



Creating a Learning Community

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North Coast County Water District

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I. Background Information on North Coast County Water District

North Coast County Water District was established in 1944, thirteen years before the City of Pacifica was established. The agency's service area is primarily, but not exclusively, within the boundaries of the City of Pacifica, a coastal community south of San Francisco. The utility operates a potable water distribution system and a very small raw water treatment plant. We serve a population of approximately 40,000 people, with water from the San Francisco Public Utilities Commission's wonderful Hetch Hetchy system. It should be noted that North Coast County Water District is the only treated water customer of the SFPUC that is on the west side of the San Andreas Fault.

The District has a total of twenty-six employees. Fifteen of those employees are in the Operations Division (this number includes the General Manager).

II. How North Coast County Water District Set Priorities

What led North Coast County Water District to put its focus and energy into creating a learning community was the fact that the agency experienced the Baby Boomer succession planning and workforce development crisis. By 2004 the District had lost a lot of institutional knowledge and skill sets because it had lost 78% of its operations staff over the past ten years. This included General Managers, Project Managers, the Superintendent of Operations, Supervisors, and Utility Workers. The impact of this turnover was particularly severe because the organization's corporate culture had historically dictated that staff would not share information about critical components in the distribution system. Such knowledge was seen as a way of ensuring job security.

In 2005 a new management team was put in place. We faced a situation where projects were years behind schedule, and costs were exceeding projections. Bond monies remained unspent. Employee motivation, satisfaction, and morale were at rock bottom. The District's Board was both dissatisfied and frustrated with the state of affairs.

Those of us who were on this new management team realized things weren't good, but we needed to start somewhere. Our first step was to realistically assess the existing capabilities of staff. We went out into the field to watch staff in action. What we found was crew members who were unpracticed and lacked confidence.

We concluded that change would need to come from the top down-- which was good news, because this was the part of the organization directly in our control. We decided we would not only lead by example, but that we would

participate in all aspects of the change on every level, and with every individual in the operations group. We also knew real change wasn't going to happen until we earned the crew's trust, and that the best way to accomplish that was by being inclusive. We wanted every member of our team to have direct control of their careers, and we wanted to see everyone succeed.

Then we started recruiting and developing change agents. This wasn't always easy, but we recognized we would never be able to make the District all it could be on our own. We wanted everyone to recognize that they had a role and influence in OUR water district. We needed a new culture and new rules, so we developed them as we went, often on the spot while working together in the field.

III. Our Approach

Our basic approach was to replace old organizational rules with new ones. For example, one old rule was "We do the job the way we've always done it." The New Rule was, "We'll constantly look for the best way to get the job accomplished." The best way was defined as the simplest, Fastest, EASIEST way to achieve the highest quality work possible.

Another Old Rule was, "staff is paid to do, not to think." This led to the inefficiency of the General Manager telling the Assistant General Manager telling the Supervisor telling the Lead telling the guy in the hole what to do next. The New Rule was, "Everyone's input is valued." We wanted everyone to THINK. We believe that the more eyes and perspectives the better, because we are all blinded by our disciplines and roles at times. Development of problem-solving skills also contributes to career growth, professional development, and employee empowerment, all of which were consistent with our strategic goals.

To further usher in trust, another rule got changed. The formal "open door policy" that had meant, in practice, advertising an open door then making sure that an employee regretted walking in, was eliminated. The new rule was "Zero degrees of separation," meaning that if a member of the District's Utility Crew had a question, concern, or comment they could simply turn to me and start talking – because I was there working with them side by side. The ability to converse in neutral settings (rather than an employee talking to a boss sitting behind a desk in his office, on his own turf) is very important to a subordinate. Problem-solving can start immediately, with the immediate benefit of peer review from any other staff members present.

"Designated rigid rules" were replaced by cross-training and flexibility. This may in fact have been our first new rule. It started when District's Equipment Operator announced that he was going to retire in two weeks. This occurred just as the District was about to begin its first large-scale earth-moving project. We had the plans, the rental equipment had been delivered, and we were ready to go – but we had no operator. We decided then that the District would never again be held hostage to the knowledge, skills, and abilities of a single individual.

We decided that from that point forward everyone on the crew would learn how to operate any piece of equipment that we rented or bought.

Employees would not have to wait thirty years for the backhoe operator to retire - we'd all take a turn. Everyone taking a turn is something we learned in kindergarten that proved to serve the District well. We have gained unparalleled operational flexibility as an added benefit.

The idea of maintaining job security by knowing something critical about the water system that no one else did – that was out. The new view was that an employee's value was based on information shared. This rule was applied to all levels of the organization.

The last rule to go was avoiding acknowledgement, discussion of, or dealing with serious vulnerabilities in the water system. The Districts' only source of supply is a single 21-inch transmission main, and the first three miles of this main are literally in or adjacent to the San Andreas Fault. Prior to the management and culture change, the rule was "we never talk about the 21-inch main. You don't look at it, you never mention a leak on it or anything else that might jinx it or cause it to break."

The new rule is that if something exists in our system, we need to develop the skill sets to operate, maintain, repair or replace it if possible. A lesson we learned from Katrina is that in the event of an emergency, we are first responders, and might be required to maintain that role for two weeks or more. We needed to learn where our facilities are and how to fix them.

The new rules reflect a new corporate model: a learning community. Forming modular work groups was a key component of implementing this model. Today employees of varying skill levels and experience are assigned to work together on the Districts' various projects. This promotes collaboration, knowledge sharing, and skills development. It also allows us to optimize our efficiency and meet our work demands very effectively. Because each person on the crew is rotated into other groups and tasked with different assignments; all employees get the opportunity to learn about all aspects of the District's operations. Optimal levels of efficiency are what drive the size of the crew for any given task, and staff are interchangeable.

This creates an environment of constant job shadowing. By forming work teams on a daily basis, we can effortlessly and seamlessly optimize our response to daily work demands. We have worked to the point that our skills and efficiencies meet or surpass private enterprise in terms of productivity and output. Our ability to respond to emergencies exceeds any of the strategic goals set five years ago by the new management team.

Perhaps because there was so much learning to do in the beginning, or because we've reaped so many individual and collective benefits from learning and applying what we've learned, in-house training has become an essential part of our organizational culture. The operations group consists of individuals with a wealth of knowledge in relation to diverse disciplines, from different vendors, and manufactures, and subject matter experts in other agencies. The in-house knowledge becomes a resource pool for on-site cross-training. Subjects include safety, welding, rigging, water quality, management theory, civil engineering, industry design, metallurgy, carpentry, engine repair, and blueprint reading.

Through this job shadowing and cross-training, we have developed, and continue to develop, a workforce of gifted generalists.

Another component of our success was, and continues to be, the use of interns. In July of 2005 we decided to hire two interns because we believed we'd be able to develop effective utility workers from the ground up. Hiring interns may seem to some to be a very time-consuming endeavor, in comparison to hiring a person with experience. However, we found that the investment in time was either the same or less with an intern. Enthusiasm and a willingness to both learn and work often offset the equation in favor of the intern. Hiring interns created opportunities for our tenured employees to be both mentors and coaches, and sometimes the best way to learn is by teaching others. As a result, hiring interns has proven to be cost-effective from a dollars and cents point of view.

In recognition that we are developing generalists, we recognize that people will have their own individual interests, passions, and career goals. We use job performance coaching and continual feedback to facilitate employee development. Academic development is also constantly encouraged. Although developing an effective utility crew was our most immediate need, our District, like all agencies, will also need supervisors, managers, and engineers. We hope that the staff we develop will grow into these roles, both in our District and in other agencies.

Having people graduate from North Coast County Water District is no different from graduation from other learning communities. People graduate, they move on, and that is a good thing – everyone benefits.

IV. Lessons Learned

What Has Worked for Us:

- Creating a new work environment that simultaneously focuses on the needs of the individual and the organization (which are not mutually exclusive)
- Leading by example – which creates trust by demonstrating outcomes that allow people the opportunity to buy into change (no leap of faith required)
- Fostering a willingness to try new things, as part of looking for better ways to do the work
- Staying focused on tactical and strategic goals, despite setbacks
- Employing Deming's quality circle process (Plan-Do-Check-Act), then starting the process again, always in an inclusionary way
- Learning from parallel industries that are rich with resources and technology.

We also know what doesn't work:

- Dictating change
- Hoping for a silver bullet fix (whether a class, a computer program, or relying on tradition)

V. Return on Investment

The returns we have received on our investment are described below:

- 85% of budgeted utility workers were/are interns
- Improved job satisfaction and morale
- Reduced absenteeism
- Less reliance on contractors for core responsibilities
- Reduced operational costs
- Increase in scope of core responsibilities
- Dedication to public service
- Improved collaboration with other agencies
- Commitment to: coworkers, the organization, and people we serve
- Improved emergency preparedness
- Board of Directors are pleased with changes

Creating a learning community can generate a net financial benefit. We have reduced our reliance on contractors to perform our core tasks, which has reduced our operational costs. We have young employees who have found a vocation in public service. We have become skilled first responders because we constantly practice. Our exposure to financial liabilities associated with emergencies has been reduced because our emergency preparedness is light years of where we were five years ago.

Operations Budgeted		Operations In Effect	
General Manager	1	Total Designated Utility Workers	7
Assistant GM Ops	1	Equipment Operators	16
Field supervisor	1	Distribution Operators	14
Plant Supervisor	1	Certified	14
		Carpenters	15

Project Manager	1	Underground Construction	13
Utility Workers	7	Plumbers	16
Mechanic	1	Laborers	16
Shop Assistant	1	Emergency Response	16
Engineering Tech	1		
Total Operations Budgeted	15	"Fuzzy Math" Operations Personnel Total	106

This chart compares our agency’s number of budgeted positions with the skill sets we have acquired through cross-training. By changing the way we do things in the organization, by learning and teaching and cross-training, we have achieved the operational flexibility of a much larger agency. Without changing the budget, we have radically increased the range and dept of the skills available for our use.

While becoming a learning community requires focus and diligence, it doesn’t have to be costly. Interns, when selected wisely and used effectively, can be incredibly cost-effective, as is cross-training. Your staff is composed of subject matter experts; take advantage of this. Once this process is initialed and momentum is built, it can become a self-sustaining culture. Effort has to be maintained, but once everyone becomes involved and contributes, the management effort required to sustain it is less than you might imagine.

Even if your agency is short on subject matter experts, the world is full of them. Manufacturers, vendors, other agencies, and contractors are all resources, and you can get a lot of information free. Consider contractors -- you can gain a wealth of knowledge by just observing how capable contractors perform their work. I encourage my crews to stop by work sites and watch, in order to do a critical review of how they do things versus how we do them, and look for ways we can improve our processes and methodologies. You should be learning something new every day – if you don’t, you’re probably not paying attention.

The principles we are applying at North Coast County Water District are not new. The basic concepts we are using were set forth by Frederick Taylor over 100 years ago: *“One does not ‘manage’ people...The task is to lead people....and the goal is to make productive specific strengths and knowledge of each individual.”*