Workforce Development: A Case for the Power of the WAMBAT

Julie Nahrgang, WEAT| TACWA
Melissa Sansing, WEAT
Jess Braun, Independent Contractor

WEFMAX, May 11, 2018
Workforce Development

• The State of our State and our Union
• Trends, Forecasts, and Doomsday Prepping
• Training, Strategies, Case Studies,
• Pitch Perfect
• Embracing and Understanding Change
• Big Picture, Telling the Story, and WAMBATS
# Wastewater License Types and Requirements in the State of Texas

## Requirements for a Wastewater Treatment License

<table>
<thead>
<tr>
<th>License</th>
<th>Core Training Courses</th>
<th>Elective Training Courses</th>
<th>Education and Work Experience</th>
</tr>
</thead>
</table>
| Wastewater A  | • Activated Sludge or Wastewater Treatment  
• Wastewater Collection  
• Wastewater Laboratory  
• Water Utility Management  
• Water Utility Safety  
• plus one elective course | • Intermediate Wastewater Laboratory  
• Water Utility Calculations  
• Wastewater Technology  
• Advanced Management | • Master’s Degree & 4 years  
• Bachelor’s Degree & 5 years  
• High School or General Equivalency Diploma (GED) & 8 years |
| Wastewater B  | • Activated Sludge or Wastewater Treatment  
• Wastewater Collection  
• Wastewater Laboratory  
• Water Utility Safety  
• plus one elective course | • Intermediate Wastewater Laboratory  
• Water Utility Calculations  
• Water Utility Management | • Bachelor’s Degree with 2.5 years of experience  
• High School or GED with five years of experience |
| Wastewater C  | • Basic Wastewater Operation  
• Activated Sludge or Wastewater Treatment  
• plus one elective course | • Wastewater Collection  
• Wastewater Laboratory  
• Water Utility Calculations  
• Water Utility Safety | • High School or GED with two years of experience |
| Wastewater D  | • Basic Wastewater Operation                                                           | • None                                               | • High School or GED with no experience               |

Visit the TCEQ Occupational Licensing webpage for specific information regarding education and work experience as well as the latest requirements for wastewater treatment licenses: 

All TCEQ occupational licenses require an individual to pass the applicable TCEQ exam to obtain a license (minimum score of 70 percent).
Employment of water and wastewater treatment plant and system operators by state, May 2017

<table>
<thead>
<tr>
<th>State</th>
<th>Employment (1)</th>
<th>Employment per thousand jobs</th>
<th>Location quotient (9)</th>
<th>Hourly mean wage</th>
<th>Annual mean wage (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>11,330</td>
<td>0.68</td>
<td>0.82</td>
<td>$33.58</td>
<td>$69,850</td>
</tr>
<tr>
<td>Texas</td>
<td>10,630</td>
<td>0.89</td>
<td>1.09</td>
<td>$18.84</td>
<td>$39,190</td>
</tr>
<tr>
<td>Florida</td>
<td>5,790</td>
<td>0.69</td>
<td>0.83</td>
<td>$23.01</td>
<td>$47,870</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>5,330</td>
<td>0.92</td>
<td>1.12</td>
<td>$23.53</td>
<td>$48,950</td>
</tr>
<tr>
<td>Ohio</td>
<td>4,860</td>
<td>0.91</td>
<td>1.10</td>
<td>$23.02</td>
<td>$47,890</td>
</tr>
</tbody>
</table>

Source: https://www.bls.gov/oes/current/oes518031.htm#(1)
Texas Mean Wage:
Annual: $39,190
Hourly: 18.84
Benefits of a Career in the Wastewater Operations Industry

• A Career not a Job
• Room for Advancement
• Competitive Pay
• Benefits
• Job Security
• Relocation Opportunities
Water Environment Research Foundation warns of a "mass exodus of utility employees that is anticipated due to retirement in the next 10 years." – 2012 WERF Publication
WEAT Workforce Development

- Operations Challenge
- Student Design Competition
- Science Fair and SJWP Support
- YP Mentoring Program
- Advanced Operator Training Program
- YP Track
- Diversity Track
- WEAT/TAWS Operator Springboard Program
Case Study #1

• Problems:
  • Lack of perceived professionalism associated with operator position
  • Preparing for workforce shortages

• Solution: Set up a water academy at local Community College
Case Study #1 Continued: A Few Committed Folks…

WASTEWATER OPERATOR

Career Program
Professional Development Courses

Quick Program Facts
- Number of courses: 11
- Total hours: 424
- Length of program: 6 weeks
- Times offered: Spring 2018 is last opportunity for free training
- Accreditation: Texas Commission on Environmental Quality (TECQ)
- Cost: $2,340
- Financial aid: TPEG, TCC Foundation
- Campus: Northwest
- Types of instruction: classroom, lab and internship
- Certificate: TCC Certificate of Completion
- CEUs: 42.4
Case Study #2: Not Your Grandfather’s Organization

- Well-respected firm
- Not the “cool kids”
- Family Focused
- Well-regarded and recognized older women engineers in Texas
- Network effect?
- Glassdoor
Data suggests people don’t leave for marginally higher paying jobs. They leave managers not companies.

– WEAT Member, Past President, and Vice President of a major engineering firm
The reality is, society needs people who work with their hands and piece complex systems across disciplines together. Finding those people with all those skills that still want to get dirty is a challenge.

– WEAT Member, Past President, Deputy Director of a major utility district
Case Study #4 Continued

- What does being an “Employer of Choice” look like?
- What are the challenges as seen by a EOC?
Preaching the Gospel/Recruitment

- Giving Presentations to the public
- Participating in Career Days at Schools
- Making pitches to Community Colleges
- Selling the idea of the value of Working in Water
Questions, Comments, or Heckling

Julie Nahrgang, WEAT | TACWA
Melissa Sansing, WEAT
Jessica Braun, Consultant