colorado Springs Approach

Colorado Springs Utilities has a Workforce Planning and Development Unit which includes 32 employees. The unit includes four sections: **Technical Craft Development; Business Skills Development; Workforce Planning; and Instructional Design.**

The **Technical Craft Training Unit** facilitates twelve apprenticeship programs, all safety and environmental training, and ongoing journey-level training. This unit includes one supervisor and eight senior training professionals who oversee 3 schools of learning 1. School of Technical Field Operations, 2. School of Technical Plant Operations, and 3. The School of Safety and Environmental.

The Technical Craft Training Unit facilitates the following Curriculums, Certifications and coursework

Department of Labor and Veterans Administration Certified Apprenticeship Programs

• Line Technician (Power Linemen)	13 Apprentices
• Gas Pipefitter	9 Apprentices
• Water Pipefitter	10 Apprentices
• Power Plant Electrician	1 Apprentice
• Power Plant Mechanic	6 Apprentices
• Power Plant System Operator	13 Apprentices
• Substation Electrician	4 Apprentices
• Instrumentation & Control Technician	1 Apprentice
• Water Collection Specialists (Wastewater Mechanic)	9 Apprentices
• Apparatus Electrician (Transformer Repairman)	1 Apprentice
• Meter Specialist (Meter Mechanic)	1 Apprentice
• Electrical Secondary Serviceman	No Apprentices
• Total	68 Apprentices

Safety Courses

- 53 Safety Courses, such as Self-Contained Breathing Apparatus, Confined Spaces, Cardio-Pulmonary Resuscitation/Automated Electrical Defibrillator Training, Shoring and Trenching, Fall Protection, and Lock Out/Tag Out;
- 35 Environmental Courses such as Chlorine Emergency Response and Construction De-watering;
- 20 Industrial Equipment Courses such as Backhoe, Bucket Truck, Vac-Truck, Front-end Loader, Overhead Crane, Mobile Crane, and Rigging;
- Craft-Specific Courses such as Power Pole Climbing Certification, Power Plant Clearance Procedure, and Natural Gas Fire Fighting Procedures; and
- Mandated General Courses such as National Incident Response System (NIMS) and National Energy Regulatory Commission Security Training (NERC Security)
- Water Treatment Risk Management Plan Courses like Chlorine courses

Additionally, the Technical Credit Development Unit works with local community colleges to combine the training the utility provides with college courses to form 2 year degrees.

Examples college certificates are:

- Certified Welding;
- Basic Water System;
- Water Sciences; and
- Power Engineering.
- Emerging Technologies in Wind and Photovoltaic (Solar) Power Operation Generation and Instrumentation and Control arise daily.

The Business Skills Unit facilitates, procures and instructs Leadership Development, Employee Relations, Computer System Technology, General Software, Customer Service and Professional Development learning opportunities. One Supervisor and six Senior Professional Trainers oversee the School of Organizational and Professional Development and the School of Customer Relations.

The Instructional Design unit analyzes designs, develops, Implements, and evaluates training for Colorado Springs Utilities and is capable of producing virtually any form of training via multiple media platforms. Additionally, they are responsible for managing corporate learning Management and Content Systems, including vendor- supplied on-line content.

4. Department Structure for Workforce Planning and Development indicates a high priority placed on apprentice development, staff development, and workforce recruitment and retention:

Manager	1
Technical Craft Development	9
Business Skills Development	7
Instructional Design	7
Administrative Support	3
Total Work Unit	32

5. The University of Springs Utility (USU) Model includes the following components:

- Sponsorship Council (Deans of each school and the Manager of Workforce Planning and Development);
- Technical Field Operations Advisory Board;
- Technical Plant Operations Advisory Board;
- Safety and Environmental Advisory Board;
- Customer Relations Advisory Board; and
- Organizational and Professional Development Advisory Board.

6. Advisory Boards are composed of the following:

- A Dean of the School nominated by CSU’s Board of Directors (e.g., the General Manager of the Water Services Division serves as Dean of the Field Operations School);
- Committee members selected by the Dean of the School;
- 8 - 10 Departmental Representatives from mid-level leadership; and
- 1 - 2 Trainees.

An example of the benefit of this centralized structure for training planning and implementation occurred with the Technical Field Operations Advisory Board. At an Advisory Board meeting, a request was received for the Water Field Operations Section to receive McElroy Water Pipe Fusion training. Some members of the Advisory Board realized that the Natural Gas Department used the same piece of equipment and had been receiving training on it for years. The Advisory Board recommended consolidation of the training, allowing the utility to reduce its training costs and allow craft staff from different parts of the organization to share information about techniques. This consolidation saved operations and maintenance money and improved on-the-job efficiency. An unintended benefit was internal operator’s leveraged tricks-of-the-trade and each section realized efficiencies.

7. The University of Springs (USU) model is based on linking staff training to the organization's larger objectives. Training must be tied to CSU's strategies, as illustrated by the questions on the form used to explain and justify training requests:

1. *What topic are you requesting training on?*
2. *What new skill and/or knowledge would you like your workers to have upon completion of training?*

Note 1: *If this is a software tool, please list the specific functions of the software that the training should include.*

Note 2: *If this is a request to revise existing training, briefly identify the scope of the revisions.*

*****LINK TO STRATEGY (select all appropriate links)*****

Circle the organizational strategies, goals, or objectives below that are supported by this training request.

Strategy A: Add sustainable value to our community by providing our customers and citizen-owners reliable electric, gas, water, wastewater, and utility-related products and services:

A1: Provide essential infrastructure and resources

A2: Effectively deliver the customer cycle-of-service

A3: Maintain a visible community presence

Strategy B: Build and strengthen our financial position:

B1: Manage cost and income performance to ensure fair rates

B2: Price all products and services to maximize value for all customers

B3: Plan for and manage business risks

Strategy C: Create and maintain a positive, performance-oriented organization:

C1: Value people

C2: Continuously improve processes

C3: Leverage technology investments

This training request form is a component of a larger training implementation model:

1. The customer requests training via email, phone, or verbally.
2. USU schedules face-to-face meeting with customers and documents requests with a consistent form and questions.
3. The customer links the request to strategic objectives.
4. The customer obtains his or her manager's approval of the training request.
5. USU brainstorms and develops possible training solutions to meet the need.
6. USU offers solutions to the requestor and determines the subject matter expert (SME) on the topic.
7. USU and the requesting customer present the training request to the Advisory Board.
8. If approved, USU implements the training solution.
9. Progress is reported to Advisory Board for accountability.
10. USU measures success – whether the training goal was achieved.

11. An important aspect of USU's role is to select the most appropriate training delivery system. This can range from purchase of off-the-shelf training videos to in-house development of topics. Options are flexible and may include:
 - Training developed and provided by a vendor who provides the instruction;
 - Content developed by a vendor; instruction delivered by in-house staff;
 - Training content developed in-house; instruction delivered by a vendor;
 - On-line training materials purchased off-the-shelf;
 - On-line training developed by in-house staff;
 - In-house development of a performance support tool that includes a checklist and picture examples of step-by-step processes; and
 - In-house development of a training video in which an in-house subject matter expert demonstrates how to perform the task.

12. USU continues to explore new approaches to training. In 2009 USU successfully piloted use of animated avatars to create training videos. This technique minimizes video costs by reducing the need for reshoots, edits, and expensive video equipment. Avatars of real employees may be created, and employees' actual voices may be used. Feedback on the pilot was that employees enjoyed the change-of-pace and were entertained by the animation of actual employees.

13. Future exploration includes the following:
 - Use of WIKI technology;
 - Training using personal automated devices such as Blackberries and I-phones;
 - Further exploration of Avatars (virtual, or animated depiction of real employees);
 - Virtual classrooms (remote trainers, with students learning from computer stations); and
 - Virtual reality simulators.

14. Products which USU has developed to support their training program include:
 - The Training Request Form;
 - A Job Task Analysis process;
 - A Front End Analysis process;
 - An Instructor's Guide;
 - A Student Guide;
 - A process for performing Performance Gap Analysis;
 - A Training Needs Assessment process;
 - A Course Management Plan;
 - A process for evaluation of Training Materials; and
 - A Training Material Style Guide for development of training materials.

Colorado Springs Utilities has discovered a strong, coordinated candidate development and staff training program is essential in order to create and maintain a positive, performance-oriented organization. The substantial investment that they have made in business training, technical training, instructional design, and workforce planning is consistent with the objectives associated with that strategy:

Lessons learned:

- Make a serious and sufficient investment in staff training;
- Place operations staff in the lead in managing, planning, and supervising training (through establishment of schools with Deans and Advisory Committees whose primary responsibilities are in operations); and
- Provide a coherent, comprehensive process for planning, delivering, and evaluating training.

Return on Investment

The overall return on investment of Colorado Spring's Utilities' investment in staff training has not been fully quantified, however, their observation is employee development can and does support core service objectives and to maintain a visible community presence. The American Society for Training and Development annually presents the "Best Award" to recognize organizations that demonstrate enterprise-wide success as a result of employee learning and development; competing internationally, Colorado Spring's Utilities won Best Award in 2005.

Colorado Spring's Utilities has seen very clear financial benefits to its coordinated approach to training, planning and implementation. As described earlier in this article, centralized training on water pipe fusion cut CSU's training costs by half when water and natural gas staff attended the same session, and also allowed staff to improve their efficiency by learning from each other. Similarly, analysis of staff needs for forklift training allowed the CSU to right-size to four hours a course which had previously lasted up to two days. The financial benefit of a carefully coordinated training program provided with management direction from operations staff is consistent with CSU's commitment to build and strengthen its financial position by effectively managing its costs.