"Lead, Follow, or Get Out of the Way"— What Can this Mean for the Local Government Employee?

J. Kent Kimes

Government organizations can be plagued with expressions of employee dissatisfaction at every attempt to implement new policy changes, improve job activities, or introduce new ideas from within the work unit. This dissatisfaction may not be a thoroughly pervasive attitude, but there is often enough negativism among employees to add a definitive character to the work unit.

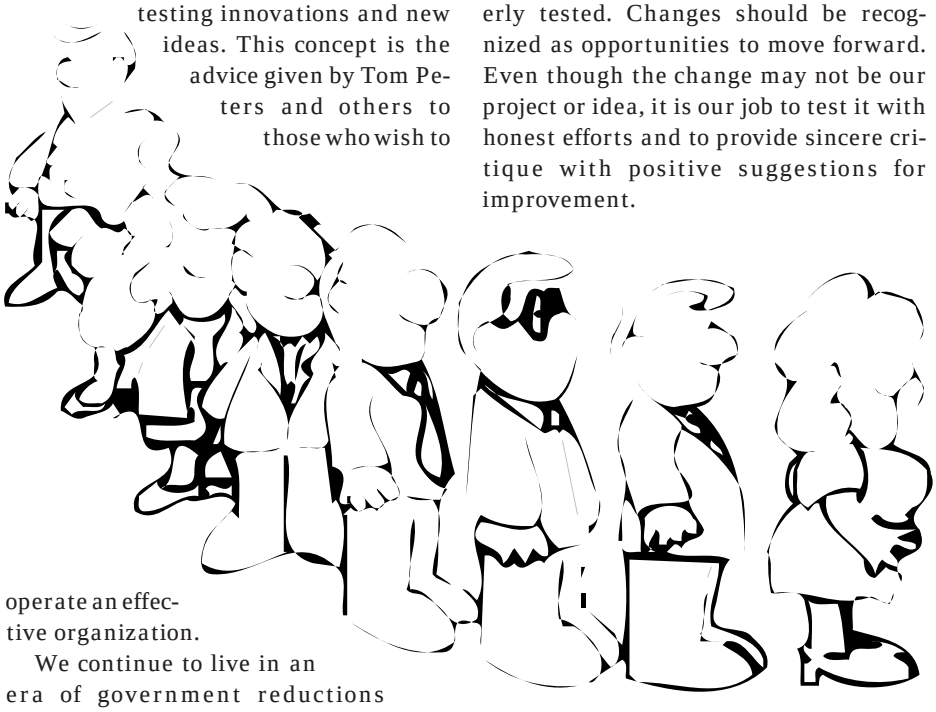
This type of attitude doesn't have to exist in the government work force. Although supervisors have the ultimate responsibility for the effectiveness of program changes, each one of us has the responsibility to adjust to changes without negative impact on those around us.

There are three positive approaches that we can take to be supportive of change. "Lead, Follow, or Get Out of the Way" is a phrase that Lee Iaccoca made famous while head of the Chrysler Corporation. He applied this positive philosophy to the development of new automobile models and the management of a huge corporate entity. The same "Lead, Follow, or Get Out of the Way" approach to change in government organizations would produce a more positive attitude in the work unit and help negate the negative reaction that appears to be dominant among some employees.

"Lead"

Taking the lead means displaying initiative or being proactive. Finding ways to make our job better or somehow improve on what we are doing may come under the name of innovation or simple change. This should be expected of all supervisors, but could certainly be an important element in the way all of us approach our job. Tom Peters and his coauthors in *Thriving on Chaos* and *In Search of Excellence* encourage the act of "failing fast," which means trying and implementing new ideas or changes quickly and testing them for failure. If something fails, then great! Believe it or not, learning what doesn't work is a step forward.

Thomas Edison achieved much of his progress by finding out what didn't work; his failures lead to eventual successes. For any organization, including city or county governments, to move forward or have effective customer service they must constantly change by implementing and testing innovations and new ideas. This concept is the advice given by Tom Peters and others to those who wish to operate an effective organization.



We continue to live in an era of government reductions caused by citizens' request for "less government" or reduced sources of revenue. Compared to the practice of bonuses or performance/production-based salaries that is common in private industry, there are virtually no substantive rewards to government employees for excellent work. Aside from the hope for the possibility of promotion to a higher position, the only reward for excellent work that government employees can count on is the personal satisfaction and fulfillment from the job accomplished. Taking the "Lead" as often as possible can provide that satisfaction and fulfillment.

Supervisors must be committed to providing a climate that encourages innovation and promotes the introduction of new ideas by employees. Supervisors must work to minimize or remove the bureaucratic road blocks to the testing and implementation of new ideas. At the same time, we must realize and accept that supervisors may not always have the authority necessary to remove all barriers to implementing ideas. That is why the administration of an organization should embrace the concept of innovation and allow failures to occur.

"Follow"

"Following" means, at a minimum, a spirit of cooperation and team work. Changes need to be supported to be properly tested. Changes should be recognized as opportunities to move forward. Even though the change may not be our project or idea, it is our job to test it with honest efforts and to provide sincere critique with positive suggestions for improvement.

If there is a change in development in which we are not presently involved but would like to be, let's speak up. Creating a team or adding perspective to a new project always provides a greater chance of success for almost any project. Supporting change and sharing in the accomplishments are nearly as fulfilling as taking the lead.

To "follow" also means accepting bureaucratic policies even when their establishment was out of our control. The goal is to not let negative feelings or expressions about the changes affect our work quality or output, impair our relationships with coworkers or supervisors, or become a definitive factor in how we feel about our job.

These types of frustrations and their detrimental effects can be seen daily. During particular times and in certain work settings, frustrations play a large role in defining the character of the work unit. We are all aware of the "morale" problems that frustrations can generate. When we feel "short changed," we may adopt the attitude to extract satisfaction from the city or county in some way. This attitude may lead to a conflict with policy,

a risk of personnel consequence, and, most important, a devalued respect for the work and the position.

"Get Out of the Way"

"Get Out of the Way" means not acting as an inhibiting force to change or to the day-to-day work. All too often the focus is on what administration can't do for the employee or what is being done to the employee. This focus may cause negative feelings that have an impact on interpersonal relationships. Even when not expressed by a majority, negative attitudes can be strong enough to drag down an entire work unit.

If we disagree with policy or administrative changes that are implemented without our input, we need to seek opportunities to influence the change or accept the change. Discussion of the issues for a short time with coworkers or using humor for "administration bashing," as seen in the popular comic strip "Dilbert," may relive some of the stress of the the change. However, when a cycle of criticism for criticism's sake develops, the trend must be broken. We need to have positive attitudes that are focused on the job at hand.

To "Get Out of the Way" may occasionally mean finding another job. If we are at the point where acceptance of the current circumstances is not an option and we cannot see a way to effect a change, then it is most likely time to move on. If we have lost all ability to reap satisfaction from our job, then it is time to pursue fulfillment elsewhere. Setting realistic career goals, even though they might involve moving on to another position, can provide motivation that reduces the stress present in the current job.

We all need to pick one path: Lead, Follow, or Get Out of the Way. We may need to pick a different path dependent on the unique situation. Sometimes we will want to lead by taking the initiative to make our job better by proposing an idea in a formal suggestion system or by taking an idea to the supervisor. Sometimes we will want to follow by testing another's idea to the best of our ability and providing appropriate feedback or simply by accepting the change. If we can't lead or follow, then we must get out of the way and let things happen, go on with life, and not be a negative influence on those around us.

J. Kent Kimes is manager of the Pollution Control Division in the Natural Resources Department of Sarasota County.

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15 square miles, including approximately 190 miles of gravity wastewater piping. Flow monitoring is being carried out at 56 locations, and manhole inspection of more than 4,000 structures is being conducted. Because limited accurate mapping is available, URS Greiner is performing aerial photogrammetry and preparing 100-scale mapping for the entire city. The mapping will be used during field inspections to accurately depict the locations of I/I sources and for the completion of rehabilitation designs.

Manhole and internal pipeline inspections will be completed using the Hansen IMS 7.0 Sewer Module database. All physical attributes will be recorded with the use of digital cameras and hand-held computers.

In addition to the I/I analysis, SSES field activities, and aerial digital mapping, URS Greiner is updating the city's water distribution and sanitary sewer utility planimetric maps and developing a utility GIS for the entire city. The original hand-drawn mylars are being duplicated using the results of GPS surveys and aerial mapping to produce 220 new Autocad maps which show the location of existing infrastructure elements. The GIS is being developed from the utility maps with inventory data and attribute fields directly accessed through the mapping platform.

The five-year contract covers annual services for sewer system rehabilitation. The first project was initiated to meet the regional wastewater treatment agency's requirements of a 30 percent reduction of flow during wet weather conditions. The project is on a fast track to complete the evaluation and begin remediation to eliminate extraneous volumes of clean water currently entering the systems.

HSW Contracted to Ocala

HSW Engineering, Inc., of Tampa has been selected to provide environmental consulting and engineering services to the city of Ocala. The initial term of the contract is for one year with a one-year renewal option. Services to be provided include water quality monitoring, water level monitoring, well maintenance and reporting, and regulatory negotiation. The monitoring will be performed in accordance with HSW's comprehensive Quality Assurance Project Plan and in compliance with federal and state rules, regulations, and policies. Future services will include assessment and site rehabilitation activities at a site impacted with chlorinated solvents and petroleum hydrocarbons.

City of Ocoee-South Water Plant

Ocoee's South Water Plant, one of three water treatment plants owned and operated by the city, utilizes two deep (approximately 1400 feet) potable water supply wells rates at 3000 and 3500 gallons per minute. Raw water is injected with fluoride and chlorine and pumped to two 0.67-MG pre-stressed concrete ground storage tanks.

Prior to pumping into the water distribution system the chlorine concentration is polished by adding more sodium hypochlorite to the treated water, if necessary. Flow is pumped from the ground storage tanks to the distribution system through five high service pumps. The city serves approximately 10,000 residential and commercial customers. The rated capacity of the plant is 5.076 MGD.

The new sodium hypochlorite solution generating system has recently been installed as part of system improvements to replace the previously existing gas chlorine system. The installation of the hypochlorite was shown to be cost effective when compared to provisions which are soon to be required for chlorine gas storage which include enclosed storage facilities and chlorine gas scrubbers. The additional reduction of safety hazards when compared to a chlorine gas system confirmed that a hypochlorite generation system was the better alternative.

Ocoee's Utilities Division is headed by James Shira, P.E. The assistant director is David Wheeler, P.E. The chief operator is David Gosnell. The design consultant team is Professional Engineering Consultants, Inc., EMI Consulting Engineers, and Malcolm Pirnie Environmental Engineers, Scientists and Planners. The construction management consultant is Professional Engineer Consultants, Inc. The contractor is Wharton-Smith, Inc., and the major subcontractors/equipment suppliers are: Carter & VerPlanck, Inc.; Sanders, Aspinwall & Associates, Inc.; Orange Electric Co.; and The Crom Corporation.

HSW Opens West Palm Beach Office

HSW Environmental Consultants, Inc., and HSW Engineering, Inc. have announced the opening of a new office in West Palm Beach. Chris Olson, staff geologist, will serve as office manager. The

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Managing Resources to Protect Marine Life

Keith Mullins

Crystal River, with a population of 5,000, is located about 60 miles north of Tampa on the west coast of Florida. It is an area of rivers, wetlands, islands, and ocean. The flat and low land is in most places just a few feet above sea level, and underground pipes and utilities are often below the water table. The waters near the city compose one of the most important remaining habitats for the endangered West Indian manatee. Protected by federal and state law from direct harm, the manatee population is nonetheless threatened by alteration and destruction of its coastal habitats.

A warm-blooded, tropical mammal, the manatee needs relatively warm conditions and cannot survive for extended periods when water temperatures fall below 68°F. With more than thirty natural springs that provide six hundred MGD of fresh water at a constant temperature of 72°F, the Crystal River area is so ideal that it provides critical habitat for approximately 20 percent of the nation's manatee population, which come into the bay and up river in the late fall and stay until early spring.

Thousands of people who come to scuba dive with the sociable manatee swell the weekend population of Crystal River to between 20,000 and 30,000 and put additional strain on the Crystal River's wastewater treatment system. At times influent levels at the plant can be as high as 3.0 MGD, and they often exceeded the plant's design capacity of 0.75 MGD.

In 1991 the city was under consent orders from EPA and DEP to expand the plant and stop discharging effluent into King's Bay. To resolve the problem once and for all, the city decided to double the size of the plant to 1.5 MGD, and design and permit a spray field of sufficient size to handle effluent. The city also decided to pursue a public-private partnership for the operation and maintenance of the new system. The private operator would also provide input during the design and construction phases of the project to ensure the system functioned smoothly thereafter.

The New System

Once a design was approved, efforts were made to end any discharge into King's Bay as quickly as possible. The city purchased 200 acres of land for the spray field, and a 4.2 mile pipeline was constructed from the plant to the field. Temporary equipment was brought in to immediately utilize the spray field for effluent discharge until the permanent system was completely installed. Throughout construction, the private firm of Professional Services Group, Inc., was involved on a daily basis, interfacing with the contractor and engineer to ensure that the city's wastewater system would meet regulatory standards and operate efficiently. From the time the private firm began operating the system there were no additional permit violations, and in a few short months all discharges to area waterways were permanently curtailed.

In the sprayfield approximately 1 MGD of treated wastewater is distributed to 20 zones through 500 spray heads with half-inch openings. The pipeline's couplings are galvanized to withstand high water pressure levels. Since going on line in April 1992, 1,250 million gallons of effluent have been sprayed on the field to help replenish Florida's aquifer; all discharges to environmentally sensitive waterways have ceased.

The treated wastewater is so rich with nutrients that the field produces about three times the amount of hay as untreated acreage and needs to be cut four or five times a year. This led to an unexpected situation during the initial phase of using the spray field: finding a farmer with enough equipment and manpower to keep up with the hay's rapid growth.

The wastewater plant also generates solid waste, including more than 50 truck loads a year of grit which are hauled to a landfill and 35 tractor-trailer loads of biosolids which are spread on local farmland as a soil amendment.

Minimizing Negative Impacts

A severe storm in March 1993 demonstrated once again the vulnerability of man-made structures to nature's forces and, in turn, the vulnerability of nature to those failures. The storm destroyed 22 lift stations and numerous other pieces of wastewater system equipment. The city took the opportunity to add 39 new lift stations to the system, which included 52 miles of collectors and interceptors. All sewer pipes were also inspected, and damaged sections were either replaced or repaired.

Protecting the Investment

The expansion of the wastewater treatment facility, establishing the spray field, and repairing the lift stations and sewer system have cost Crystal River millions of dollars. It is an investment city officials are determined to protect. To this end, the private operator has increased efficiency of the wastewater system in a number of ways. To keep the plant operating smoothly, the firm employs computerized record-keeping and analyses; standard operating procedures; and emergency response plans. The operator also performs scheduled predictive, preventive, and corrective maintenance to optimize equipment life. In 1995, for example, the contract operator issued 1,500 preventive and 1,700 corrective warranty work orders. Laboratory effluent tests are performed hourly to ensure that compliance is maintained. All of these procedures assist the staff in handling the complex tasks of operating the wastewater treatment system.

Controlling Costs

In addition to maintaining equipment to maximize its useful life, the private firm has kept yearly fees below those specified in the contract and uses plant personnel to perform work that would typically have been contracted to an outside vendor. In the early years of the contract, the private firm also contributed funds for improvements and repairs to ensure compliance with environmental standards.

Through the public-private partnership of the city and the private firm, the wastewater treatment system is operating efficiently, with no compliance problems, at costs that are under control. And, as a direct result of this, the habitat of the endangered manatee is protected. The efforts of the private firm were recently acknowledged when the Crystal River City Council voted to negotiate a contract renewal.

Keith Mullins is project manager for Professional Services Group, Inc., of Houston, Texas.

Destratification of a South Florida Surface Water Supply

Richard H. Jones, Samuel S. Stone, Jerry Tindal, and Grady Sorah

The Peace River Regional Water Supply Authority's water treatment facility in DeSoto County depends entirely on the adjacent Peace River for its water supply. The river and its level of flow are directly proportional to the rainfall in the Peace River drainage basin. Rains are typically heaviest in the summer and somewhat spotty during the rest of the year.

Because of the need to maintain minimal water flows downstream of the facility, SWFWMD regulates the amount of water the facility can take from the river. By permit, when the river flow falls below 130 cubic feet per second, the facility is not permitted to withdraw any water from the river. When the flow rises above that level, the facility is allowed to take no more than 10% of the flow.

In keeping with the regulations, there are typically between 75 and100 days per year when the facility is not permitted to pump water from the river. During these times, one of the facility's alternative supply sources is its 18-year old surface storage reservoir. The reservoir occupies about 85 surface acres and holds about 625 million gallons. Its maximal depth is approximately 31 feet. During times of high river flow, the reservoir is filled with "spare," untreated river water.

The surface storage reservoir is shaped like a flattened doughnut, with a center island and pump station spanning the outer circle. The pump station has three electric pumps, two of which are rated at 4,200 gpm and the third at 8,400 gpm. Raw water is pumped from the river to the 12-MGD facility and/or the reservoir through a 42-inch and a 30-inch pipeline or transmission main. The 30-inch portion of the pipeline is used to pump raw water from the reservoir back to the facility for treatment. It is impossible, therefore, for the reservoir to be filled at the same time that water is being removed from it.

The 30-inch pipeline is manifolded at the reservoir pump station to allow raw water to be discharged to or pumped from the reservoir. The manifold has a valved discharge to both the northern and southern ends of the reservoir pump station. Raw water is normally discharged to the reservoir from the south end of the pump station and withdrawn from the reservoir from the north end.

The facility has additional storage capacity for treated river water in its aquifer storage and recovery (ASR) system; however, the storage capacity of the ASR system is not at this time sufficient to serve the total needs of the authority's customers.

For a typical scenario of the way in which water from the river might be distributed, if the month is July and the river is running at 1,000 cfs, the facility is permitted to pull a maximum of 64 MGD from the river. The facility will, in actuality, pull no more than 22 MGD (one-third the allowed amount) and pump 12 MGD to the plant for treatment. The remaining 10 MGD will be sent to the reservoir. If at that time public demand for drinking water is only 8 MGD, 4 MGD will be stored in the ASR system. This scenario will occur throughout most summers.

Another typical scenario would occur during the dry season when river flow is below 130 cfs and the permit allows no water to be taken from the river. To meet a public demand of 10 MGD, the facility can recover 6 MGD from the ASR system and 4 MGD from the reservoir. The ASR water needs only minor retreatment, while the reservoir water requires full treatment.

The facility presently operates as a coagulation/filtration plant with alum and polymer used for removal of color and suspended solids. Powdered activated carbon is added for taste and odor control.

Problem

Serious taste and odor problems in the facility's drinking water occurred throughout the early 1980s due to algae blooms in the reservoir. In mid-July 1986, river flow dropped significantly and, for the first time in midsummer, the facility had to switch from river water to the reservoir supply. Upon switching to the reservoir, facility personnel found a problem with taste and odor in the water. Since water had not historically been drawn from the reservoir at that time of the year, it is possible that the cause of the problem had existed for many years without being noticed.

Chemical analyses of the untreated reservoir water showed that it contained hydrogen sulfide and ammonia. Although the hydrogen sulfide and ammonia were removed at the plant, a severe taste and odor problem remained, and the finished water was described by customers as "musty" and "earthy." Activated carbon dosage was increased, but the problems persisted.

It was subsequently found that the water had been drawn from a lower than usual depth because one of the lower gates into the reservoir pump station had been left open. When that gate was closed and the upper gate opened, water quality improved immediately.

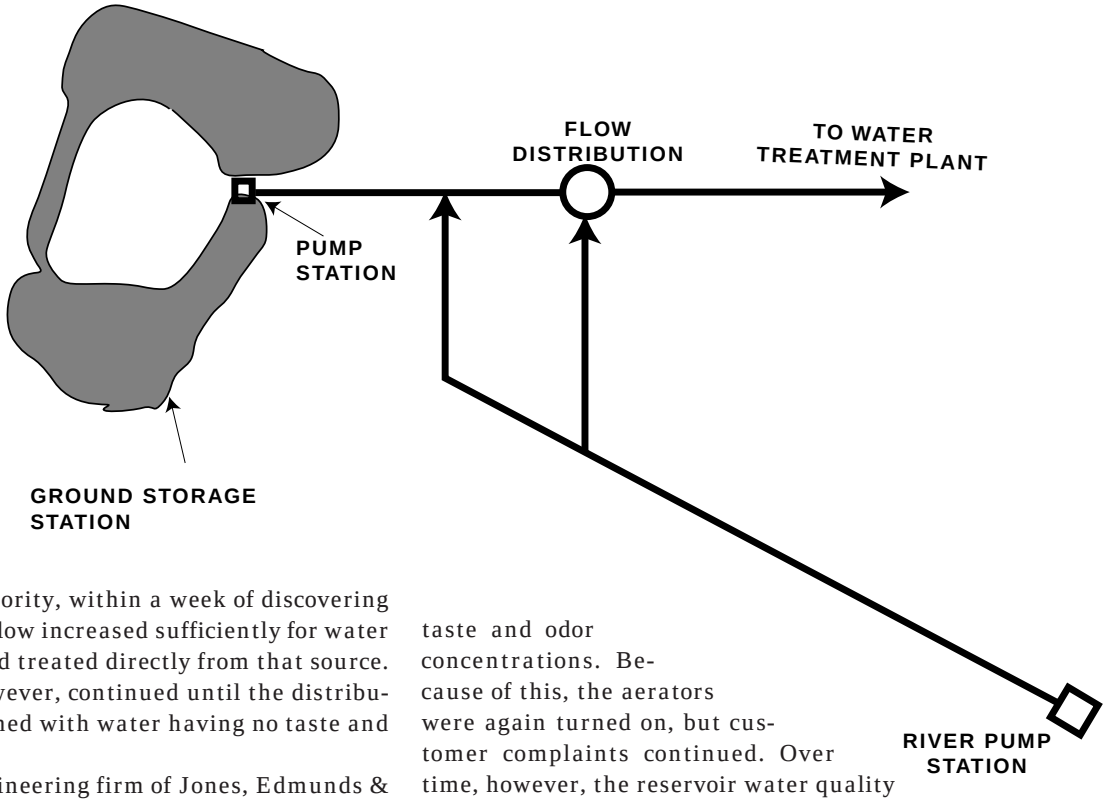
Samples taken at the lower gate revealed elevated hydrogen sulfide and ammonia concentrations, and that was confirmed by an outside laboratory. The indication was that the reservoir might be stratified and that the problem might be more than a temporary one.

The initial response of facility personnel had been to look for an algae problem. None was found. Therefore, in the hope of locating better quality water, facility personnel began pumping from different depths. They also carried out testing at a variety of areas in the water body. The tests revealed that the entire reservoir was stratified and that water at the lower levels was of significantly lower quality than water at higher levels.

Stratification

Stratification, normally associated with deeper reservoirs in colder climates, results in anaerobic zones forming near the reservoir bottom. Low oxygen conditions promote the formation of hydrogen sulfide, soluble iron and manganese, and a multitude of anaerobic degradation byproducts of algae.

Continuous reservoir destratification has long been a widespread practice to control taste and odor problems. The effectiveness of destratification on algal blooms in reservoir waters depends on the specific characteristics of each reservoir. Destratification of many northern reservoirs, however, has resulted in significant reduction of algal cell counts, which may be a result of the lowering of the lake temperature.



Fortunately for the Peace River Manasota Regional Water Supply Authority, within a week of discovering the initial problem, river flow increased sufficiently for water to once again be drawn and treated directly from that source. Customer complaints, however, continued until the distribution system was fully flushed with water having no taste and odor problem.

The environmental engineering firm of Jones, Edmunds & Associates, Inc. was called on in July 1986 to further investigate the problem and help find a longterm solution.

Solution

JEA recommended that the reservoir be artificially turned over and aerated. It was recommended that two specially-selected 50-horsepower floating aerators costing $15,000 each be installed on either side of the reservoir pumphouse as part of a pilot study. The aerators were equipped with special draft tubes and were selected for both their pumping rate as well as their oxygen transfer efficiency. It was anticipated that the authority might eventually have to install additional aerators in strategic locations around the reservoir.

In late September 1986, a shortage of rainfall once again forced the withdrawal of raw water from the reservoir. By October 1986, both aerators were installed and ready to use. At that time the water being withdrawn from the north side of the reservoir showed no evidence of taste and odor problems. Consequently, only the aerator on the south end was placed in operation. Sampling showed improved dissolved oxygen levels in the south side of the reservoir, with reduced concentrations of hydrogen sulfide and ammonia as a result of the single aerator operation.

A week later, a cold front caused the reservoir to destratify and the aerator in the north side was activated. With both aerators in operation, better-quality water was drawn from the south side through a lower gate. Taste and odor problems returned. Dissolved oxygen profiles of the reservoir showed that the water was saturated with dissolved oxygen from top to bottom. Since sufficient oxygen was present, the aerators were turned off. The taste and odor problems, however, continued.

Laboratory testing of air stripping showed that the odor-causing chemicals, which probably resulted from the anaerobic degradation of blue-green algae, were somewhat volatile, suggesting that aeration of the water should result in reduced taste and odor concentrations. Because of this, the aerators were again turned on, but customer complaints continued. Over time, however, the reservoir water quality began to improve and the complaints decreased. While this was happening, rainfall was sufficient to allow the plant to once again draw water directly from the Peace River, and the taste and odor problems were resolved for another year.

During the summer of the following year, plant personnel monitored the dissolved oxygen profile in the reservoir. When a low dissolved oxygen condition became evident in the bottom of the reservoir, the aerators were turned on and allowed to mix and re-aerate the reservoir water. In this way, odor and taste problems due to stratification/destratification of the reservoir were controlled.

The authority has continued to use the same two aerators over the past decade. They have been almost totally maintenance-free. Initially they were run no more than two or three days a week based on the continued monitoring of dissolved oxygen and temperature in the reservoir. When it appeared from this data that the reservoir was starting to stratify, the aerators would be turned on. Eventually plant personnel decided that labor costs for the monitoring procedure were high and that it was more cost-effective to leave the aerators on full-time between February and November. The additional electrical cost was offset by reduced labor costs.

The original anticipated that it would be necessary to place additional aerators in a variety of locations in the reservoir, this did not turn out to be the case. Today there are just the two original aerators, and they remain in their original locations. There has been no stratification or resulting destratification of the reservoir, and the facility has received the added benefit of having few algal bloom outbreaks in the reservoir since the aeration process was first undertaken.

Richard H. Jones, Ph.D, P.E., is president of Jones, Edmunds & Associates, Inc. Samuel S. Stone is facility coordinator, Jerry Tindall is superintendent, and Grady Sorah is chief operator with the Peace River/Manasota Regional Water Supply Authority.

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mailing address, phone number, and e-mail address for the new office are: P.O. Box 6515, West Palm Beach, Florida 33405. Phone: (561) 586-1944 E-mail: chrishsw@aol.com.

License Plate Revenues In Ground

The first stormwater treatment project made possible with revenues from the sale of Indian River Lagoon automobile license plates went into the ground this year. A 20-ton concrete stormwater treatment device was installed in a stormwater drain to prevent sediments from draining into the Indian River Lagoon. Sediments in stormwater have been responsible for smothering hundreds of acres of sea grasses in the 156-mile-long lagoon that stretches from Volusia County to Palm Beach County.

The stormwater treatment devices—known as baffle boxes—are installed in stormwater drains to remove solid materials, the accompanying nutrients and other pollutants from stormwater runoff. With the baffle box system, stormwater that normally travels through a pipe discharging directly into the lagoon is, instead, passed through the baffle box where the sediments settle out before the water reaches the lagoon. The baffle boxes also filter out floating trash and yard clippings.

Since 1991, the district, the Indian River Lagoon National Estuary Program, and Brevard County have installed 24 baffle boxes throughout Brevard County. Each year the filters stop nearly a half million pounds of sediments from draining into the lagoon.

Ocklalawaha Selects PBS&J

Post Buckley Schuh & Jernigan has been selected to perform engineering, ecological and construction services for the Ocklalawaha River Restoration project in Central Florida. The Ocklalawaha River river was part of the cross-Florida barge canal system that was halted by Executive Order of President Nixon. It will involve one of the largest restoration efforts ever undertaken in the United States. Unlike other well-publicized restoration projects now being undertaken in the state, such as the Everglades and the Kissimmee River, restoration of the OcklawahaRiver is expected to cost less than the cost of continuing to maintain the existing system of locks and appurtenances in the Rodman Reservoir. ■

Glossary of Common Terms Used in this publication

AWT, AWWT	advanced wastewater treatment
AWWA	American Water Works Association
BPR	Florida Dept. of Business & Professional Regulation
BOD	5-day biochemical oxygen demand
BOD_x	BOD test based on other than 5 days
COD	chemical oxygen demand
CWA	Clean Water Act
DEP	Florida Department of Environmental Protection
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
FAC	Florida Administrative Code
FSAWWA	Florida Section of AWWA
FWEA	Florida Water Environment Association
FWPCOA	Fla. Water & Pollution Control Operators Association
gpcd	gallons per capita per day
gpd	gallons per day
gpm	gallons per minute
hp	horsepower
MGD	million gallons per day
mg/l	milligrams per liter
NPDES	National Pollutant Discharge Elimination System
POTW	public-owned treatment works
ppm	parts per million
psi	pounds per square inch
SJRWMD	St. Johns River Water Mangement District
SFWMD	South Florida Water Management District
SRWMD	Suwannee River Water Management District
SWFWMD	Southwest Florida Water Management District
TDS	total dissolved solids
TSS	total suspended solids
USGS	United States Geological Survey
WRF	Water Reclamation Facility
WTP/WWTP	Water/Wastewater Treatment Plant