

PROJECT TRAINING AND SUPPORT



ANTHC DEHE (Tribal Utility Support)

- ▣ Project related training/
support
- ▣ Technical assistance to
communities
- ▣ Formal operator training
- ▣ Plan review
- ▣ Engineers
 - Three Each
- ▣ Operation Specialists
 - Three Each
- ▣ Technical Writer



Smooth Transition to Community Ownership

- ▣ Project plan for operator training
- ▣ Comprehensive operator training
- ▣ Community specific manuals and operation aids
- ▣ Coordination with State RMW Program
- ▣ Follow up training and support



Notice to Proceed

- ❑ Operator training needs and operator training plan
- ❑ Project/Superintendent training role
- ❑ Certification requirements
- ❑ Project budget



Operator Training

- ▣ On the job training
- ▣ Start-up/commission
- ▣ Transition period
- ▣ Performance period
- ▣ Manual and Operation Aid Focused
- ▣ RMW coordination



Operator Training

- ❑ Water treatment and water systems
- ❑ Wastewater collection and disposal systems
- ❑ Boilers and hydronic systems
- ❑ Heating Systems
- ❑ Regulations
- ❑ Electrical and controls
- ❑ Generators
- ❑ Community meetings



Operator Training

- Performance based training
- Community verification
- Trainer check



TRAINING PLAN: Transfer Pumps

Community: Saxman

Date: 6/4/09

Project #: _____

- Operator identifies critical tank elevations
- Operator describes transfer pump and pumps operation
- Operator identifies components and functions in transfer pump control panel.
- Operator identifies components in tank level control panel
- Operator demonstrates safe entry into control panel
- Operator demonstrates proper lock out safety procedures
- Operator demonstrates proper voltage checks in transfer pump control panel. QUALIFY WITH VOLTAGE FROM DRIVE
- Operator locates pump troubleshooting guide in pump O&M manual
- Operator demonstrates basic reset of control panel
- Operator demonstrates basic knowledge of pump drive and comfortable with scrolling through basic menu.
- _____ Operator successfully troubleshoots panel fault # 1 N/A
- _____ Operator successfully troubleshoots panel fault # 2 N/A
- Operator successfully troubleshoots drive fault # 1
- Operator successfully troubleshoots drive fault # 2

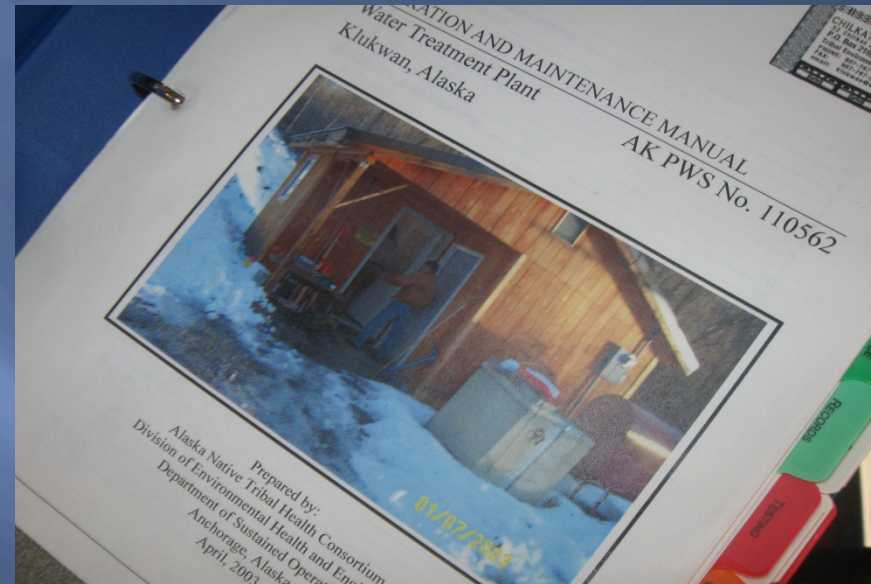
Operator: RICHARD SHIELDS

Date: 6/11/09

Trainer: COSTELLO
POE

Manuals/Operation Aids

- ❑ Manuals tailored to individual systems
- ❑ Daily, weekly, monthly and annual checklists.
- ❑ P.M. Plan
- ❑ Equipment literature



OUZINKIE WATER TREATMENT RECORD

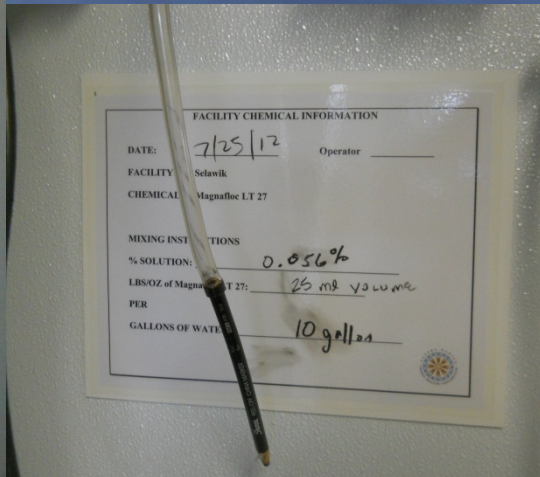
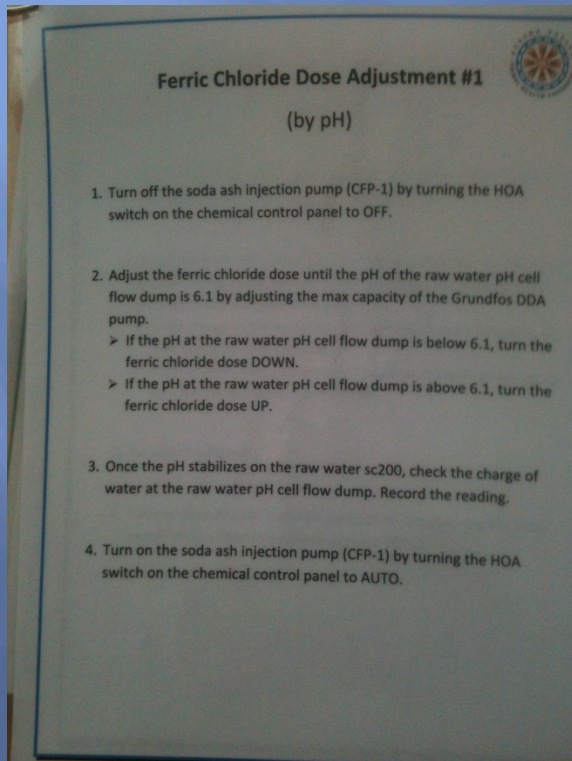
| Raw Water | Filter Differential | Raw Water | Filter Water | UV254 | | Ferric Chloride Addition | | Process pH (Soda Ash) | | Dist. gpd |
|-----------|---------------------|-----------|--------------|-------|---------|--------------------------|---------|-----------------------|----------------|-----------|
| | | | | Raw | Treated | Feed | Control | Set | Actual | |
| 110" | 0.663 | 0.031 | 0.04 | 0.22 | 1.04 | 5.75 | | | | |
| 160" | 0.73 | 0.031 | 0.03 | 0.20 | 1.01 | 5.35 | | | | |
| 180" | 0.68 | 0.031 | 0.02 | 0.20 | 1.07 | 6.35 | | | | |
| 180" | 0.65 | 0.031 | 0.03 | 0.20 | 1.03 | 5.85 | | | 110000 | 110000 |
| 180" | 0.63 | 0.031 | 0.03 | 0.22 | 1.03 | 5.85 | | | | |
| 142" | 0.678 | 0.031 | 0.07 | 0.25 | 0.95 | 5.85 | | | | |
| 145" | 0.77 | 0.45 | 0.031 | 0.23 | 0.95 | 5.85 | | | | |
| 140" | 0.90 | 0.12 | 0.09 | 0.49 | 0.95 | 6.21 | | | New Ferric 100 | |
| 0.85 | 0.81 | 0.32 | 0.12 | 0.22 | 0.91 | 6.32 | | | | |
| 0.90 | 0.87 | 0.21 | 0.17 | 0.17 | 0.85 | 6.32 | | | | |
| 0.86 | 0.79 | 0.23 | 0.13 | 0.19 | 0.65 | 5.85 | | | | |
| 0.86 | 0.81 | 0.02 | 0.10 | 0.21 | 0.61 | 5.85 | | | | |
| 0.87 | 0.90 | 0.32 | 0.12 | 0.22 | 0.65 | 5.85 | | | | |
| 0.79 | 0.84 | 0.32 | 0.09 | 0.26 | 0.65 | 5.85 | | | | |
| 0.77 | 0.44 | 0.03 | 0.06 | 0.09 | 0.65 | 5.85 | | | | |

CHANGE FERRIC CHLORIDE DOSE



Manual/Operation Aids

- ❑ Wall charts
- ❑ Extensive labeling



Changes Training Chapter



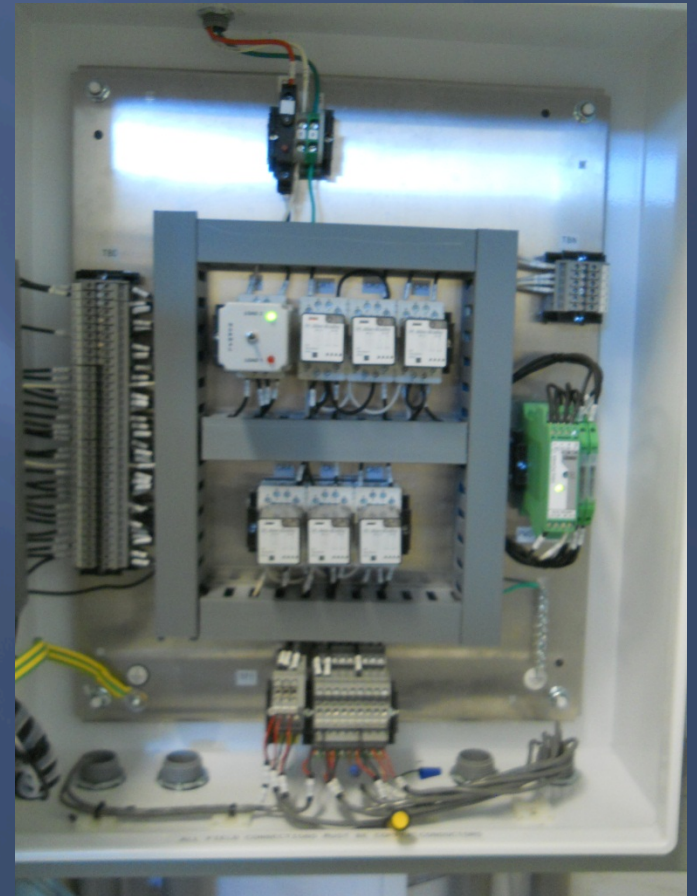
Operator Turnover

- ❑ Low pay and high expectations
- ❑ Talented move on to better paying jobs
- ❑ Retraining is required/Resources strained



Increased Complexity

- ▣ Basic level of training
- ▣ Advanced water treatment
- ▣ Automation and controls
- ▣ Regulations



Refine Operation

- ▣ Improve basic operation past a basic level
- ▣ Operating temperatures
- ▣ Data and experience driven



Certification vs Operation ?

- ▣ ADEC Certifications
- ▣ Book Based knowledge vs ability to perform task.
- ▣ Test to measure outcome vs competence running system.

