

# Wastewater Treatment Division Productivity Initiative 2008 Annual Report



King County Department of  
Natural Resources and Parks

July 2009



King County

King County Department of Natural Resources and Parks  
**Wastewater Treatment Division**

201 S. Jackson St.

KSC-NR-0501

Seattle, WA 98104-3856

206-684-1280

<http://www.kingcounty.gov/environment/wtd.aspx>

*Additional copies available from Rachael Dillman, 206-263-0471*

**Alternate Formats Available**

**206-684-1280**

**TTY Relay: 711**

*Pictured on front cover: West Point Treatment Plant*

## **Executive Summary**

### **Background**

The King County Wastewater Treatment Division's (WTD) Productivity Initiative Pilot Program is a 10-year program that was conceived as an opportunity for a traditional utility to be managed and operated like a business. It established year-by-year goals for reducing costs and annual savings targets. The commitments of the program include incentive payments to employees for meeting and exceeding the targets, as well as no involuntary layoffs during the life of the program.

Annual targets for each year in the 10-year program (2001 to 2010) were established using the 2000 wastewater operating budget as a baseline. The program also includes a mechanism for adjusting yearly targets for factors beyond the control of the division, such as inflation.

When the target is met, any additional allowable savings are shared equally (50/50) between ratepayers and employees. Half of the savings are returned to ratepayers in the form of decreased capital and operating costs, and stable sewer rates. The other half is returned to wastewater treatment program employees in the form of a financial incentive. (The Division Director and Deputy Division Director are not eligible for any financial distributions from the Productivity Incentive Fund because of their role in making the final division-level decisions on the program).

### **2008 Results**

Wastewater program employees generated positive productivity results during 2008, the eighth year of the pilot program. The results marked the sixth time in the past eight years of the 10-year pilot program that employees achieved an established productivity target for the operating program and earned a financial incentive for their work. Since 2001, division employees have saved more than \$61.9 million for ratepayers.

The unadjusted 2008 productivity target was \$75,455,485. After adjustments were applied, the adjusted target equaled \$79,047,389. The target adjustments account for changes in conditions that are largely outside the control of the program such as the cost of energy, or additional revenue. While these are not dollar-for-dollar adjustments, the 2008 target adjustments were significantly higher for septage and Industrial Waste fees. And, although the program received higher revenue, the Operations and Maintenance (O&M) teams were able to treat these additional high-strength wastes effectively and still meet all permit requirements. Actual expenditures in 2008 were \$77,498,207 leaving an under-expenditure of \$1,549,182, which means the 2008 target was not only met but exceeded.

After verifying the target was exceeded, we then determine the employee savings eligible for the Incentive Fund and review them for approval. The Incentive Fund Committee (IFC) approved \$1,360,490 in employee savings for 2008.

In 2007, the annual productivity target was not met, and adjustments to 2006 and 2007 calculations resulted in a negative \$516,299 for the year. When the target is not achieved, the over-expenditure is split equally between ratepayers and the employee Incentive Fund as specified in the pilot plan. At the end of 2007, there was a negative balance of \$194,599 in the employee Incentive Fund. Fortunately, because we have achieved over \$1,360,490 approved savings, the deficit was eliminated and the fund is now at a positive balance.

Under the pilot program provisions, the approved savings are shared equally between ratepayers and employees, each receiving \$680,245. The employee share, after eliminating

the \$194,599 Incentive Fund negative balance, is \$485,646. Consistent with the IFC recommendation, WTD will distribute the minimum cash payout (25 percent) of the approved savings of \$680,245, which translates to a cash payout of \$155.73 (after taxes) for employees earning a "full share." The remainder of the \$680,245, after subtracting the deficit of \$194,599 and the minimum cash payout of \$170,061, is \$315,585, which will be split between the "Rainy Day Fund" (\$265,585), for use during any future years in which the target is not met, and \$50,000 to the Investment Fund for employee training and recognition expenditures.

#### **Outlook for 2009 to 2010**

Some external and internal forces that are likely to impact how the division achieves its goals over the next few years include more stringent environmental regulations, economic decline, population growth, and an aging workforce. The division has developed strategic initiatives that will help us prepare for and mitigate these change dynamics for the least impact on productivity.

In 2008, WTD implemented a new organization structure and a new project management system, which have helped achieve more predictable results with our projects. Other initiatives to improve our business practices and operations now underway include: development of an energy plan to optimize power usage; development and implementation of a strategic asset management plan to better manage our assets; and continuation of the Maintenance Best Practices program.

#### **Reviewing the success of the program**

While the pilot program continues until April 2011, efforts are beginning to plan the review and evaluation of the program. Before the pilot program sunsets, WTD will need to report to the King County Executive and Council on the overall program results. WTD management will include employee input in this evaluation.

The Technical Review Committee (TRC) will also assist in this process. TRC members work with their labor representatives and fellow employees to keep them informed of the issues that arise, and to convey their sponsor's interests during the review.

The final success of the pilot program will depend, as it has in the past, on the efforts of individual wastewater program employees. With the results earned in 2008, employees have demonstrated that they are motivated to be recognized and rewarded for outstanding performance that also benefits our ratepayers and makes our entire organization function more smoothly.

I'm appreciative of the ongoing support of our elected officials, labor organizations, Department of Natural Resources and Parks (DNRP) management, King County Office of Management and Budget, and our talented and committed employees in making this program a success.

Sincerely,



Christie J. True  
Division Director

## Overview of Productivity Initiative Pilot Program

### **Program Goals**

The Productivity Initiative was developed in 2000 and approved by the King County Executive and Council as a pilot program for the operating program in 2001. The pilot program was conceived as an opportunity for a traditional utility to be managed and operated more like a business. For wastewater treatment employees, this means providing the same high-quality services to the public that King County has always provided, and doing it with the best and most appropriate technology, human resources, and fiscal planning found in the business world today. To the public, this means WTD is committed to being more efficient, reducing costs, and meeting the county's obligation to protect public health and the environment.

The pilot program identifies specific levels of service, cost reductions, and efficiencies over the period 2001 to 2010 that will result in an estimated \$75.9 million savings for ratepayers, while maintaining levels of service to these same customers. Savings are achieved by undertaking an intensive review of current business practices, identifying and implementing cost saving practices, working to increase employee involvement in business decisions, and ensuring that the wastewater program receives the best possible services from its partner agencies within and outside the county.

The Productivity Initiative links management decisions about employees with labor, and it requires that management and labor cooperate to identify new ways of getting business done, meet the bottom line, protect public health and safety, and allow employees to share in the financial rewards and risks of operating the program more like a business.

### **Components of Pilot Program**

The pilot program began with the operations program. Since the program was launched, it has expanded to include three pilot programs within the capital program: Major Capital Projects Pilot, Small In-House Capital Construction Projects Pilot, and Asset Management Pilot.

#### ***Operating Program Pilot (active since 2000)***

Annual productivity targets are developed with incorporated planned savings. These planned savings must be met to achieve the target. Employees generate documented savings which reduce annual operating expenditures. If operating expenditures are below the target, ratepayers share in 50 percent of the savings, while the other 50 percent goes to the Incentive Fund, which captures a portion of the savings that employees have generated by meeting or exceeding targets.

#### ***Major Capital Projects Pilot (active since 2005)***

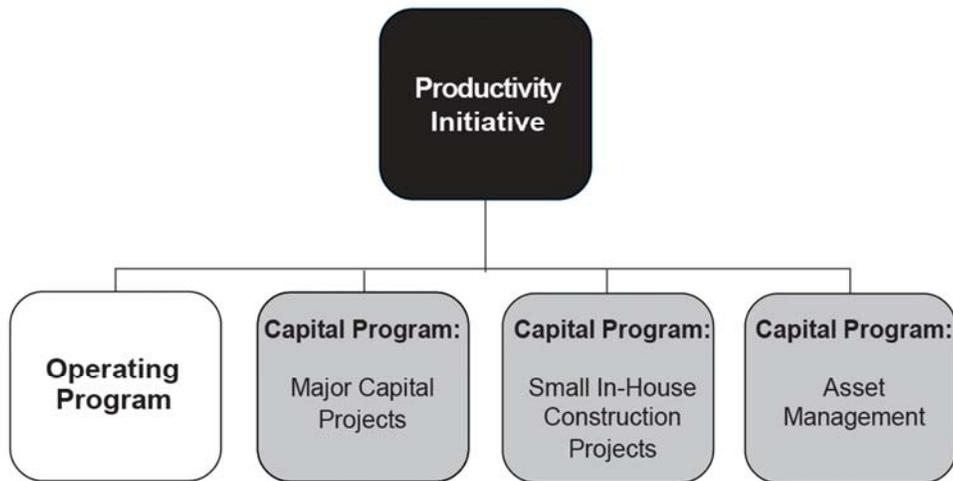
All capital projects over \$1 million are eligible to participate. Participation is decided on a case-by-case basis. A target budget (cost at completion) is set by an external, independent, third-party for each eligible capital project. Staff is challenged to deliver the capital project at a lower cost than the target.

**Small In-House Capital Construction Projects Pilot (active since 2005)**

Under certain conditions, savings created by doing work in-house rather than by outside contractors, can be documented and applied to the Incentive Fund. An independent estimate is required as part of any proposal by in-house staff to do the work at a lower cost than using an outside contractor.

**Asset Management Pilot (active since 2006)**

Using a suite of 153 assets at WTD's South Treatment Plant, maintenance, refurbishment, and replacement decisions are based on reducing overall costs by balancing maintenance and repair, replacement, and refurbishing costs to extend the useful life of an asset. Savings in this pilot can occur only when staff successfully extends the useful life of equipment beyond the anticipated replacement date.



**For more information**

Details regarding the pilot program, including directive ordinances, all annual reports, program components, committees, forms, and policies, please visit the King County intranet at: <http://wtdweb/www/wtd/pi/productivity/index.htm>.

## 2008 Financial Results: Operating Program

### Background on Annual Targets

The annual operating targets for the pilot program were established by HDR, Inc., the consultant that worked with the wastewater program to develop the pilot program in the late 1990s. The baseline was established using WTD's 2000 Operating Program Budget.

HDR recommended that the wastewater program reduce its baseline budget incrementally over five years (2000 to 2005) to achieve a 15 percent reduction. The level of savings achieved by implementing planned savings actions would then be sustained during the remaining years of the pilot program (2006-2010). These reductions on the baseline budget became the target to be used during the pilot program. In their view, this would position King County's wastewater program to compare favorably with what a private contractor would charge to run the county's wastewater operations.

### Adjustment Process

Both an unadjusted target and an adjusted target are reported annually. The unadjusted targets for the 10 years of the pilot program were established when the program was developed, as described above. The unadjusted target is subject to an annual adjustment process, detailed in Appendix C-7 to the Pilot Plan approved by council.

The target adjustments account for changes in conditions that are outside the program's control, such as county-wide cost-of-living increases, increased loading at the treatment plants, and changes in commodity and energy prices.

### Accounting for New Work

In 2008, the wastewater program continued to use an identification and review process developed in 2005 to identify and account for new work. "New work" is defined as work that is beyond the scope of services that was committed to in the pilot plan and is either:

- Required by changes in fiscal policy
- Required by changes in county policy or procedure
- Required because of a change in law or new permit requirements
- Directed from outside WTD or the Environmental Lab

In addition, new work must be work not taken on solely at the discretion of WTD or the Environmental Lab. New work that is documented and implemented without adding new resources (i.e., done by existing staff), can be counted towards savings achieved by the Productivity Initiative. In addition to the target adjustments, the pilot program allows the annual targets to be adjusted for any new work not captured in the initial development of the pilot program, such as new facilities, as well as work imposed on the program by directives originating from outside the program.

After being identified as new work by section managers, a project is approved as new work under the above definition by WTD management, WTD Finance, and DNRP Finance. (Please see: <http://wtdweb/www/wtd/pi/productivity/pdfs/DeterminingNewWork.pdf>). Section analysts establish new time codes, and employees begin tracking time and expenditures related to the new work. WTD and the TRC conduct an annual review of what and when new work should be added to the "base work."

**Target and Adjustments - 2008 Results**

Unadjusted target	\$75,455,485
Adjusted target	\$79,047,389
Actual expenditures	\$77,498,207
Under-expenditure	\$1,549,182
Eligible savings for Incentive Fund	\$1,485,970
Capital program savings	\$83,826
Penalty deduction – NPDES* 1/12	(130,816)**
Penalty deduction - Safety 5%	(78,490)***
Approved savings for Incentive Fund	\$1,360,490
Employee share (50%)	\$680,245
Ratepayer share (50%)	\$680,245

\*National Pollution Discharge Elimination System (NPDES) Permits are issued by the Washington State Department of Ecology for any discharges of wastewater or stormwater to state water bodies such as rivers, lakes and the Puget Sound. NPDES permits stipulate specific limits and conditions of allowable discharge.

\*\* Incentive Fund eligibility guidelines require that any contributions should be reduced by one-twelfth for each month in any given year in which an NPDES permit violation occurs as evidenced by issuance of a Notice of Penalty or Administrative Order by the Washington State Department of Ecology (DOE). DOE issued a Notice of Penalty after a sewage spill was detected in Ravenna Creek in May 2008, due to a crew inadvertently connecting a sewer line into a stormwater-runoff pipe, thinking that it was a sewage pipeline.

\*\*\* Incentive Fund eligibility guidelines require that the wastewater program not exceed an average of 22 time-loss accidents per rolling three-year period. Actual experience for 2006-2008 was 23.33 resulting in a penalty of 5 percent.

**Program Savings**

Over the last eight years, the pilot program has implemented plans and programs to generate savings in order to meet annual targets. When the target is not just met but exceeded, WTD must demonstrate that specific employee-generated-savings activities have occurred in order for the savings to go towards employee incentives or payout. In other words, when the savings surpass the target, WTD must demonstrate how the target was exceeded by employee-driven actions. The following sections document examples of specific employee-driven activities that occurred in 2008.

**2008 Short-Term Salary Savings**

Section	Savings
Environmental Lab	\$169,586
Director's Office – Human Resources	100,873
Environmental & Community Services	135,726
East	395,623
West	222,132
	\$1,023,940

**Short-Term Savings**

Salary savings result from temporary staffing vacancies. If a work group is able to accomplish the scheduled work of the vacant position, they may document how they accomplished the work, deducting any costs such as back-fill upgrades or the cost of

temporary resources. The savings from each vacant position during the year is discussed at the IFC before being approved for inclusion in the savings calculations. WTD staff saved the ratepayers over \$1 million in 2008 by their flexibility and creativity in covering extra workloads.

### Savings from Employee Actions

Section	Expense*	Labor **	Total Savings
Environmental Lab	\$11,917	\$3,780	\$15,697
Asset Management	\$23,320	--	\$23,320
East	\$318,976	\$207,718	\$526,694
West	\$107,818	\$64,249	\$172,067
	\$462,030	\$275,747	\$737,778

\* Expense savings = materials, supplies, energy, chemicals, contracts, etc.

\*\* Labor savings = value of the time made available through efficient practices and use for additional work, but does not directly contribute to the Incentive Fund.

### Employee Generated Savings

These are actions that employees undertook to save operating expenses. While many of these savings are generated each year, there are a few items that continue to provide savings over several years. Savings resulting from employee actions totaled \$737,778.

Examples of cost saving items that have continued from prior years include, but are not limited to:

- CoGeneration (CoGen) operation: South Plant operations used the gas turbine CoGen facility to reduce electrical demand charges. 2008 savings = \$157,968.
- Dissolved Air Flotation Thickeners (DAFT) polymer dosage: Converted the polymer dosing strategy for the DAFT operations at South Plant to a “feed-forward” control strategy, resulting in savings of polymer, electricity, and gas. 2008 savings = \$45,505.
- Hazardous Materials Program: Facilities Inspection staff earned certification to perform sampling and project management at a lower cost than previously performed by consultants. 2008 savings = \$23,320.
- Hypochlorite use reduction: Reduced hypochlorite use was achieved in South Plant’s disinfection process by installing a mixer, reconfiguring the contact channel, and optimizing chlorine residual analyzer locations. The average hypochlorite dose was reduced as well as the variability in doses, allowing for further lowering of hypochlorite doses. 2008 savings = \$72,401.
- Lighting controls: Installed various types of lighting controls to automatically shut off lighting after a predetermined time at West Point. 2008 savings = \$23,303.
- Mixed liquor blower energy use: The aeration of the secondary mixed liquor channel at West Point previously utilized three blowers operating at reduced load. Running two blowers at a higher loading rate, rather than three at a reduced rate, lowered the overall energy costs for channel aeration. 2008 savings = \$65,925.

Examples of cost saving items that are new in 2008 include:

- Removal of water heaters: As the result of an energy survey, it was discovered that four water heaters in the locker room at West Point were operating 25 percent of the time. Actual usage was tested, and one water heater was deemed sufficient for the facility. 2008 savings = \$2,138.
- Reduction of service vehicles: An audit of vehicle usage at South Plant resulted in a reduction of six vehicles and their return to the county Fleet Division. Efficiencies were gained by more careful planning of necessary trips through carpooling to outlying areas, transfer of vehicles between workgroups, etc. 2008 savings = \$7,560.
- Testing of ultraviolet (UV) light bulbs: The Cove system of UV bulbs was signaling that some bulbs were due for replacement. Rather than automatically replacing them, an employee purchased an inexpensive bulb tester and found that the bulbs were still serviceable and will be placed back in service. 2008 savings = \$5,010.

## **2008 Financial Results: Capital Program**

### **Major Capital Projects Pilot**

All wastewater capital projects with budgets of more than \$1 million are eligible to participate in the Major Capital Pilot Program.

### ***Methodology***

A project target budget (i.e., cost at completion) is set by an external independent third party for each participating capital project. If the wastewater treatment program completes the project for less than the target budget, a portion of the savings is eligible for the Incentive Fund. There is no financial penalty if the program does not meet the target budget under the terms of the capital pilot program plan.

WTD originally contracted for target-setting services with two outside consultants. These consultants are not eligible to provide any other consulting services on assigned projects. Targets are set following completion of a project's predesign report, between the 30 percent and 60 percent design completion milestones. All project data is given to the consultant, who then independently determines what it would cost for a "well run" agency to complete the same project. This cost becomes known as the target budget. No adjustments can be made to the target budget throughout the life of a project except for inflation. At the end of each fiscal year, the Engineering News Record's Construction Cost Index is utilized to determine the amount of annual project spending attributable to inflation. After subtracting such spending from a project's final cost, the revised figure will be measured against the target budget to see if savings were realized.

Project management staff gained flexibility in managing and controlling projects by the use of consultant/contractor incentives and alternative delivery methods. The concept is to link project performance to consultant and contractor performance by using creative incentives. Examples include completing work within contract budget, sharing unused contract contingency, achieving early project completion, using report cards, etc.

Savings (if realized) are calculated by subtracting the final project cost from the target budget. Any resulting savings are split between ratepayers (83 percent) and pilot program

participants (17 percent). The split was developed on the basis of a 50/50 split between ratepayers and people responsible for achieving savings: employees, consultants, and contractors. Employees (the only group eligible for a share of the savings) would receive one third of the 50 percent share, or approximately 17 percent of the total savings.

Determining savings can only occur once the project has been closed out. There are no provisions for intermediate measures or payouts. There is no penalty to the pilot program participants for not meeting or for exceeding a target budget.

### **Results**

There was no activity in the Major Capital Projects Pilot in 2008.

In 2005, three major capital projects were selected to participate in the program: Brightwater Treatment Plant and Conveyance System, Carnation Treatment Plant, and Bellevue Pump Station. In 2005, the wastewater program contracted with two consultants to establish savings targets for each project. These contracts expired at the end of 2008. On-call, independent, estimated services are in place to establish savings targets for future projects.

- The success of generating productivity savings for construction of the Brightwater Treatment Plant and Conveyance System, by completing the entire project for less than the productivity financial target, will not be known until the project is closed out, somewhere around 2011. Current projections indicate that Brightwater's target cost is being exceeded, and thus savings would not be achieved. However, with only 55.6 percent of project funds spent through 2008, and with numerous variables and opportunities remaining, it is far too early to accurately predict whether or not savings will be realized.
- A major change in the project scope of the Carnation Treatment Facility, made after the original target was established, eliminated the possibility of coming in under the productivity target and creating productivity savings. The program does not allow the target cost to be revisited or altered due to material changes. This project was completed in 2008 and the facility is now part of operations.
- Costs for completing the Bellevue Force Main project continue to run higher than estimated. The high bid for constructing the force main eliminates the possibility of the project coming in under the productivity target and creating productivity savings. The current Bellevue Force Main forecast is 69 percent above its target estimate.

As the wastewater program undertakes additional capital projects of \$1 million and more in the remaining years of the Productivity Initiative, those projects will be reviewed for their potential to participate in the Major Capital Pilot Program. During 2009, it is expected that the Inflow & Infiltration, Kirkland Pump Station modification, and South Plant Flares projects will undergo target setting.

## Small In-House Capital Construction Projects Pilot

### **Methodology**

Small in-house capital construction projects are eligible to participate in the pilot project if they meet the following specific criteria:

- The total cost of labor, equipment, and supplies is less than \$25,000 for a single trade or craft, or \$70,000 for two or more trades or crafts.
- Wastewater program employees must submit a bid that is more competitive than an independent estimate to perform the same work.
- If the in-house bid is more competitive, then the difference may be eligible for the Incentive Fund. If the *actual costs* of the project after the project is completed are greater than the independent estimate, then the difference between the estimate and the actual cost borne by WTD must be paid to the wastewater operating budget from the Incentive Fund.

Any resulting savings from performing an eligible small capital construction project in-house would be eligible for the Incentive Fund.

### **Results**

There was no activity in the Small In-House Capital Construction Projects Pilot in 2008. No projects were identified that were more cost-efficient to do in-house, as opposed to being performed by contractors, after the cost of obtaining an independent construction estimate was factored into the employee bid.

## Asset Management Pilot

### Objectives

- Reduce overall cost of doing business by making sound 'repair versus replacement' decisions.
- Maintain level of service and reliability of the system to meet or exceed permit requirements and industry standards for a 'well-run' similar wastewater utility.

### Methodology

The Asset Management Pilot was first applied to 153 selected assets at South Plant. Staff identified each asset's condition, age, and service level. In addition, rebuild and replacement intervals and costs were calculated. Once this interval was reached, the asset was evaluated to determine if the scheduled rebuild or replacement could be deferred. The assessment results were used to determine whether rebuilding or replacing an asset would be the most cost-effective without undue risk or a reduction in service levels.

Guidelines, based on lowest lifecycle costs, were developed to determine when actions deliberately taken and documented by staff resulted in costs lower than the target repair or rebuild cost. These guidelines are intended to clarify the decision-making process for participants and external stakeholders that review the program.

In addition, the lowest life cycles cost analysis ensures that efforts to extend asset life do not unduly increase Operations and Maintenance (O&M) costs. This analysis is an essential part of a feedback loop that balances O&M and capital costs, and provides transparency between the operations and capital portions of the pilot program.

### Determining Savings

Planned annual costs are calculated and documented based on the established rebuild and replacement intervals. The planned costs are compared against actual rebuild and replacement costs. The difference between the planned and actual costs establishes the amount of money deferred from a single year.

These deferred costs reduce the total amount of money borrowed in a given year. The actual savings applied to the pilot program is determined by calculating the reduction in interest associated with the deferred expenditures.

### Next Steps

The wastewater program plans to expand the Asset Management Pilot to include all raw sewage pumps, typically the most expensive assets to repair or replace. WTD has captured baseline rebuild/replacement cost data, and established rebuild/replacement schedules for the 180 raw sewage pumps in preparation for including these pumps in the pilot program in 2009.

The following table shows the Asset Management Pilot results.

### Asset Management Pilot Annual Productivity Summary

Year	Planned Repair / Replace		Actual Repair / Replace		Difference Repair / Replace		Total Savings	Int. Rate	Total Productivity savings	50% payout
2006	\$425,487	\$377,499	\$86,175	\$0*	\$339,312	\$377,499	\$716,800	5.25%	<b>\$37,600</b>	<b>\$18,800</b>
2007	\$290,700	\$1,397,672	\$328,297	\$0*	-\$37,597	\$1,397,672	\$1,360,075	4.85%	<b>\$65,964</b>	<b>\$32,982</b>
2008	\$562,149	\$1,625,615	\$612,086	\$0*	-\$49,937	\$1,625,615	\$1,575,678	5.32%	<b>\$83,826</b>	<b>\$41,913</b>

*\*No equipment replacements conducted this year.*

## Incentive Fund

### **Incentive Fund Activity**

The Incentive Fund, which captures a portion of the savings that employees have generated by meeting and exceeding target budgets, addresses two primary objectives.

The first objective is to create a pool of money that can be drawn upon to fund over-target costs that are the responsibility of the wastewater program. If the wastewater program does not meet its annual adjusted budget target, the difference must be made up from funds taken out of the Incentive Fund.

The second objective is to create an incentive for wastewater program employees to reduce costs below the annual budget target costs. In addition to the minimum annual payouts to employees of 25 percent of the funds assigned, distribution of the funds may include:

- Investment in employees through training and other employee development programs
- Awards and recognition
- A reserve fund, functions as a “Rainy Day Fund” to address possible shortfalls in meeting budget targets
- Other activities consistent with achieving the goals of the pilot program

The following table shows the Incentive Fund activity and results from 2001 to 2008.

## 2001 to 2008 Comparison of Productivity Initiative Results

	2001	2002	2003	2004	2005	2006	2007	2008	Ratepayer Savings
*Operating expenditures without productivity	\$80,590,030	\$70,425,072	\$67,891,407	\$72,763,115	\$76,779,813	\$82,131,582	\$84,292,176	\$88,811,364	
Less: operating business plan savings	\$2,560,030	\$4,639,072	\$6,263,407	\$7,659,049	\$8,797,620	\$8,983,589	\$9,207,761	\$9,523,695	<b>\$57,634,222</b>
Productivity operating expenditure target	\$78,030,000	\$65,786,000	\$61,628,000	\$65,104,066	\$67,982,193	\$73,147,993	\$75,084,414	\$79,047,389	
Less: actual operating expenditures	\$68,898,000	\$60,431,000	\$60,687,000	\$65,697,769	\$65,233,984	\$71,449,761	\$75,666,677	77,498,207	
Under (over) expenditure target	\$9,132,000	\$5,355,000	\$941,889	(\$593,704)	\$2,748,209	\$1,698,232	(\$582,263)	\$1,549,182	
Documented operating savings	\$2,762,000	\$1,670,956	\$941,889	\$0	\$1,445,306	\$1,644,352	\$0	\$1,485,970	
Minus: Penalties	\$0	\$0	\$0	\$0		\$137,029	N/A	\$209,306	
Plus: capital savings	\$0	\$0	\$0	\$0	\$0	\$37,600	\$65,964	\$83,826	
Ratepayer share (50%)	\$1,381,000	\$835,478	\$470,944	(\$296,852)	\$722,653	\$772,461	(\$258,150)	\$680,245	<b>\$4,307,779</b>
<b>Employee Share Breakdown</b>									
Payment to employees	\$750,685	\$766,884	\$432,178	\$0	\$617,283	\$689,692	\$0	\$142,919	
Administrative costs	\$67,336	\$68,594	\$38,765	\$0	\$55,370	\$82,769	\$0	\$27,142	
Contribution to Rainy Day Fund	\$400,000	\$0	\$0	(\$296,852)	\$100,000	\$0	\$0	\$265,585	
Contribution to Investment Fund	\$162,979	\$0*	\$0*	\$0*	(\$50,000)	\$0	\$0	\$244,599***	
Employee share (50%)	\$1,381,000	\$835,478	\$470,944	(\$296,852)	\$722,653	\$772,461	(\$258,150)	\$680,245	
<b>Incentive Fund Year-End Balances</b>									
Incentive Fund year-end balance	\$562,979	\$587,048	\$603,839	\$319,749	\$369,104	\$356,404	(\$194,599)	\$315,585	

\*Operating expenditures without productivity is the amount that was estimated to be the actual expenditures of the Wastewater Treatment Division if the division had not implemented the Productivity Initiative. From this amount, reduced expenditures based on operating business plan savings were estimated to establish the productivity operating expenditure target.

\*\*Note: This table includes previously-reported amounts for the years of 2005 and 2006. It does not include corrected amounts for the years of 2005 and 2006 based on audit findings and corrections detailed in the 2007 annual report.

\*\*\*The contribution was \$244,599, but when the negative balance from 2008 is eliminated (\$194,599) the balance in the Investment Fund is \$50,000.

## **2008 Balanced Scorecard Results**

### **Overview**

WTD uses a Balanced Scorecard, a performance measurement tool often used in private business, to measure its overall performance. Balanced scorecards were developed in the 1990s as tools for businesses and organizations to evaluate performance, beyond just financial measurements, by providing performance feedback from multiple perspectives. WTD uses the scorecard as a management tool – to monitor how well the programs and strategies developed as part of the Productivity Initiative are working. The scorecard ensures that pilot program decisions take into account different perspectives, including financial performance, business practices, customer focus, and employee management. These four areas of performance are measured by four corresponding quadrants of the scorecard.

In 2001, WTD management identified performance indicators in each of the four quadrants and began collecting data so that year-to-year comparisons could be made during the 10 years of the pilot program. The targets are set to be very aggressive and comparable to results reflecting the performance of the best wastewater programs in the nation.

A performance measurement system such as this allows a public utility to align its service levels with operational and financial performance. With it, a utility can get feedback needed to guide planning efforts. The four quadrants and their key measures are shown and described on the following pages.

### **2008 measures**

In early 2008, the WTD Management Team updated performance measures to refine or modify the scorecard measures and increase employee accountability and involvement. While the division has operated with performance measures for several years, the new vision, mission, and goals (developed in 2006), and the full implementation of KingStat, created an opportunity to refine the measures to accurately provide data that is aligned with the department's goals, and provide guidance on how to refine priorities. Section managers also updated their section performance measures in 2008. This effort will help us align WTD's business plan with individual employee performance in 2009 and 2010.



## **How Ratings are Applied to Measurements**

Beginning in 2006, the methodology of color ratings was standardized so that a green rating is achieved when the performance-to-target ratio is equal to or greater than 100 percent; a measure is rated yellow when the performance-to-target ratio is 90-99 percent; and a measure receives a color rating of red when its performance-to-target ratio is less than 90 percent. However, any performance for environmentally critical measures or permit compliance that falls below 100 percent of target will receive a color rating of red.

- '**Green**' indicates that the target was satisfactorily met. A green rating is only achieved when performance is at 100 percent of the target.
- '**Yellow**' indicates performance was within 90-99 percent of established target. For environmentally-critical measures, such as NPDES compliance, there is no yellow rating. For those measures, a rating of red is given for any performance falling below target.
- '**Red**' means performance has fallen below 90 percent of established target. For critical measures in which performance must be maintained at or above 100 percent, red indicates failing to meet 100 percent of target.

## **2008 Summary of Overall Results**

In 2008, all four quadrants of the Balanced Scorecard were rated **yellow**. While several individual measures improved performance ratings, the overall color ratings for the four quadrants remained the same as they were in 2007. Summaries of performance results in each quadrant are provided on the following pages.

### ***Financial Performance Results***

The Financial Performance quadrant of the Balanced Scorecard includes measures that indicate the overall financial health of WTD and the efficiency with which the division provides services to its customers and stakeholders.

The Financial Performance quadrant was rated **yellow** overall. In 2008, the wastewater program met its targets for most financial measures, including the annual productivity operating expenditures, debt service coverage ratio, sewer rate comparisons to other agencies and to inflation, and the annual accomplishment rate for capital expenditures. The division did not meet its inflation based target for its efficiency measure, which is the cost per pound of pollutants removed in the wastewater treatment process.

### ***Business Practices Results***

The Business Practices quadrant of the scorecard includes four categories of measures that are key to WTD's business practices: permit compliance, operational performance, resource recovery, and effluent non-degradation. Included in these categories are measures of WTD's compliance with its NPDES and other permits, its stewardship of public health and water quality (in terms of keeping down sewer overflows and conducting sediment cleanups), resource reclamation efforts, and maintaining high standards for the quality of treated wastewater effluent.

The Business Practices quadrant was rated **yellow** overall. In 2008, WTD achieved 100 percent compliance with its NPDES permits for effluent quality, and had no violations of its NPDES stormwater construction permits. However, the division had one notice of violation for a spill in its conveyance system, and fell slightly below 100 percent compliance on its air quality and reclaimed water permits. WTD met or exceeded targets for measures related to sewer overflows, environmental cleanup, and environmental quality of treated wastewater

effluent. The division also met or exceeded targets for two of its resource recovery measures; biosolids recycling and reclaimed water volumes. The measure for recovery and reuse of biogas did not meet target and was rated red. This measure is red due to aging cogeneration equipment that is currently offline at one of the treatment plants. A program is underway to replace the equipment by 2012, which will bring biogas utilization rates back up to target.

### ***Customer Focus Results***

The Customer Focus quadrant of the scorecard includes measures that look at how component agencies view the quality and value of their contract services with WTD. This quadrant also looks at how neighbors to WTD facilities, both residential and business, view WTD as a neighbor. A contract customer survey is sent out annually to customers and a Near Neighbor Survey is administered every other year. Questions in the contract customer surveys are rated on a scale of 1-5, with 1 being poor and 5 being excellent. The target established for these measures is 4, a rating of very good. The results of the Near Neighbor Survey are calculated as a percentage of neighbors and businesses who view the West Point and South Treatment Plants as good neighbors. The target established for this measure is 75 percent.

The Customer Focus quadrant was rated **yellow** overall. Improved local agency satisfaction with the Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC) process changed that measure's ratings from red to yellow in 2008. The customer satisfaction rating remained consistent from 2007 to 2008, however the quality of contract services rating declined from yellow to red in 2008. The overall response rate to the annual customer feedback survey increased significantly in 2008 from 38 percent to 62 percent, changing that measure's rating from red to green. The Near Neighbor Survey was not administered in 2008; therefore there is no new data to report. In 2007, that measure was rated yellow.

### ***Employee Management Results***

The Employee Management quadrant of the scorecard includes measures tied to results from an annual employee survey, such as overall satisfaction with jobs and employee ratings of respectfulness in the workplace. There are also measures for the employee retention rate, percentage of employees with professional certifications or licenses, and a safety measure that looks at the percentage of employees with time loss injuries that are able to return to transitional duty or regular duty within three days of medical release.

The Employee Management quadrant was rated **yellow**. Measures related to employee retention, percentage of employees with professional licenses and certifications, and rate of transfer of employees with time-loss injuries to transitional duty assignments were all rated green in 2008. Employee satisfaction with workplace safety and the rating of respectfulness in the workplace were both rated yellow. Overall employee satisfaction with jobs fell from yellow to red in 2008. This decline may be attributable to declining economic conditions and the implementation of furloughs.

## Balanced Scorecard

DNRP GOAL	WTD 2008 BALANCED SCORECARD REPORT	2008 Target	2008 Data	2007 Data
Fiscal and Economic Goal	<b>FINANCIAL PERFORMANCE QUADRANT</b>			
	Operating cost per lb. of pollutants removed NTET* (BOD = biochemical oxygen demand & TSS=total suspended solids)	<\$0.3365	\$0.3537	\$0.3229
	Productivity Operating Budget NTET*	\$79,287,669	\$77,498,207	\$75,666,677
	Total debt service coverage ratio	≥1.15	1.23	1.19
	Sewer rate compared with other agencies NTET*	<75% of highest comparable rate	40% of highest comparable rate	Not tracked for 2007
	Annual rate increase compared with inflation NTET*	< inflation rate	\$27.95	\$27.95
	Accomplishment rate on capital expenditures PPD & BW	≥90% average	95.00%	new measure
Environment Goal	<b>BUSINESS PRACTICES QUADRANT</b>			
	<b>Permit Compliance Measures</b>			
	% compliance with NPDES permit effluent limits	100%	100.00%	100%
	# of NPDES Permit Enforcement Actions - Treatment and Conveyance NTET*	0	1	new measure
	# of NPDES Construction Stormwater Permit Notices of Violation NTET*	0	0	new measure
	% compliance with air quality permit	100%	97.50%	98.13%
	% compliance with reclaimed water permits	100%	99.82%	new measure
	<b>Operational Measures</b>			
	# acres of sediments cleaned up	14.3 acres	14.3 acres	new measure
	# of avoidable sanitary sewer overflows NTET*	≤7	6	20
	% of CSOs to total flow NTET*	<3.00%	1.30%	1.70%
	<b>Resource Recovery Measures</b>			
	Achieve 2% energy conservation (normalized) per year	≥2%	**	new measure
	% digester gas recovered for reuse	≥75%	65.72%	68.50%
	% biosolids recycled	100%	100%	100%
	Reclaimed water (million gallons)	>260.00	274.2	292
	<b>Effluent Non-Degradation Measures</b>			
	% of BOD/COD NPDES limit NTET* (COD = chemical oxygen demand)	≤80.00%	43%	43.50%
	Fecal Coliform annual geometric mean (Coliform forming units) NTET*	≤175	13	15
	Total suspended solids mg/L NTET*	≤24 mg/L	13 mg/L	14 mg/L
People and Communities Goal	<b>CUSTOMER FOCUS QUADRANT</b>			
	Component agency response to customer survey	≥50%	62%	38%
	Quality of contract services rated by local sewer agencies (1-5)	≥4	3.31	3.62
	Customer service satisfaction by local sewer agencies (1-5)	≥4	3.92	3.92
	Component Agency satisfaction with MWPAAC process (1-5)	>4	3.67	new measure 3.44
	Near Neighbor Survey (residents and businesses who view WTD as a good neighbor)	≥75%	no new data for 2008***	70.50%
	<b>EMPLOYEE MANAGEMENT QUADRANT</b>			
	% employees retained	≥91%	93%	93%
	% of employees with certifications/licenses	≥33%	34.07%	new measure
	Safety- % of time loss claims transferred to transitional duty assignments within 3 working days of medical release	≥80%	100%	new measure
	Safety-employee satisfaction with workplace safety (1-5)	≥4	3.94	3.85
	Overall satisfaction with job (1-5)	≥4	3.44	3.84
	Employee rating of respectful workplace (1-5)	≥4	3.85	new measure 3.99

### LEGEND

Met target (100% performance to target ratio)	
Near target (90-99% performance to target ratio)	
Needs attention (below 90% performance to target ratio)	

NOTES: \*NTET=Not to Exceed Target \*\*Baseline data under development, measure will be reported for 2009 during the first quarter of 2010. \*\*\*The Near Neighbor Survey is conducted every other year.

## Report from Executive Audit Services

*In its report dated May 26, 2009, Executive Audit Services' findings and conclusion is summarized below, along with WTD's response.*

### **Purpose**

At the request of the Finance Manager of the Wastewater Treatment Division of the Department of Natural Resources and Parks, the King County Office of Management and Budget Executive Audit Services has reviewed WTD's Productivity Initiative Pilot Program results for the year 2008. The purpose of the examination was to:

- evaluate whether or not adjustments to the budget forecast were consistent with the design and intent of the pilot program
- evaluate the overall reasonableness of the target and actual expenditure totals as compared to prior years
- ensure that the Incentive Fund had returned to a positive balance after a prior year deficit.

### **Scope**

Executive Audit Services discussed 2008 Productivity Initiative results with the WTD Finance Manager and staff responsible for preparing the analysis. Executive Audit Services examined documents reporting claimed savings for reasonableness, compared current and prior year target adjustments for consistency of method and application, and compared actual performance to prior years.

The scope of the examination was limited to an assessment of whether or not the target adjustments, target totals, and actual totals appeared reasonable and consistent with stated program intent, the original agreement, goals, and prior year results. Because of time constraints, Executive Audit Services did not trace report totals to underlying accounting records.

### **Background**

The Productivity Initiative is a 10-year program whose goals are to more efficiently manage and operate the wastewater utility while reducing costs and continuing to meet customer and regulatory commitments. The goals are to be accomplished by applying private sector business practices to improve efficiency and reduce the increase in full time employees while absorbing increased production requirements caused by area growth. WTD created an employee Incentive Fund to encourage cost savings initiatives.

The pilot program established accountability measures based on the 2000 operating expense budget. The cost reduction commitment applies only to core elements of the budget over which WTD exercises some control. Each year the target forecasted budget is adjusted for factors beyond the control of the utility. The target budget is then adjusted when actual expenditure results become available. Performance is measured by comparing the adjusted initiative target budget to actual expenditures.

In 2005, two material errors occurred that affected the Incentive Fund balance from 2005 through 2007. The net effect of the errors was an overstatement of the Incentive Fund balance in the amount of \$539,000. When adjusted for the errors, the fund had a deficit balance of \$195,000 at the end of 2007.

**Results**

The annual productivity target calculation includes adjustments for three operating revenues: septage at South Plant, West Point cogeneration (not currently operating), and Industrial Waste high strength surcharge. Both septage and Industrial Waste actual revenues were significantly higher than projected. Septage revenue increased because a private service provider was out of operation for renovation in 2008; commercial surcharge revenue increased because of weather.

Without inclusion of these unexpectedly high revenue adjustments to the target budget, the WTD target would not have been met. The increased revenues eliminated the deficit Incentive Fund balance carried forward from 2007, and after the planned employee payout, the fund will have a balance of \$315,585.

The increased revenues were not a reduction of expenditures and were not within control of the division. But septage and Industrial Waste surcharge revenues have been included in projections and actual results for the eight years the pilot program has been in effect. These division revenues were built into the projection model and were a part of the original agreement that established the Productivity Initiative.

**Conclusion**

In the opinion of Executive Audit Services, WTD has been consistent in applying agreed upon principles to the projection model and adjustments to the target budget in accordance with the agreement establishing the pilot program. Target budget and actual expenditures for 2008 appear reasonable and comparable to prior year results.

*Dan Lawson, Internal Auditor, King County Executive Office of Management and Budget  
May 26, 2009*

**WTD Response:** WTD concurs with this conclusion and looks forward to working with Executive Audit Services in the remaining years of the Productivity Initiative Pilot Program.