

Department of Local Affairs

Strengthening Colorado Communities



Governor's
Energy Office

MANAGEMENT SOLUTIONS FOR UTILITY ENERGY EFFICIENCY

HOWDY FOLKS WELCOME TO GOLDEN



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Our plants are big energy users

In Golden over 30% of annual cost is for power for treatment or pumping



So it is good financial management to minimize those costs

Why bother with improving Management?

"If you don't know where you are going, you will wind up somewhere else."

Berra

Yogi

How did we achieve efficiency

How did we demonstrate that efficiency

How do we maintain efficiency through time

- ◎ State Energy Audit Contract Program
- ◎ Effective Utility Management
- ◎ APWA Public Works Management Practices Manual

Golden's experience with the technical energy audit program

- ◎ **Solicited proposals from energy audit contractors**
- ◎ **They completed citywide audit of facilities**
- ◎ **They found options for energy reduce reductions**
- ◎ **City selected \$1.1 million in improvements**
- ◎ **None were in the city utility system**

How the program worked

- ① **Contractor proposed energy reduction capital projects**
- ② **City decides which improvements to move forward with**
- ③ **Contract guarantees energy and cost savings**
- ④ **Construction of the improvements**

Projects that were selected

- ⦿ **Replacement of light bulbs city wide**
- ⦿ **Upgrade of HVAC systems for some buildings (some were already planned and budgeted)**
- ⦿ **Change the community center pool water heating to solar**
- ⦿ **Control upgrades for community center and city hall**

Projects that were not selected

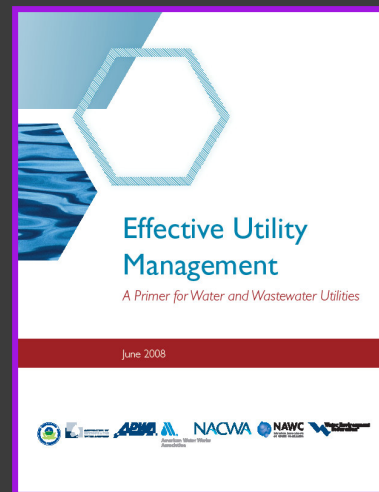
- ◎ **Solar heating of outdoor water park**
- ◎ **PV charging of golf carts**
- ◎ **Installation of wind turbine generation**
- ◎ **Conversion to ground source heat pump, and extraction of heat from treatment plant water.**

Why did we not find energy saving opportunities in our utility?

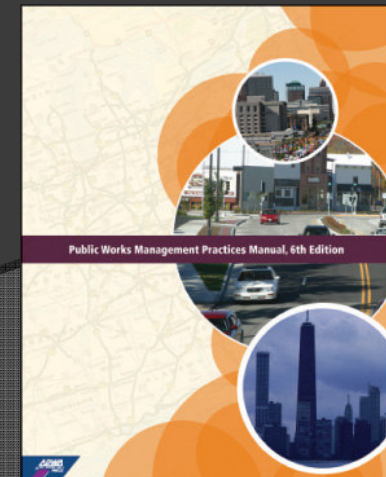
- ◎ **We had been using good management systems within Public Works**
- ◎ **These systems led us to energy efficiency through operational and financial optimization**

Two tools we use that have improved our management

- **Effective Utility Management**



- **APWA Public Works Practices Manual**

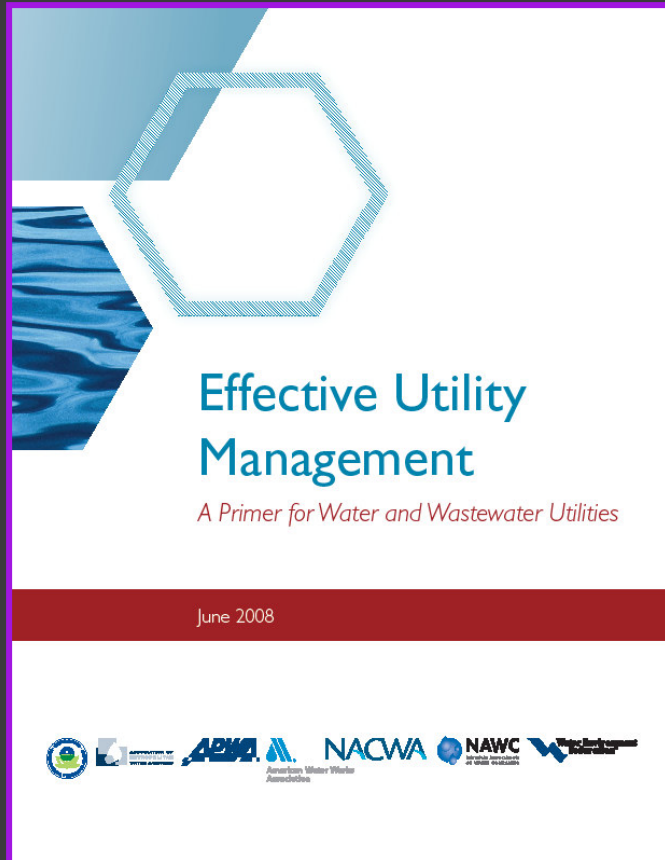


The Effective Utility Management (EUM) Initiative

- In response to these common challenges, US EPA and six national water sector associations collaborated to launch the Effective Utility Management (EUM) Initiative
- The Collaborating Organizations of the EUM Initiative



The EUM Primer



- Released by the Collaborating Organizations in June 2008
- Summarizes the EUM framework
- Self assessment tool to prioritize actions
- Sample measures to track progress

The “Go To” Tool for EUM

- ◎ **Takes a utility through series of steps to:**
 - » **Assess current conditions and priorities**
 - » **Rank Importance of Attributes**
 - » **Document results of ranking**
 - » **Choose Attributes to work on**
 - » **Establish performance measures**
- ◎ **Developed by group of utility advisors**
- ◎ **A great way to get started**

10 Attributes of Effectively Managed Water Utilities

- ◎ **Described in the EUM Primer include**
 - **Operational Optimization**
 - **Community Sustainability**
 - **Financial Viability**
 - **Infrastructure Stability**
- ◎ **Tool Box for improvement**

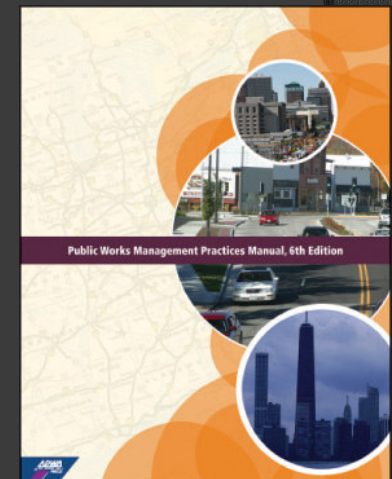
◎ The Effective Utility Management Initiative

- » 10 Attributes of Effectively Managed Utilities
- » The EUM Primer for Water and Wastewater Utilities
- » The EUM Resource Toolbox
- » An on-line interactive version of the EUM Primer
- » Utility case studies on implementing the 10 Attributes

◎ All available at WaterEUM.org

APWA Public Works Practices Manual

- ◎ **Self assessment of your organization**
- ◎ **Based on sets of “Best Practices” in the industry**
- ◎ **Doesn’t tell you how to do it, just that you should be doing it**



What accreditation took in \$'s & time

- ◎ **Accreditation Manager 480 hours – about half a day per week for 2 years**
- ◎ **5 team members 200 hours – about 1/2 hour a week**
- ◎ **Other departments time 22 hours between HR, Finance, IT and Parks**
- ◎ **Direct cost today \$10,000 to \$20.000**

What Re-accreditation took in \$'s & time

- ◎ **Accreditation Manager 100 hours – about 1-2 hour per week for 1 year**
- ◎ **3 team members 20 hours – most of us spent 2 to 3 hours a couple of times to complete our part**
- ◎ **Other departments time 3 hours between HR, Finance, IT and Parks**
- ◎ **Direct cost \$4,500**

You only need to do practices that apply to you!

- ◎ **You can simply do a self assessment of practices that apply**
- ◎ **In Golden we have**
 - **Streets**
 - **Fleet**
 - **Planning**
 - **Facilities**
 - **Traffic**
 - **ETC.**

What you do need

- ◎ **A champion for the process**
- ◎ **A manageable team**
- ◎ **An organizer**
- ◎ **Priority, but it doesn't have to be extremely high priority**
- ◎ **Deadlines – just a little work each month will get you much farther than you think**
- ◎ **Belief – you are doing 75% to 85% of the practices already**
- ◎ **Beer**

Copies of these presentation are available at
<ftp://goldenrec.com:11911/>

◎ Thanks,

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