Maintenance at the Stickney Water Reclamation Plant
Public Image of Maintenance?
Increase Productivity
Latest iPod Product
Maintenance
More than just firefighting
ASSET MANAGEMENT CYCLE

BUILD
Engineering Construction

MAINTAIN / OPERATE
Maintenance & Operations

DESIGN
Engineering Design

END OF USEFUL LIFE
Collaborative Effort
Maintenance Mission

To ensure reliable plant operation in the most economically sustainable manner possible.
Over 11,000 Stickney Asset Records

The Stickney WRP

- Main Sewage Pumps up to 3500HP
- Blowers up to 10,000HP
- 37 Centrifuges
- 96 Final Clarifiers
- 6 Boiler, 4 capably of 80,000lbs/hr steam
- Miles and miles of piping
Over 11,000 Stickney Asset Records

- **6 Pumping Stations**
  - Mainstream 550MGD, 8 pumps 3,600 - 17,500HP
  - Racine Ave 3.9BGD, 14 pumps 1,000 - 1,750HP

- **103 TARP Control Structures**

- **4 Reservoirs**
SWRP M&O Org Chart

Maintenance Manager (ETPO)
Steve Carmody

Supervising Mechanical Engineer
Farsheed Hafezi

Principal Mechanical Engineers
Bob Regan
Pete Kane

Supervising Electrical Engineer
Lionel Gomberg

Principal Electrical Engineers
Mike Cavarretta
Sam Evans

Master Mechanic II:
Tom Butler

Assistant Master Mechanics:
Bob Henry
Jim McNamara
Mike Pijanowski
Christine Vollmer
M&O Engineer Responsibilities

- Work order approval and planning
- Manage $20M+ in spare parts
- Budget and administer contract services
- Preventive maintenance administration
- M&O Liaisons on Engineering projects
- Technical knowledge and libraries
- Root-cause analysis
- Betterments
M&O Master Mechanics and Skilled Trades

Over 160 skilled trades
13 Unions

Work order planning and scheduling
Tools and equipment
Work execution
Computerized Maintenance Management System

aka CMMS
or
Mainsaver
Pre-Computerized Maintenance System (Pre-1990)

Pencil, paper, and the TUBE.

- No asset inventory for maintenance purposes
- Work orders on paper
- No time-reporting
- Squeaky-wheel scheduling
- Few PM’s, mostly lubrication
- Service history not recorded
- Spare parts not inventoried
Computerized Maintenance System (Post1990)

- Complete asset inventory
- Electronic work orders
- Time-reporting/contract capturing
- Formalized scheduling based on priority
- Automated preventive maintenance
- Service history captured
- Spare parts inventoried and interfaced
WORK ORDER BASICS

Corrective

Preventive

Predictive
Preventive/Predictive Maintenance

Plant Engineering

CMMS

Skilled Trades
Preventive/Predictive Maintenance Examples

- Blower overhauls based on vibration
- Chain & flight overhauls
- Cleaning and testing of electrical distribution
- Cleaning and painting of large motors
- Filter changes
- Instrumentation calibrations
- Lubrication
Work Volume

- 1,300 – 1,500 Work orders per month
- 50% Corrective  40% Preventive/Predictive  10% Emergency

Labor Costs( 70/20/10)
Contract Maintenance
Outsourcing Examples

- Tank Rehabs
- Steam Boilers
- Centrifuges
- HVAC
- Rotating Assemblies
- Final Clarifier Painting
- 13.2kV Switchgear
- Motor Cleaning
Budget
SWRP Maintenance Budget 2009-2012

- 9% Reduction in staff
- 50% Reduction in Service Contract Expenditures ($13.2M – $6.8M)
3000 HP
Emergencies
9/21/84

Contract #: 84-916-12

P.O. A 21904

Req. M 41883

Item # 15 of the Req. Contract

2000 Amp Primary Disconnect Assembly

S-A # 18 362-123-502
MSPS Dewatering Chamber
Questions?