Chapter 2

Current Trends in Public Utility Management and Inventive Strategies for Major Challenges

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In light of the September 11th terrorist attacks and the regulations promulgated by the bioterrorism law, the wastewater and water industry is again undergoing a period of incredible change. The need for increased system security, improved water quality, and most recently, power contingency planning has put enormous demands on public utilities and their operations personnel. Additionally, as the Internet is more widely used, utilities are faced with an increasingly knowledgeable and demanding customer.

The Internet contains many articles alarming the customer about public drinking water, what is discharged to streams, as well as the perceived risks of land application of biosolids. A public utility is no longer an island upon which business is conducted relatively undisturbed, without public inquiries or competitive pressures. To deal with this changing world, the trend in public utility management is to implement efficient operation strategies, incorporate security into every facility and process, explore new technologies, and enhance public outreach and educational programs. In other words, become more competitive with private providers, more responsive to customers, and more accountable to the environment.

Traditionally, public utilities have been risk-adverse in order to avoid political scrutiny and public condemnation. As a result, public utilities are generally conservative. However, it is now imperative that utility managers find a balanced philosophy that embraces "managed risk," allowing utilities to be more proactive and to create an organizational culture that bridges both long- and short-term needs with external requirements. To achieve the balance, utilities must understand how every decision and initiative affects the customers they serve, the internal business operations, the utility's financial plan, and the professional development of their staff. Effective leadership and planning are the keys in creating a learning organization and sustaining continual success. Using these guideposts, long-term improvements to facilities and/or operations will never be sacrificed for short-term gains.

This chapter is a case study of how the Butler County Department of Environmental Services (BCDES) is attempting to meet the challenges of the new environment. BCDES, a public utility in southwestern Ohio that serves over 100,000 residents with water and sewer services, has achieved a measure of success by looking at the current trends and developing strategies to address them. In 1995, it was an organization behind the growth curve, in regulatory hot water, and fighting customer and environmental groups on several fronts. Today, BCDES has a sound financial plan, a capital improvement program that looks at a 10-year-plus horizon, a diverse and well-trained staff, and a communications plan that keeps employees and customers well informed. Table 2.1 outlines the analytical framework for the paper.

2.1 THE CHALLENGES

2.1.1 Public Perception

The public perceives that they are entitled to public water and wastewater services 24 hours a day, at rock-bottom costs, and delivered with high-quality customer service. They do not view a public utility as a business that is responsible for hundreds of millions, and sometimes billions, of dollars in assets that are needed to deliver that service. In their view, these assets should never break and should never need replacement. The public has no idea how much a sewer vactor costs, or that a frontline employee with a full range of benefits costs a utility more than $50,000 annually, and that it takes hundreds of employees to operate a medium-sized utility.

Table 2.1 The Analytical Model

The Challenges	*The Weapons*	*The Measures*
Public Perception	Competitive Formula	Achievement Measurements
Regulatory Environment	Competitive Gap Analysis	Return on Assets
Private Competition	Chaos Control	Staffing Levels
	Communication Plan	Rate Stabilization
	New Policies and Agreements	
	Strategic Planning	

At this point, the only thing the public is sure of is that they have more confidence in bottled water for drinking rather than water delivered to their home taps by the public utility. Public utilities have to ask the question: Why? Has the performance of utilities been so bad that the public has soured over their public systems? The water and wastewater industry must change this trend.

2.1.2 Regulatory Environment

One thing is quite clear, since the Clean Water Act and the Safe Drinking Water Act regulations were promulgated by the federal government, regulations have been constantly changing and becoming increasingly more stringent. These ever-changing circumstances make it more difficult for public utilities to comply when relying on antiquated infrastructure and equipment, along with the "that's the way we've always done it" mentality. New strategies are needed by the public utility in order to stay ahead of the curve and position itself for the regulations on the horizon.

For example, plans to expand wastewater treatment plants to accommodate new growth will trigger multiple regulatory barriers such as the anti-degradation rule, total maximum daily load, and the overall tightening of nutrient (phosphorous and nitrate/nitrite) limits. These regulatory programs have made it virtually impossible for public utilities to comply and meet permit limits. Permits issued to utilities have the fundamental goal of eliminating pollutant discharges, hence the program name—the "National Pollutant Discharge Elimination System" (NPDES). Public utilities facing facility expansions are left with no other option but to either completely overhaul existing wastewater treatment facilities or abandon existing facilities to find a more favorable discharge location.

On the drinking water side, new regulations abound. Vulnerability Assessments require hundreds of hours of staff time for adequate completion. The Disinfection By-Product Rule—Stage 1 and the upcoming Stage 2A and 2B—are incredibly complex. Moreover, it is critical for utilities to avoid noncompliance given the fact that the United States Environmental Protection Agency (USEPA) requires public notification for noncompliance with alarming language—linking exceeding the maximum contaminant levels (MCLs) with increased chances of having low-birth-weight babies or babies with birth defects. Public utilities will need to have a plan for the public backlash that will likely result from exceedance of MCLs and the associated notices.

Not only are regulations making operations more complex but also with the USEPA's Enforcement and Compliance History Online (ECHO) initiative, compliance histories are available for public consumption without assurance of the accuracy or adequate understanding of the data. Regulated entities do not have the opportunity to preview published data, which can lead to errors in the ECHO data relating to wastewater facilities. This can unjustly skew the public perception that utilities are not submitting reports on time or are just generally out of compliance. The current ECHO structure lacks QA/QC and casts a shadow on public utilities. This leaves the utility vulnerable to attacks by environmental groups or others looking for ways to make public utilities look bad.

The bottom line is that regulations require significant resources. Such expenditures leave public utilities no choice but to increase customer rates in order to recoup the necessary revenue requirements to pay for new debt and increased operational costs. Public utilities need to ask themselves, "Is there a better way?" Employing creative solutions to leap regulatory hurdles can bridge the gap between what the public expects and what they see, how the utility operates, and how the regulators enforce. A creative solution doesn't mean finding loopholes to avoid requirements. Rather, utilities need to look at the problem, acknowledge it and evaluate all potential solutions, make a decision, and execute the plan.

2.1.3 Private Competition

Over the last decade there has been an enormous push from private utilities that are acquiring and/or operating public water and wastewater systems across the United States. The thought has been that private

utilities are more efficient than public utilities. Unfortunately, in some cases, this may be true.

Private utilities have been successfully courting public officials, convincing them that they can operate with less staff, eliminate redundant operations, and implement a comprehensive maintenance management system that allows more proactive activity. All with the goal of improving customer service and minimizing rate increases to customers.

So how do public utilities compete with the private sector? By doing the things that they do. Private providers will do the following:

- Take risks.
- Invest in training.
- Invest in technology.
- Invest in revenues.
- Increase productivity.

Public utilities must not operate like a traditional public organization. They must fundamentally change from risk-adverse conservatives to managed risk takers. They must identify the weapons necessary to ward off the common pitfalls of traditional government—inefficiencies, cumbersome policies, and slow-motion implementations. For example, public utilities do not like to operate on the edge of compliance with regulations. Private utilities, on the other hand, consistently operate on the edge and have periods of noncompliance. However, their strategy is not to be consistently noncompliant, but rather to operate with lean staffing levels, minimize energy expenditures, and optimize chemical usage.

Public utilities must enhance their use of technology and develop extensive employee training programs. They must also implement teams and delegate decision-making authority to staff and frontline supervisors. Outdated policies must be eliminated and/or replaced with improved procedure manuals and best practices. Public utilities must also improve internal communications and expand customer outreach and education.

As important, public utilities should do things that the privatizers may not emphasize:

- Deliver effective customer service.
- Concentrate on public education.
- Develop working partnerships with stakeholders.
- Carry forward the mission and agenda of the political leaders.

A major privatization contract was in effect in the southwestern Ohio region. That contract was not renewed because of complaints by the local government that the private contractor did not deliver the excellent customer service that their constituents demanded. When looking only at the bottom line, privatizers sometimes miss opportunities to enhance the nonfinancial side of utility service. Further, private utilities do not consider the negative political ramifications that local leaders face as a result of poor, inconsistent service to customers.

2.2 THE WEAPONS

Now that the challenges have been presented, let's turn to the weapons that public utilities can use to think private, but stay public. In other words, to use a phrase coined at BCDES, "Publicize, don't privatize." Having a head for business in a world of government is the first step to the change that needs to happen inside the utility.

Looking to the private sector is something that BCDES does on a daily basis—not only to private utility providers but, more importantly, to the business world at large. There is as much business literature read at BCDES as technical journals. Four of the eight senior managers have MBAs. Financial and nonfinancial data analysis is taught at all levels of the organization. Going out into the world to attend water and wastewater industry seminars and conventions, as well as ones sponsored by areas in business, is critical to keeping a utility on its toes and ready for change when the need arises. By changing the mind-set of the utility, BCDES has developed a set of weapons.

2.2.1 The Competitive Formula

At the core of BCDES' success is the competitive operation formula: Time + Energy + Associates + Money = Success. The TEAMS formula emphasizes training, increased productivity, cost reduction, revenue enhancements, communication, teamwork, and regulatory compliance. The formula, armed with operational data, has helped BCDES successfully use private business initiatives to provide higher-quality service to its customers and the environment. If each formula component is examined separately for its value-added features, then as utility leaders it becomes easier to make decisions that protect the customers and the rates that they pay. Since time is money, time that is spent on each activity is

money that must be recouped through rates and fees. The private company knows this axiom thoroughly.

2.2.1.1 Identify Core Competencies

Public utilities must identify their core functions—what they do best. Public utilities treat water, fix main breaks, repair pumps, and process biosolids residuals consistently and usually very well. However, restoring yards, asphalt, and concrete may not be a part of the core functions, so more often than not, public entities tend to be less efficient with these tasks and generally cannot compete with the private sector. If a utility cannot effectively and efficiently complete the task, then they need to outsource that particular function to someone who can. "Selective outsourcing" is a powerful tool that is used to control costs at BCDES.

2.2.1.2 Streamline Processes

Once the core functions are identified and outsourcing selections are made, utilities must focus on improving those core operations by eliminating busy work and streamlining processes. Most importantly, the time saved can then be used to accomplish other important tasks that are normally outsourced or are not being done at all, such as using in-force employees for small capital improvement projects. BCDES calls this "selective insourcing." This has a twofold punch: It makes great financial sense and also creates satisfying job growth for employees.

Some results from BCDES' initiatives have allowed the transfer of many preventative maintenance functions, such as oil and greasing of equipment, from our maintenance staff to our wastewater plant operators. They also transferred water system bacteria sampling from laboratory staff to water system operations staff, freeing up labor hours for laboratory staff to perform their core function and allowing the elimination of staff.

Since energy is money, the cost of energy can be the second largest cost center for most public utilities. Therefore, public utilities must identify energy reduction methods that will directly reduce energy costs. This can be accomplished by various strategies.

1. *Identify inadequate or outdated operational processes*. Public utilities need to be less conservative when evaluating nonconventional treatment technologies or alternative energy supply sources. If there are ways to optimize biological treatment processes by minimizing the use

of blowers, pumps, and motors, this can help directly reduce energy and operating expenses. At one of BCDES' major wastewater treatment facilities, the operators implemented a different method of treatment. This new method creates conditions that are favorable for less sludge production, which lowers disposal costs. Additionally, less energy is required, lowering power costs, and the process results in a higher cake solid, which further lowers disposal costs—a triple savings opportunity from one operational change.

2. *Implement peak shaving policies.* BCDES has made a significant investment in standby power generation. This allows BCDES the flexibility to use generation equipment in the event the electrical provider asks for a reduction in usage during high-demand periods. BCDES has signed contracts with the provider to be paid a substantial premium in the event that BCDES is asked to reduce its load. The SCADA (supervisory control and data acquisition) system also was programmed with a feature that will shift electrical demands in the water distribution system to more advantageous off-peak hours.

3. *Specify energy-efficient equipment*. Utilities must be flexible to evolve and incorporate the newest energy-efficient equipment in facility designs. Management must allow operational personnel to play an integral part in process optimization and equipment specification in the design of facilities.

4. *Seek out the competitive energy market*. Public utilities must negotiate with power suppliers in order to take advantage of savings programs or look for alternate commodity providers to reduce costs. BCDES investigated the opportunities in the recently deregulated energy market. They looked to other larger, local utilities to see if joining contracts would lead to savings.

To implement any of these strategies, public utilities must assess and be constantly aware of their energy consumption by tracking usage and identifying factors that lead to excessive consumption or waste. By performing a comprehensive energy audit, public utilities can take advantage of energy-saving strategies to directly reduce use and streamline their facilities to more efficiently consume energy.

2.2.1.3 Associates Are Money

The cost of a utility labor force, in most cases, is the largest cost center for a utilities operations and maintenance budget, and that force is made up of human beings—each with his or her own set of needs and expectations.

There is an enormous amount of money to be saved when the entire force is working together, effectively and efficiently. That can only be accomplished when the right people are in the right place and there is adequate training and communication.

1. *Invite employees to the decision table.* Having the right people in the right place can be difficult, particularly in a union environment. The competitive utility can get in direct odds with the union mentality of "seniority and security." From a frontline perspective, unions are necessary for job security. From a management perspective, unionized labor can create a silo-oriented organizational structure that sectionalizes job functions, creating inefficiencies. This presents a challenge when streamlining job functions and work processes.

BCDES overcame this by inviting the union to the table and including them in a variety of areas beyond tri-annual contract negotiations. For example, the departmental strategy team, the Strategic Alliance Committee, initially acted as the transition team with representatives from the union, middle management, and upper management. Every member of the transition team had input into the implementation of the change initiatives. Five years later, the team still exists and is creating initiatives that will take BCDES to an even higher level of excellence.

2. *Develop employees.* Proper employee development and training is essential in a competitive utility. If the utility is going to think private, the employees must have the opportunity to learn as well. At BCDES, there is a 40-hour annual training goal for each employee, which includes not only the typical safety and technical training but training in data collection and analysis, budgeting, and computer skills. Effective employee development also provides succession planning. Jim Collins, in his famous "Built to Last" research, found that promotions from within preserve the core values of an entity [1]. He found that the visionary companies did a better job than the comparison companies at developing and promoting talent from the inside. In this way, they attained greater "continuity of excellence."

3. *Look closely at consultants*. Often consultants play an important role in providing specialized talent or an extra pair of hands. In this way, they are like the utility's own employees and they need to represent the utility in that same quality way. Utilities should select consultants based on their qualifications and ensure that they understand the mission and values of the department.

4. *Remember that money is money.* The operation of a public utility is big business. Huge sums of revenue are allocated to sustain capital improvements to ensure that these assets are maintained, rehabilitated, and expanded. How the money is collected, invested, and expended can create more money to be used on the customer's behalf—stabilizing rates and maintaining assets.

5. *Consider budgeting and rate setting.* Knowing how much money is needed to properly operate the utility and provide quality service is tantamount to almost everything else. Utilities must develop comprehensive rate models that ensure that rates are always set to recoup the necessary revenue requirements of the utility. Revenue requirements must be set to recover enough revenue to ensure compliance with long-term debt service coverage ratios and bond indentures. BCDES has an outside rate consultant, who performs rate and fee studies as needed. Having a qualified and respected third party recommend and validate the rate structure is important in building trust with ratepayers and the governing board.

Adequate revenues will also allow utilities to establish minimum fund balances for their operational funds, rehabilitation funds, and capital growth funds. The minimum fund balances will not only generate consistent interest revenue for the utility but can be used as emergency funds to augment a shortfall of revenues caused by abnormal precipitation or unanticipated expenses brought on by a change in regulations. BCDES tracks fund balances daily and rolls up quarterly summaries for trend analyses.

6. *Review methods of collecting*. Collection methods can enhance revenues by implementing new technologies and/or processes that make it convenient for customers to pay their bills. BCDES worked with local banks to establish automatic payment deductions from customers' checking accounts, and to accept electronic checks over the Web. BCDES has outsourced payment processing to banks through a lockbox contract. Faster and efficient receipt of customer payments allows the utility to yield more interest, thereby enhancing revenues for the utility.

BCDES outsourced delinquent collections to a local collection agency. The utility found that tracking down nonpaying customers was not a core competency. Since outsourcing that function, "skip trace" delinquent collections are up to nearly 60 percent.

7. *Consider investing strategies.* Utilities can enhance their revenues by taking the proceeds from the interim financing and depositing them into special accounts that have high-interest yields during the construc-

tion period. These yields can be used to offset the original capital costs, thereby reducing the ultimate amount that is financed with the long-term bond issuance. BCDES recently moved its capital improvement funds to an account that gives the maximum allowable yields with limited risk.

Also, if the utility is using internal workforces to install capital improvements, they can capitalize the labor costs to relieve operational budgets/rates. In 2003, BCDES capitalized over $600,000 in labor costs associated with improvement projects, pulling these out of the operation and maintenance (O&M) budget and into the capital budget, which is where they rightfully belonged.

8. *Remember spending considerations.* To be effective in managing the assets, utilities must establish a comprehensive capital improvement plan. The capital improvement plan must be supported by a finance model/plan that establishes the timing of the improvements and how the costs will be financed. If the utility will be using interim financing or long-term debt financing from bonds, it is crucial that utilities take advantage of the bond market during low-interest periods to maximize savings. CIP planning is an annual event at BCDES, which includes decision makers from all areas of the department—wastewater operations, water distribution, engineering, and maintenance.

There must also be best practices in place to identify savings when possible. BCDES takes an annual look at the top 10 vendors and the top 10 purchased items to see if new strategies could save money. Substantial contracts, such as employee uniforms, office equipment maintenance, and cellular phones, can also be ripe for savings.

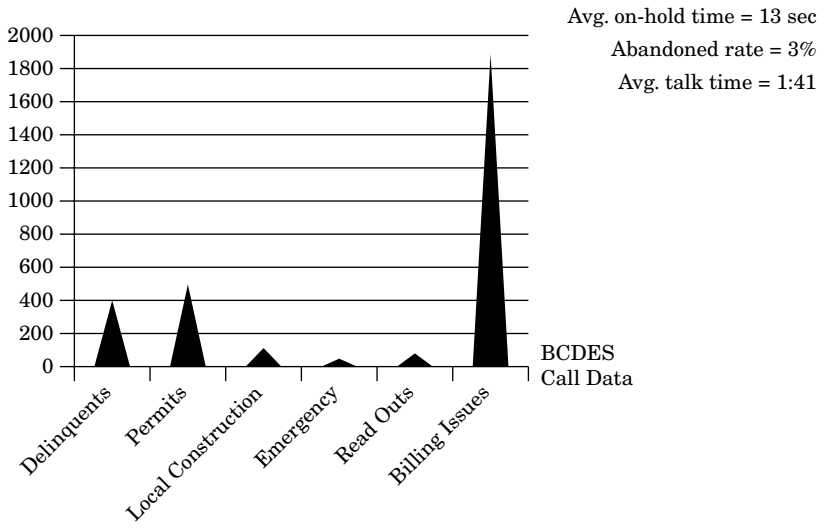
2.2.1.4 The Role of Data

Public utilities must strategically use information that is generated from the information systems—SCADA, water and wastewater system models, call center phone systems, and asset management systems. Data use in conjunction with the competitive formula is critical to decision making.

1. *SCADA.* The SCADA system is the single most important information system in a utility. It does an army's worth of work turning on and off equipment as needed, alerting employees to problems, and collecting massive data for future analysis. At BCDES, frontline employees worked with management and the

consultants to create a system that they trusted and believed in. With that in place, the major wastewater plants go unmanned for most of the day, while the system watches and waits for a problem to alert the central command post. BCDES also uses the system data to calibrate the water and wastewater models, to debrief after system problems to check system reactions, and to monitor facility entry and exit for security purposes.

2. *System models and graphical information systems (GIS).* Water and wastewater system models and GIS are the latest information tools that utilities can use to improve. At BCDES the models run "what-if" analyses for emergency response training and CIP planning. The water model is also heavily used to determine depressurization areas, water age for quality studies, and disinfection modeling.
3. *Asset management/work order data system.* Information from the work order management system must be utilized to identify several important keys to competitiveness. For example, how much of the daily work is scheduled versus reactive? A forward-thinking utility should strive to have the majority of its daily maintenance tasks scheduled, as opposed to reacting to a crisis situation. Simply put, it is cheaper that way. A scheduled and planned workload generally allows utilities to be more efficient and effective. The asset management system will also assist in equipment replacement decisions, budgeting, and accounting accuracy. BCDES uses this important tool to predict staffing needs for the future expected workload.
4. *Call center system.* A good call center system provides excellent data for decision making. Information can be collected on call categories, average on-hold times, and the system can route calls to agents based on longest idle or available expert (see Figure 2.1). For example, a look at the BCDES call center system data showed that they were spending 64 percent of their time dealing with customer account issues related to estimated bill questions, balance due, and bill calculations. That information pushed initiatives to make account information more available to the customer. Web access to see information and pay utility bills came out of the project. Future installation of an interactive voice response system is also in the works. The end result frees staff to perform value-added functions and reduce staffing levels in this vital customer service area.



	Delinquents	Permits	Local Construction	Emergency	Read Outs	Billing Issues
BCDES Call Data	509	586	183	83	128	1994

Figure 2.1 Typical monthly call data.

When all of the competitive formula elements are put together, utilities can benefit by a significant change in work processes. By taking risks and being conscious of the time and people being used, utilities can realize significant savings. When public utilities start to use data to make management decisions, staff will transform, and change their work processes to hit the targets. Private industry knows this inherently. Data will also help utilities enhance reporting to the regulatory authorities and assist in the development of information for educating staff, boards, customers, and the public at large.

2.2.2 Competitive Gap Analysis

In a change process, utilities must perform baseline assessments to identify best business practices, define competitive gaps, conduct strategic planning, and develop an implementation plan. Most importantly, prior to implementing the plan, utilities must monitor and modify activity because change is ongoing. Will it be easy? The answer is no. However, the change process can be a learning experience that will enable utilities

to implement even more far-reaching strategies to lower operations and maintenance costs within their organization.

Also, public utilities must become masters of managing change. To be successful, public organizations have to identify the barriers to change, such as fear, political influences, bureaucratic operations, lack of incentives, and technology. The competitive environment in the utility industry is providing opportunity to eliminate these barriers.

Public utilities must benchmark themselves against the private sector to determine the competitive gap and then erase the gap. The majority of the time, a public utility is myopic when it comes to assessing itself, so a third party can be helpful in determining the gap and the areas of improvement.

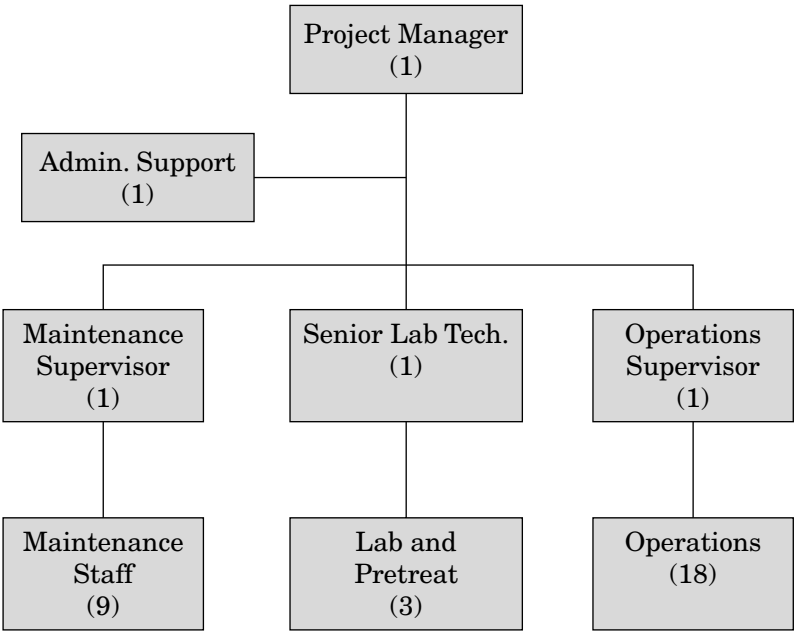
In most cases, when the competitive gap exercise is conducted, public utilities learn that they are overstaffed in several areas by 20 to 30 percent, which translates into a cost gap of millions of dollars. Said gap is usually the target of private operations and is a part of the strategy they use when courting public officials to consider privatization.

Once the competitive gap is identified, public utilities must use initiatives that the private sector uses to right-size staff. At BCDES, because of the upgraded supervisory control and acquisition system, they were able to reduce staffing at the wastewater operations facilities by going from a three-shift operation to a two-shift operation. They also converted the industrial pretreatment operators into a workplace team, thereby eliminating a layer of management and one clerical position. (See Figure 2.2.)

Once the gap is erased, utilities will need a flexible workforce with a variety of skills. To attain a flexible workforce, cross-training staff is necessary. Cross-training allows the utility to level the silos that exist within the organization, creating a team-based atmosphere that leads to lower costs, team accountability, and increased employee morale. Utilizing a team-based approach, eliminating redundancies, and using data will also allow departmental overtime expenditures to remain constant or decrease, even though staffing levels are dropping.

2.2.3 Chaos Control

Closing the competitive gap and becoming a more competitive utility creates change and change creates chaos. It is simply unavoidable. However, communication can be the glue that holds the entire process together: Communication from the front-line to senior management, from senior management to front-line, from utility to political body, and from utility



Total Positions = 35

BCDES Positions in 1998 = 55

BCDES Today = 35.75

Figure 2.2 Competitive gap analysis: possible private provider organization scenario.

to the public. All of these information lines must be flowing free to rise above the noise and nonproductivity of chaos. The key is to establish a workplace culture where employees clearly understand the expectations during and subsequent to a change effort. Employees need to know what upper-management values and how those core values are the foundation for an organization to build a legacy of continual success.

2.2.3.1 Communicate and Sell the Vision

Clearly communicating the change mission and vision ensures the objective is understood. Everyone should be given a choice to be a part of the plan to be implemented. How is this accomplished? First of all, acceptance and support of the plan must be received from the political leaders. Without this buy-in, the plan is susceptible to be derailed when the chaos begins.

The first step of selling the vision is telling the vision. John Gruden, head coach of the 2003 Super Bowl champions, said that he had to sell the vision every day to the staff and players that would help him see it through. BCDES followed that advice from the beginning. They began the change initiative with a series of four kick-off meetings that included each member of the staff. At this meeting the change consultant told the employees that there were three rules:

- Change is here to stay.
- It won't be trouble free.
- Change must occur from within.

If it is not possible to speak to the entire organization at the same time, it must be ensured that the same clear message is communicated to all. BCDES taped kick-off meetings so people who were absent could hear the same message. Everyone must be given a chance to understand the problems being faced. They must be invited to be a part of the solution and encouraged to not be an obstacle to the change that is about to take place.

When implementing change in an organization, the staff goes through an enormous identity crisis, which can affect the productivity of the staff. So it is imperative that the message is communicated effectively and coaches/mentors are identified to provide an outlet for the staff to voice concerns and questions.

Once the message is communicated, it must be done weekly to executive management, monthly to frontline management, and employees quarterly. This allows management to gauge the receptiveness of the message and the vision. At this point in the change process, it can be expected that there will be some employees and managers who are unable to meet the new level of expectations. Discipline and other managerial control must be used to further the mission. However, at the same time, there must be generous praise, promotions, and incentives. At BCDES a "smaller, higher-paid workforce" was the promise, and it was delivered.

2.2.3.2 Special Note about the Union

In a union environment, such as the one in which BCDES operates, it is imperative that they become part of the process. Often the union leaders are the most influential members of the staff, and it is important that

they understand the issues so that the message is also communicated through them.

Union representatives want guarantees that if staffing levels will be reduced in certain areas, union members will not lose their jobs and/or have opportunities to transfer to other areas of the organization or local government that are in a growth mode, and that they do not have to take a reduction in pay. Management has to understand the importance of this desire and negotiate win-win situations for employees involved. However, once the strategy of how the reductions or transfers are established, the union and management representatives must be supportive of the transition and not be an obstacle to the process.

To implement private initiatives organization-wide, managers and administrators need to think like owners of a major league baseball team. Utilities must be able to talk about every opportunity to trade, waive, discipline, retire, or promote employees on internal teams. This type of philosophy only works when the union leadership is included in the direction of the organization.

2.2.4 External Communication Plan

As mentioned earlier in this chapter, the public perception of the local government and utilities has soured over the last decade. That is why it is imperative that public utilities develop a comprehensive public outreach strategy to ensure that customers are receiving important information about what the utility does and how it affects the environment and the customer.

BCDES has developed a multi-pronged approach to gain feedback from the public's perspective that includes a variety of techniques.

2.2.4.1 Customer Summit

BCDES conducts an annual summit with our customers via focus groups to receive qualitative feedback about customer service, education programs, policies, and procedures, as well as receiving the customer's general perceptions about BCDES. The information from the focus groups is used to develop the utilities public education program, customer newsletters, and external Web sites. Additionally, the focus group discussions are videotaped for further distribution of the utilities objectives to the public at large through cable access channels and to the employees.

2.2.4.2 Customer Surveys

BCDES conducts mail-in customer surveys to provide more quantitative data, which is instrumental to our long-term strategic planning and capital improvement planning.

2.2.4.3 Biosolids Focus Group

In conjunction with the environmental management system, BCDES holds periodic discussions with stakeholders regarding biosolids. This allows BCDES the opportunity to hear concerns regarding this issue from local farmers, residents, and public officials.

2.2.4.4 Public Advisory Group

These meetings are held semiannually, with the primary purpose of receiving ideas from customers regarding organizational brochures and other public education material.

2.2.4.5 Other Communication Outlets

Continuing dialogue with homeowner's associations can also provide valuable information to the utility that can be used to assess how daily operations and tasks performed by staff are truly affecting the customer firsthand. Customers may not always read information mailed to their homes by the public utility, so using the homeowner's association as a vehicle to spread the message is highly successful.

One-on-one meetings with large users are critical in gaining information about their particular needs. Being supportive of commercial and industrial customers is often a great way to further the political agenda of the region.

2.2.4.6 Communication with the Governing Board

Public utilities are often governed by a political board or special-purpose board. They are generally elected officials that are sensitive to the wishes of their constituents. County administrators and city managers are often in the organizational chain as well. It is imperative that relationships are built between the utility and this board. BCDES works very hard to communicate with the county administrator, and the Butler County Board of Commissioners. Quarterly reports outline the accomplishments and challenges that the utility faces so that the board is never caught off

guard if there is a controversial or financial issue that arises. Work sessions between the BCDES director and the board are commonly used to provide further education on complex technical or personnel issues.

2.2.5 Renegotiate Agreements and Update Policies

Utilities can save money by renegotiating existing utility agreements. BCDES recently negotiated a new long-term water supply agreement with a major water provider. The new arrangement allowed BCDES to roll back customer water rates by 16 percent and secure an estimated $40 million net present value savings to customers over the next 20 years.

Agreements with regulators can also be negotiated to bring about cost reductions. These agreements, better known as permits, should not be simply accepted. They contain many items that lead to increased capital and operational costs. Utilities should hold the regulators to task on being reasonable and consider nonconventional methods to achieve compliance. In one example, BCDES was able to postpone more stringent nutrient limits with their associated capital investments for five years, while conducting stream restoration projects designed to create habitat and improve the aquatic life in the receiving stream. This was beneficial for BCDES for a number of reasons.

First, as a new expansion was coming online, BCDES had the time to experiment with operational adjustments, troubleshooting nutrient removal during the regulatory postponement without the capital investments. This provided increased operational knowledge and did lower nutrient discharges. Second, BCDES was able to use the operational data from the trials to re-rate the capacity of the oxidation ditches, avoiding future capital expenditures. Finally, the receiving stream benefited from the stream restoration project, with improved aquatic habitat and more stable stream banks. This was a project that was also well received by the environmental community and general public.

Outdated policies and procedures need to be evaluated to determine if they support the long-term interest of the utility. For example, BCDES had a very liberal automatic lawn sprinkling sewer credit for customer accounts that spanned seven months (April through October). BCDES scaled back the automatic sprinkling credit program to three months (June, July, and August) and supplemented the program by offering

deduct meters. Those customers that opted to purchase the deduct meters could then measure outside use more than the three months and receive credit on their sewer accounts once annually. This policy modification resulted in a $20 million net present value increase in revenue for the utility in perpetuity.

Identifying new service areas and services to provide is also a key to success. BCDES is currently working with local, smaller utilities to provide services. A larger customer base brings in more revenues and stabilizes rates for all customers. Likewise, BCDES is partnering with a larger, local utility on capital projects that will benefit both systems, thus controlling costs and promoting regionalization of utility services.

2.2.6 Strategic Planning

Planning is a major vehicle on the road to becoming a forward-thinking, progressive utility. Plans must be made, implemented, and reevaluated involving all levels of organizational input. BCDES conducts annual business/strategic planning. These sessions are used to assess the progress being achieved toward becoming the most efficient utility possible. A core management group meets for two days each October and identifies major goals and initiatives for the next year. These sessions are scheduled so that the financial impacts of the initiatives and projects are anticipated and accounted for in the budget process that begins in early November.

2.3 THE MEASURES

Competitive initiatives would be meaningless if they did not translate into measurable improvements. In their article, “Coming Up Short” [2], the authors noted that their research showed that most companies failed to discover and track the activities that affect the company’s “broad domains.” These broad domains can be defined in a variety of ways, such as Kaplan and Norton’s Balanced Scorecard [3]: Customers, Financial, Internal Business Processes, and Innovation and Learning. BCDES uses the Balanced Scorecard concept to identify areas to gauge progress and effectiveness. Deciding what to measure is important, and BCDES has it honed down to a select few parameters. Some of the measurements may

be things not typically seen in public utilities, but BCDES thinks it is important to measure things that successful private companies measure.

2.3.1 Achievement Measurements

Each year, BCDES produces the Corporate Achievement Report (CAR). The CAR lets every employee, customer, and the ruling board know exactly where the department stands with respect to the BCDES version of Kaplan's broad domains: Customer Benefit, Quality Operation, and Customer Satisfaction.

CAR is used as a training tool for employees to understand how what they do every day relates to the overall operation of the department, in other words, to link the measures to strategy. One employee put it this way, "CAR explains our organizational goals and shows the methods we use to track and evaluate our successes as well as identify areas where we could use some improvement."

2.3.2 Return on Assets and Debt Service Coverage

Return on assets, which is a combined measure of effectiveness (i.e., revenues generated, relative to productive assets, particularly infrastructure assets) and efficiency (expenses controlled, relative to the revenues generated), has been trending very favorably in recent years, for both the BCDES water system and the wastewater (sewer) system. The debt service coverage, which measures the number of times that debt can be paid with net revenues, is an indicator of solvency. (See Figure 2.3.)

From 1998 through 2002, the BCDES sewer system's return on assets (ROA) measurements steadily increased. For those same years, the debt service coverage ratios, including capacity fees (nonoperating revenues from new connections, i.e., system growth) were stable. Even excluding the capacity fees, the sewer fund is capable of covering all debt. In short, the sewer system is very well positioned for the long term when the growth in the system slows.

The corresponding statistics for the water system also steadily increased, as revenues and expenditures stabilized. A very significant "chunk" of the water system's total operating costs is purchased water, a true variable cost, which somewhat suppresses the ROA. The long-term

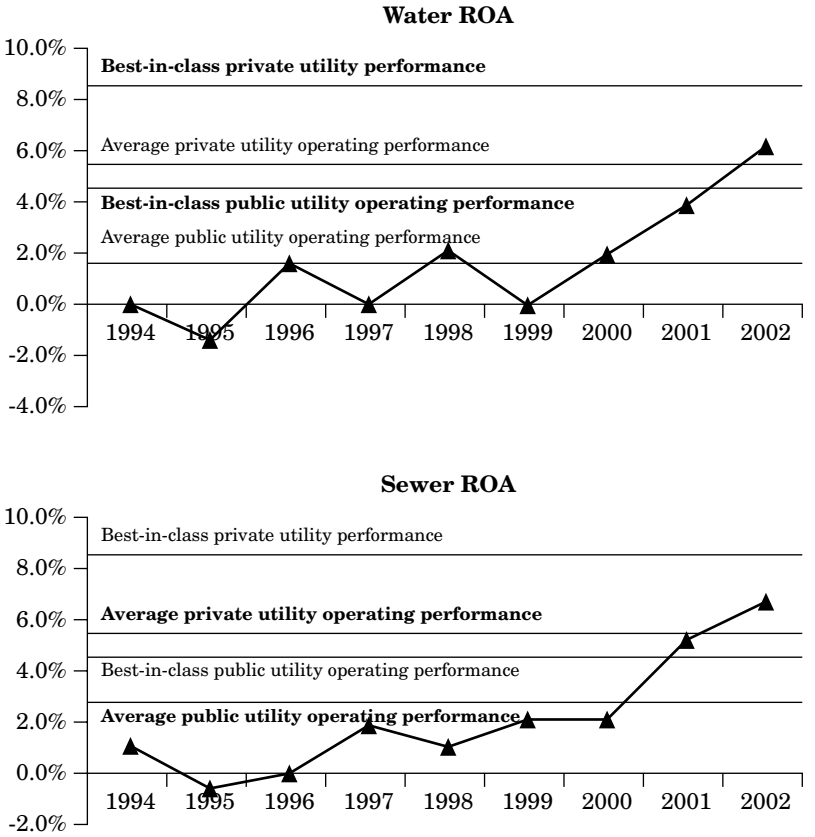


Figure 2.3 BCDES return on assets measured against benchmarks.

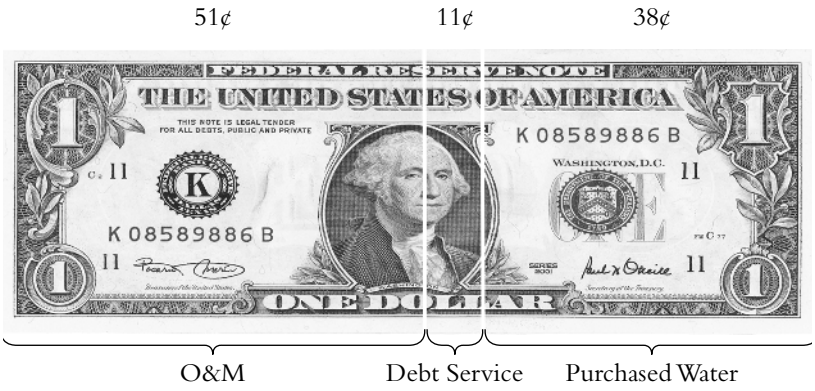


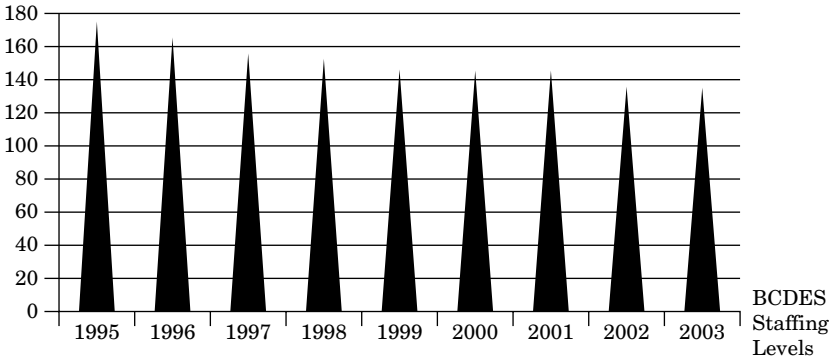
Figure 2.4 BCDES water utility expenditure breakdown.

financial plan for the water system is to maintain ROA at 3 percent and have a stable, year-to-year debt service coverage ratio, net of capacity fees, of at least 1.1, while increasing water rates very modestly from year to year, only as necessary. (See Figure 2.4.)

These financial accomplishments are no accident. BCDES has worked very hard to use all of the weapons that were discussed in this chapter. The combination of all of the strategies converges into the financial stability of the utility.

2.3.3 Staffing Levels

Slow growth in the staffing levels, while adding new services and customers, is a good sign that new strategies are being successfully implemented. While adding more than 1,200 customers per year, BCDES has successfully lowered levels by nearly 20 percent over the past six years (see Figure 2.5). This was accomplished entirely through attrition, including two early retirement incentive programs. BCDES also tracks staffing levels against overtime to ensure that additional staff would not be more efficient or to prevent detrimental health impacts and low productivity due to burnout (see Figure 2.6).



	1995	1996	1997	1998	1999	2000	2001	2002	2003
■ BCDES Staffing Levels	178	165	161	157	153	149	148	141	142

Figure 2.5 BCDES staffing levels.

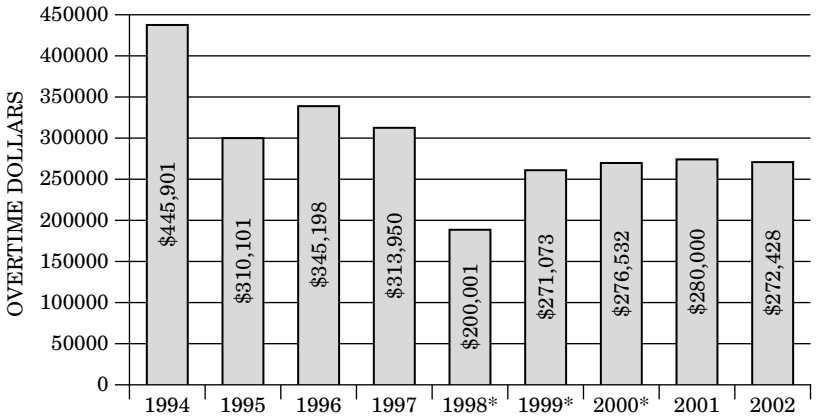


Figure 2.6 BCDES overtime trend.

2.3.4 Rate Stabilization

The rates that the customer pays are the supreme measure of the utility's success. All of the competitive strategies and the emphasis on public education will not mean anything if annual double-digit rate increases become necessary. BCDES' wastewater rates, relative to those of other public wastewater utilities in Ohio and the tristate area of Ohio, Kentucky, and Indiana, have always been just about average, that is, in the middle of annual wastewater rate survey results. However, BCDES has implemented no wastewater rate increases during the past two years and contemplates no wastewater rate increases during at least the next five years. This is quite remarkable for such a burgeoning service area as there is in Butler County, Ohio.

While BCDES' water rates are higher than "average," 20 years from now (more or less), as the water system reaches a "build-out" stage in which growth is virtually nil and capacity fees, therefore, are virtually nil as well, the water system's net operating revenues will need to be sufficient to cover water debt service, without any help from capacity fees. Ideally, this will be accomplished while keeping water rates reasonable and, perhaps, eventually, even getting the rates down to less than average. Upcoming rate increases are comparable to the low inflation rate that the area is currently experiencing.

2.4 CONCLUSION

BCDES believes that reinventing government is the best way to stave off privatization, to keep customers satisfied, to be good environmental stewards, and to stay ahead of the growth curve. Cutting costs while maintaining quality services takes creativity, employee buy-in, and strategic planning. No one can be asleep at the wheel in today's world.

One more look at some of BCDES' cost-saving initiatives shows that this creativity and private thinking really pays off:

- Reduced staffing levels (30 positions) saves more than $1.5 million annually.
- Improved reaction time on water leak repairs saves nearly $95,000 annually in lost water. This includes working closely with the company marking the utilities.
- Operational changes at one of the major wastewater facilities decreased sludge yield, increased biosolids cake solids by nearly 4 percent, and decreased the amount of polymer used, as well as the amount of air used in the process. This has the potential of over $100,000 in annual savings.
- In-force construction of a training facility and a sodium carbonate facility saved $50,000 and $75,000 in construction costs, respectively.
- Installation of radio-read water meters has reduced the number of meter readers by two. This is nearly $100,000 in savings annually.
- Tagging onto a local utility's copper service line purchasing contract saves BCDES $20,000 annually.
- In-force installation of water station pumps saved $25,000 per station.

ENDNOTES

[1] James C. Collins and Jerry I. Porras, *Built to Last* (New York: Harper Business, 1997).

[2] Christopher D. Ittner and David F. Larcker, "Coming Up Short on Nonfinancial Performance Measurement," *Harvard Business Review* (November 2003):88–95.

[3] Robert S. Kaplan and David P. Norton, *The Balanced Scorecard* (Cambridge: Harvard University Press, 1997).