

IS YOUR PLANT WELL RUN?

How do you know it?

How do you show it?

Presenters: Glenn Smeaton and Paul Nehm

Is this quality stuff worth the time and the effort?

- Assertively discuss plant operations with municipal officials and interested members of the public
- Know when you have done enough in a job that is never finished
- Be able to effectively support a larger capital investment to save on operation and maintenance costs throughout the design cycle
- Discuss repair and replacement issues with your municipal officials
- Navigate a flood of complaints when things go bad through none of your making (i.e. 200 year flood)
- But most importantly, it will provide you with your personal mission statement and a personal sense of accomplishment. You can go to bed at night and say to yourself that you may have had some bad days, you had a good week!

Selecting a quality control program

- Deming's Statistical Process Control
- The ISO 9000 Family
- The Baldrige Criteria
- The Wisconsin Forward Awards Criteria
- Balanced Scorecard

Baldrige Criteria Categories

1. Leadership systems
2. Effective strategic planning and deployment
3. Customer and Market Focus
4. Measurement Analysis and Knowledge management
5. Workforce Focus
6. Process Management
7. Results

Wisconsin Forward Award

- Wisconsin Forward Award, Inc. (WFA) describes itself in its web page as partners with Wisconsin organizations to solve the issues of **competitive performance, operational excellence, and sustainability**, leading to improved **economic performance, creating jobs, and improving the quality of life in Wisconsin**.

Balanced Scorecard Benefits

- Supports a balance in observations of causes and effects of good operation
- Is less complicated to get started
- Doesn't interfere with any additional quality efforts a facility would like to consider in the future
- Helps improve dialog of quality management with commission or municipal officials
- Helps track and display improvements in quality operation for displays for news releases and plant tours

The “Balanced Scorecard” uses four areas of measurement:

- **Quadrant I. (Descriptive)**
Internal and External Customer Satisfaction
- **Quadrant II. (Predictive)**
Operations, Maintenance / residuals management and disposal. Laboratory quality assurance. Facility management and planning.
- **Quadrant III.(Descriptive)**
Cost of operation, effluent quality standards, and safety records
- **Quadrant IV. (Predictive)**
Employee training and development, supervisory management and support.

Four categories of activities

1. Urgent and Important (Three feet of sludge in your basement!)
2. Important but not urgent (quality management, employee training and development)
3. Urgent but not important (many phone calls or yard work at expense of planned maintenance)
4. Not urgent and Not important (junk mail, unsolicited requests for your time or money)

Customer Perspective

- Municipalities and Sanitary Districts served
- Septage Haulers
- Farmers receiving biosolids
- Residents around biosolids application sites
- Individuals with odor complaints
- Individuals with noise complaints
- Individuals with biosolids application complaints

Customer Perspective (Continued)

- Residents along receiving streams
- Dane County Executive
- DNR area engineer
- Tour and school groups
- DNR advisory committees
- Police and fire department training programs

Internal Business Processes

- Visual appearance of final clarifiers
- Plant appearance
- Daily SCADA alarms
- Digester foaming
- Biosolids storage availability

Internal Business Processes

- Use of CMMS for planning and scheduling
- Effluent reports
- Monthly process control reports
- Monthly DMR
- Laboratory QA/QC reports
- CMAR
- Annual biosolids report
- Monthly electric bills

Financial Perspective

- Comparison of typical customer cost to national average
- Monthly budget report
- CMAR
- Capital budget
- Operating budget
- CMMS data for decision making

Learning and Growth Perspective

- Number of hours of training per employee per year
- Personal learning plans
- JATC review of apprentices
- Wiki information
- Supervisors workgroup training
- District's supervisory and leadership training

Learning and Growth Perspective

- Communication efforts
 - Daily O&M supervisors phone meeting
 - Weekly O&M supervisors meeting
 - Monthly Directors meeting
 - Plant meetings

Learning and Growth Perspective

- In-plant training
- WWOA and WEF participation
- Vendor training
- Annual CPR, First Aid, and Confined Space training

Quick indicators of how well the plant is operating

- Internal Business Processes
 - Visual appearance of final clarifiers
 - Plant appearance
 - Daily SCADA alarms
 - Digester foaming
 - Biosolids storage availability

Quick indicators of how well the plant is operating

- Customer Perspective
 - Odor complaints
 - Noise complaints
 - Metrogro complaints

Long Term indication of how well we are doing

- Other aspects of Internal Business Processes and Customer Perspective
- Financial Perspective
- Learning and Growth Perspective

Importance of Quality Personnel

- Knowing competent Operators are on duty
- Knowing competent maintenance personnel are available to extend the life of assets and to make emergency repairs when necessary
- Importance of individual contacts
- Succession planning

We need to look in all directions

- Looking back
 - Monthly DMR
 - CMMS reports
- Looking at current situation
 - Daily flows
 - Daily SCADA information
 - Daily biosolids inventory and storage availability
 - Work order backlog

We need to look in all directions

- Looking forward
 - Pending regulations
 - Succession planning
 - CMAR
 - Master planning
 - Facilities planning
 - Capital projects planning

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About the Authors

Glenn Smeaton combines 10 years experience as a training manager for the Madison Metropolitan Sewerage District with another 20 years in the training field. He is a lifetime member of Wisconsin Wastewater Operator's Association (WWOA) and is a winner of the Koby Crabtree Award of Excellence in Research and Education. Glenn has also been active in the American Society of Training and Development (ASTD). Smeaton has recently retired from State employment and has started his consulting firm, "Learning and Performance Support LLC."

Paul Nehm has worked for the Madison Metropolitan Sewerage District for over 30 years. During this time he has served as the Operations/Research Engineer, Director of Wastewater Treatment Operations, and currently as the Director of Operations and Maintenance. He is a member of WWOA and WEF.