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- Tech Talk
  
  Nosing Around the Neighborhood
  What Happened to the Odors
- WEAT and WEF Award Nominations
- Odor and Corrosion Conference
- Manufacturers and Representatives Committee
- Drinking Water Seminar
- Utility Membership
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**On the cover:** Bill Cyrus, Technical Services Manager at Trinity River Authority’s Central Regional Wastewater System may not be a chef (although he claims he can cook) but he has plenty of experience in dealing with fats, oils and grease in a wastewater system. The Water Environment Federation is offering an advanced training course in controlling Fats, Oils and Grease (FOG) on November 4-5, 2004 in Houston, Texas. Preregister by October 27, 2004 by using the form on page 31 or online at WWW.WEF.ORG. Onsite registration will take place on November 4 & 5 if space is available.

Don’t miss your mailings. Update your membership information on line at www.weat.org. Go to membership, then update membership profile. Have your membership ID (8 numbers on WEF WE&T and WEF Highlights mailing label.) Password is your last name.
**A MESSAGE FROM THE PRESIDENT**
*By Ray Longoria, President*

The temperature was hot and so was the discussion during our annual two-day Long Range Planning Committee Retreat in Lakeway in late July. Our meeting was hosted by Lakeway MUD and President Elect Richard Eason, where we enjoyed one of the most productive and economical LRPC meetings on record.

There are always several perfunctory tasks on the agenda at these meetings, but once those are attended to, the fun begins as we explore and discuss alternate futures for our association. These topics ranged from WEAT as a lobbying organization; to WEAT as the organization of choice for operators; to WEAT affiliating in various ways with other professional organizations. The LRPC does not make decisions during the retreat. The retreat is a forum for the association’s leadership and a representative group of members to identify and think through some areas important to us as a group. No topic is taboo and the emphasis is on creativity and fun. The following is a brief summary of key topics discussed that will be lateraled to the Executive Committee or the Board for a decision on whether to develop into an actionable task or not.

**Legislative/Regulatory Involvement.** As a 501(3)c organization, WEAT can dedicate up to 20% of the annual budget to lobbying of state or federal legislatures. Currently, no WEAT funds are dedicated to lobbying. To date, the association has not viewed lobbying as a priority. In light of significant legislation dealing with water supply, and beneficial reuse of effluent and solids anticipated in the next 10 years, lobbying surfaced as a major exploratory topic at the LRPC retreat. The committee discussed providing a range of lobbying activities from hard-core lobbying (influence) to information (education). A legitimate alternate future emerged in which WEAT aggressively introduces our association to the legislators and staff and markets ourselves as water environment information providers. Lobbying would be limited to those situations in which a bill was based on bad science. If you have a strong position on this topic contact me or Joe King. King will present information concerning establishing goals and a planning for increasing WEAT’s visibility and dealings with the Texas Legislature and the regulatory agencies that implement the legislation at the October Board Meeting.

**Utility Operator’s R Us.** Utility operators make up a relatively small percentage of our membership, but these members are among the most active in our association and consistently contribute at a high level. The LRPC discussed an alternate future to make the association attractive to operators and in order to increase the percentage of utility operators as active members. Utility operator membership has been an ongoing topic of interest with initial work on a Utility Membership classification initiated late last year. See the back cover for information about the new Utility Membership. Several members of the leadership team have been tasked with developing stronger relationships and partnering with organizations that historically have had a greater number of operators as members with the objective of finding areas of joint interest and opportunities for strengthening both entities.

**Expanded Technical Focus and Education.** In the past, WEAT has not been measurably involved with the topic of the impact of storm water quality on the water environment. The LRPC discussed establishing storm water quality as a technical focus area. WEAT should consider as we move forward. Heather Harris was asked to lead an Ad Hoc Committee to define the role and goals and objectives of WEAT in this new technical focus area. If you have an interest in participating on this committee, please contact me or Harris.

LPRC also discussed increasing WEAT’s involvement in adult education. Cathy Henderson and Karen Bick do a phenomenal job with the WEF and WEAT educational programs in the schools and with science fairs. However, adult education has been inconsistent. WEAT’s Board will likely move to dedicate resources to this area. The first step will involve setting up a statewide speaker’s bureau and preparing customizable presentations relating to the water environment for use by our members in different venues around the state. If you have an interest in participation in this area, again, contact me.

**Added Value Items.** I have written here previously on the emphasis we have on adding significance and value to being a member of WEF/WEAT. Texas WET’s content has grown with an additional feature - WEF Director’s Report (see page 33) covering WEF and national topics relevant to WEAT appearing for the first time in this issue. Also, as refer-

Continued on page 33. See President’s column.
DEEP WELL PUMP SERVICE RIG

Our rigs handle up to 100,000 lb. loads and are on call to be at your well site as quickly as you need them.

EXPERIENCED CREWS ARE AVAILABLE TO PROVIDE THE WELL PUMP SERVICE WORK ON YOUR INSTALLATION. WE ARE EQUIPPED TO HANDLE ANY SIZE INSTALLATION, AND ARE AVAILABLE 24 HOURS PER DAY, 7 DAYS PER WEEK. THE CREW PICTURED HERE IS PREPARING A 100 HORSEPOWER SUBMERSIBLE TURBINE PUMP FOR INSTALLATION 940 FEET BELOW GROUND.
W

eat’s Sustainability Seminar – Doing More with Less – Survival in the 21st Century was a success with over 70 registrants. Many thanks to Betty Jordan with Alan Plummer Association, Inc., chair of the committee, and all the members of the committee – Raj Bhattarai, Randy Bush, Terry Draper, Dr. Leonard Ripley, Randy Rogers, Ron Sieger, Phil Spitzer, Dan Tanksley, Randel West, and Jody Zabolio. Sponsors for the seminar were: Alan Plummer Associates, Inc., Freese and Nichols, Inc., Halff Associates, Inc. and MWH.

WEAT has some exciting educational opportunities coming up. They are:

WEAT Safety Seminar – WEAT’s Safety Committee will be presenting a Safety Seminar on September 24, 2004 in Corpus Christi at the Convention Center. Leonard Leinfelder is chairing the committee. If you are interested in participating on the Safety Committee, please contact Leonard at 972-937-2624. WEAT’s Safety Committee has worked hard to put together a dynamic program. For detailed information, and to register on line, go to WEAT’s website at www.weat.org. WEAT’s Safety Committee won the WEF’s Member Association Safety Award for 2004. They will be honored at WEFTec in New Orleans.

WEFTec – This year’s WEFTec will be held next door to Texas in New Orleans, Louisiana on October 2-6, 2004. WEAT will hold its traditional board meeting on Monday, October 4 at the Hilton New Orleans Hotel (WEFTec hotel headquarters). On Sunday evening, October 3, WEAT will hold its Texas Reception at the Hilton New Orleans. An email invitation will be sent to all WEFTec registered Texas members. Look for your invitation through your email.

WEAT/WEF – Control of Fats, Oils, & Grease (FOG) Advanced Training Course – WEAT will co-sponsor the FOG workshop with the Water Environment Federation. The workshop will be held November 4 & 5 at the Renaissance Houston Hotel Greenway Plaza. A registration form and a listing of the modules that the workshop will cover are included in this issue on pages 30-31. On-line registration is also available. David James, TCEQ, is spear heading the workshop. This will truly be one workshop that you don’t want to miss.

WEAT-WEAT – The second series of WEAT-WEAT is scheduled for November. No date or location has been set at

Continues on page 33. See WEAT-WEAT.
Wrong auto-dialer?

Old standards can let you down when you need them the most.

<table>
<thead>
<tr>
<th>Expected auto-dialer features</th>
<th>RACO Sensaphone, et al</th>
<th>Antx DiaLog Elite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email notification when phone line is dead</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Local horn/light alarm on loss of dial-tone</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Alarm when battery needs changing</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Internet access to status and all events</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Program or reconfigure via PC or Internet</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>SCADA communication enabled with a phone call</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>PLC communication enabled with a phone call</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Fax reports of run times, cycles, totalized flow, or any other monitored condition</td>
<td>-</td>
<td>✓</td>
</tr>
</tbody>
</table>

Will your auto-dialer notify you when the power fails, the pump stops, and the phone line’s dead? Antx’ DiaLog Elite is the only auto-dialer that can alert you when lightning fries your entire pump station… helping avoid disasters you might not hear about in time. The DiaLog Elite will also notify you if the back-up battery is low or dead, avoiding the risk of not getting called during power failures. And the Elite gives you the power of a SCADA system at an affordable price, allowing you to remotely monitor system status, update call lists for different shifts, control relays, and even change set-points via a phone call or the Internet.

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SOURCE: Savannah Morning News, June 23, 2004
WEAT SECTION ACTIVITIES

SECTION 1 - AMARILLO - No Report

SECTION 2 - LUBBOCK - No Report
Representative Dr. Andrew Jackson - 806/742-2801

SECTION 3 - DALLAS/FORT WORTH
Representative Betty Jordan - 817/284-2724
The DFW section had a great July social event at the Lone Star Park Race Track. Approximately 100 attended. A good time was had by all. Officers met this month to plan out the year. The next meeting will be on September 16th at the Village Creek Wastewater Treatment Plant. Those attending will have the opportunity to tour the new high rate clarification process - the first to go online in Texas. The section has also started work on its February Seminar. This year’s topic will be Emerging Contaminants and Water Reuse Issues.

SECTION 4 - LONGVIEW/TYLER/TEXARKANA
Representative Brandy German - 903/509-1552
The Northeast Texas Section last met in July at "Cace's Seafood" restaurant in Tyler for our luncheon. Thanks to Gary Burton and Titanium, everyone enjoyed a delicious meal while we were educated on the toxins in our wastewater treatment facilities by Betty Jordan of Alan, Plummer & Associates. Almost 46 people attended the meeting.

With the expansion and diversification of our Section's topics, our membership has increased by 30 people and our average attendance for each luncheon has increased from 25 to 30 people to 45 to 70 people. Fresh energy from the new officers should help to continue the growth of our Section. The new officers recently announced and voted on include:

- President, Patrick Reed
- President-Elect, Lisa White
- Vice-President, Steve Kennedy
- Secretary-Treasurer, Mary Evans
- Section Representative, Brandy Germany

Our next meeting is scheduled for September 22, 2004 at 11:30. Specific details for the meeting are still pending at the time this is being written. However, rest assured that meeting notices will be sent in a timely manner. If you are not receiving a meeting notice and would like to know more about upcoming meetings and wish to be added to our mailing list, or are interested in sponsoring a meeting and/or providing a speaker or presentation, please contact any of our Section Officers. Officer phone numbers and e-mail addresses can be found on our section web site, which is linked to the WEAT web site.

SECTION 5—EL PASO - No Report
Representative David Ornelas - 915/594-5730

SECTION 6—MIDLAND/ODESSA - No Report

SECTION 7—ABILENE/SAN ANGELO - No Report

SECTION 8—AUSTIN
Representative Richard W. Eason 512/261-6222, ext 14, Reason@LakewayMUD.org
The Central Texas Section of WEAT held the LAKE TRAVIS CRUISE & OBSERVATION TOUR with the Capitol Area TAWWA. This was the fifth annual joint meeting of the two groups. The meeting was held on the Flagship Texas, and was only briefly delayed due to a thundershower. A gourmet dinner accompanied by the Kent Mayhew Band delighted all.

Outgoing President Raj Bhattarai received a plaque commemorating his service. TCEQ Commissioner Larry Soward spoke on the importance of our profession and an initiative to gather real-time water quality all over Texas using remote sensors.

The Summer Meeting was sponsored by: Carter and Burgess, Newman Regency Group, Environmental Improvements, Inc., Hartwell Environmental, Premier Chemical and Turner Collie & Braden.

Central Texas Section Officers are:
- President - David Briggs 512/972-0075
  briggsdc@cdm.com
- President - Elect - Steve Coonan 512/346-1100
  scoonan@apaienv.com
- Vice-President - Karol Mehnard 512/452-5905
  karol.mehnard@m-e.com
- Treasurer and YP Rep - Heather Harris 512/45/7748 hharris@CH2M.com
- Secretary - Brad Castleberry 512/322-5856
  bcastleberry@1glawfirm.com
- Young Professionals Rep. - Heather Harris 512/453-2468, hharris@CH2M.com
- Section Rep.- Richard Eason 512/261-6222
  reason@lakewaymud.org
- Past President - Raj Bhattarai 512/444-3188
  raj.bhattarai@ci.austin.tx.us

SECTION 9-HOUSTON/GALVESTON
Representative Dr. Bob Hill - 281/367-3556

The Houston/Galveston section is on track to award four scholarships to Texas A&M, Rice University, Lamar University, and the University of Houston this fall. The deadline for submitting scholarship applications to each respective school is September 17th.

We have several exciting meetings lined up for the upcoming year. To kick-off the new season at our September 16th meeting, we are honored to announce our guest speaker Mr. Dan Krueger. P.E. Mr. Krueger currently serves as the Deputy Director of the City of Houston’s Engineering, Construction, and Real Estate Division (ECRE). Mr. Krueger will provide us with an update to Houston’s Capital Improvement Plan (CIP).

On November 18th, we continue the emphasis on the City of Houston with Mr. Michael Marcotte. Mr. Marcotte is the new Director of Public Works and Engineering. Mr. Marcotte was previously the Director of the District of Columbia Water and Sewer Authority. We’ve not finalized Mr. Marcotte’s topic, but you can be assured it will be of great interest to everyone in the Houston area.

If you have topics or speakers you would like to hear, please contact any officer.

Please visit the section’s web site at www.weat.org/southeast for the latest news from the Houston/Galveston Section. The web site has contact information for the officers, planned activities, and past newsletters.

Section Activities Continued on page 16.
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INTRODUCTION AND BACKGROUND
The Trinity River Authority of Texas (TRA) owns and operates the Central Regional Wastewater System (CRWS), a large regional system serving approximately 1.3 million customers in 20 cities in the Dallas/Fort Worth (DFW) metropolis as well as the DFW International Airport. TRA CRWS maintains a network of more than 200 miles of regional interceptor pipelines, which delivers wastewater to the CRWS 162-million gallon per day (MGD) advanced secondary treatment plant located in Grand Prairie, Texas at the southern border of Irving, Texas.

TRA has implemented odor control improvements on a step-by-step basis since the late 1970s. Over the last 22 years, TRA has implemented odor control improvements at a capital cost exceeding $15 million. Collectively, it is estimated that these improvements have reduced the land area affected by odorous air emissions by 64%. TRA’s efforts concentrated primarily on controlling those sources that yield the greatest impact per dollar spent. It is anticipated that controlling most future sources will require proportionally higher expenditures and more complex control systems.

Alan Plummer Associates, Inc. (APAI) was retained to evaluate additional odor control measures and develop an odor control master plan. A unique feature of the 2003 Odor Abatement Evaluation and Master Plan was the inclusion of TRA CRWS customer cities and other interested stakeholders. Interested parties received frequent updates in the ongoing evaluation of control alternatives including pilot testing for an innovative pure oxygen odor treatment alternative.

Odor dispersion modeling and field observations show significant decreases in the area of impact and perception of odors generated at the plant. TRA and officials in surrounding cities are concerned that as the plant odors are abated, other neighborhood odor sources might become more prevalent. A cooperative effort between TRA and the Cities of Grand Prairie and Irving was initiated in order to better characterize and quantify odors perceived off-site. The off-site monitoring assists in verification of predictive modeling results. Off-site monitoring also helps identify other odor sources in the community that could be a continuing nuisance for nearby residents even after implementation of additional odor control measures by CRWS.

TRA, in conjunction with the Cities of Irving and Grand Prairie, retained APAI for the evaluation of off-site odors. The objectives were identified as follows:

- Develop Baseline Demographics
- Perform Odor Surveys and Data Collection
- Prepare Off-site Odor Source Management Strategy

The two-day training sessions included:

Day One: Properties of Odor
- Odor Concentration
- Odor Intensity
- Odor Character
- Hedonic Tone

Odor Measurement Methodology
- Odor Concentration by Dynamic Dilution Olfactometry
- Odor Intensity using the n-Butanol scale

Screening of Odor Panel Participants (all are judged acceptable)

Day Two: Odor Mapping and Logging Information
- Source characteristics
- Importance of Weather Information
- Plume behavior

Identification of Sources Other than CRWS

ON ODOR PATROL
(NOSES IN THE NEIGHBORHOOD)
The Odor Patrol Teams were taught an odor mapping technique, however, it was determined that the traffic conditions around the TRA CRWS made odor mapping a hazardous operation for the participants. Odor Patrols made their observations from CRWS and APAI. The two cities helped TRA and APAI select specific locations for the teams to make odor observations.

ODOR PATROL TRAINING
Odor Science & Engineering, Inc. was selected to provide two intensive days of training for the Odor Patrol teams. Ned Ostojic, Ph.D., P.E. led the training.

Dr. Ostojic directed the collection of source emission vapor samples that were obtained for use in training. The sample bags collected included one off-site source sample obtained from a municipal solid waste landfill adjacent to the CRWS site and multiple samples taken at the CRWS plant including samples of plant influent near the aerated grit basins, dewatered grit, aeration basin (activated sludge), thickened sludge before dewatering, and dewatered, lime-stabilized biosolids.

When teams arrived for classroom training they were not quite sure what to expect. The team members from the two participating cities were City employees unfamiliar with wastewater treatment. Debbie Bronson, TRA Public Information Specialist and a member of the CRWS Odor Patrol team wrote Training the Nose for the April/May 2003 TRA newsletter, intra. Her article, available at http://www.trinityra.org/about_INTRA.htm, provides a detailed yet light hearted description of odor panelist training.

The Cities of Grand Prairie and Irving each agreed to provide a “volunteer” Odor Patrol Team of three to four members. The City Odor Patrol Teams underwent training along with teams
at selected locations instead of using a mapping observation system.

APAI identified potential odor sources and receptors within a five-mile radius of the plant based on discussions with TRA, Grand Prairie, and Irving, a review of industrial waste and air permits in the area, lift station locations, locations of odor complaints CRWS received in the last four years and odor sources identified at previous meetings. From this baseline demographic, APAI identified potential odor sources and receptors within a five-mile radius of the plant based on discussions with TRA, Grand Prairie, and Irving. Selected locations were monitored. The teams from Grand Prairie, Irving and TRA CRWS were each given three to four areas to monitor with each area to have three to four specific stops (points) where observations would be made. The patrols did not duplicate monitoring locations. For the most part, monitoring locations for the Grand Prairie Odor Patrol Team were in Grand Prairie, those for the Irving Odor Patrol Team were in Irving, and the locations assigned to the TRA CRWS Odor Patrol Team were locations of prior complaints or locations that have a potential for generating odor complaints in the South Irving and Dallas areas.

APAI established an initial three-month odor patrol schedule starting in July 2003. One day each week at specified start times, the three Odor Patrol Teams would gather olfactory data at assigned locations. The day of the week and the specified start times were varied to cover as many different weather conditions as possible. The APAI Odor Patrol team covered all team routes but on different days and/or times scheduled for the other Odor Patrol Teams. At the mid-point meeting, the Odor Patrol Teams were given the remaining schedule through January 2004. Several early morning and one mid evening start times were included in the schedule.

Odor Patrol participants were trained to use a variety of tools in addition to their olfactory senses. The importance of good weather information, specific to the location where the odor observations are made, was part of the classroom and field training. Each Odor Patrol Team was supplied with a hand-held digital instrument that measured wind speed and temperature in the field. A compass was provided to determine surface wind direction. Each team also received a n-Butanol Odor Intensity Scale kit, which consisted of a small black cooler containing eight 100-ml vials, numbered 1 to 8. These vials contained progressively doubling volumetric concentrations of n-Butanol, with the number 1 vial containing 150 ppm to the number 8 vial containing 20,000 ppm of n-Butanol in distilled water. This kit was carried on patrol to provide field calibration for the trained noses of the Odor Patrol Teams.

APAI developed an Odor Patrol Data Log Form that each member of the odor patrol was to fill out for each of the monitoring points on the patrol route. Odor Patrol members provided the weather conditions at the CRWS plant before beginning and after completing the route. Temperature, wind direction and wind speed were obtained from the weather station at the CRWS plant. The Odor Patrol Teams recorded the monitoring location, time, odor intensity using the n-Butanol scale, odor character, odor source, temperature, percent cloud cover, wind direction and wind speed for each point on the Odor Patrol Data Log Form. Comments could also be recorded on the form.

Over time, Odor Patrol Teams became more adept at perceiving and recording odors. Team members began recording more than one odor character and intensity at a given point, using more than one row of the log for a given point on several occasions. They also became more familiar with the n-Butanol scale and used the calibration kits less frequently. In the beginning, the team members used the kit before they started monitoring and from time to time when unsure. At the end of the study there was almost no use of the kit at all. When an odor was detected, the individual patrol member was able to instantly and accurately assess the intensity. The n-Butanol Odor Intensity Scale was permanently etched in each memory. Determining character and origin of the odor required more effort.

Accurate weather data is an important constituent in any aspect of odor management. In addition to knowing the weather conditions at the monitoring points, it is also important to know the weather conditions at the CRWS plant site. In the early portion of this study, CRWS replaced its obsolete weather observation station with new weather observation equipment. The new CRWS weather station provides weather data online, allowing the Odor Patrol Teams to instantly obtain weather data.

OBSERVATIONS AND CONCLUSIONS

The full version of this paper was presented at Texas Water 2004. The objective was to present the method used and the experience of having a nose trained to collect data and make observations that would be used to improve odor conditions in the TRA CRWS neighborhood.

Some of the Odor Patrol observations were:
- Many odors observed and reported by Odor Patrol were of...
short duration (not continuous)
• Highest odor intensities were observed when surface wind almost stops
• A slight change in the surface wind direction or speed could cause odors to change or disappear
• Surface wind direction did not typically remain steady even for a few minutes at the same monitoring point
• Surface wind speed and wind direction were highly variable even in short durations at the same location.
• There were no constant odor intensities or characters other than the background grasses.
• As temperatures got closer to the freezing point, less odors were observed
• In the winter months, much of the background odors from vegetation disappeared
• After a heavy rain, few odors were observed
• A variety of odors from industrial and/or commercial odor sources near the CRWS facility were observed
• Residents near monitoring points were glad that this work was being done
• Some area residents were supportive by reporting odors near monitoring areas at times not scheduled for monitoring (only short lived participation)

The Odor Patrol participants responded well to the training and were diligent in the performance of off-site monitoring and completing the log form. Participants were able to generate a very large database of odor information. The information provided new insight about the sources of the odors perceived in the neighborhood surrounding the TRA CRWS treatment plant.

There are two important conclusions from this study. First, odors originating from the CRWS plant are still perceived off-site. TRA CRWS must expend effort and allocate additional funds to reduce the odorous air emissions area moving outside the plant boundaries. TRA is addressing these improvements. Second, there still may be odors observed surrounding the CRWS plant, even if TRA CRWS successfully eliminates all fugitive odorous emissions from plant sources. These other odors may be attributed to the CRWS treatment plant. There are a variety of other unpleasant odor sources present in the immediate TRA CRWS neighborhood. Further evaluation of the area within one-mile of the treatment plant may help to further differentiate between odors generated at CRWS from other nearby sources. The educated noses of divergent and independent Odor Patrol participants observing odors in the neighborhoods surrounding the TRA CRWS plant provided a wide variety of information not available from odor instrument observations.

### Summary of Odor Intensities by Category

<table>
<thead>
<tr>
<th>Category</th>
<th>No. of Observations</th>
<th>% Category Observations out of the Total</th>
<th>Range of Intensities (n-butanol scale)</th>
<th>Average Intensity (n-butanol scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T: TRA - from the treatment plant</td>
<td>115</td>
<td>5 %</td>
<td>0 to 4.5</td>
<td>1.2</td>
</tr>
<tr>
<td>S: Sewer - treatment plant not specified</td>
<td>48</td>
<td>2 %</td>
<td>0 to 5.0</td>
<td>1.4</td>
</tr>
<tr>
<td>L: Landfill - specifically noted from a landfill</td>
<td>45</td>
<td>2 %</td>
<td>0.5 to 5.0</td>
<td>1.1</td>
</tr>
<tr>
<td>R: Residential Trash - at curb or commercial trash</td>
<td>40</td>
<td>2 %</td>
<td>0 to 6.5</td>
<td>0.8</td>
</tr>
<tr>
<td>G: Grass - Grass, vegetation, dirt, field, flowers or trees</td>
<td>650</td>
<td>28 %</td>
<td>0 to 3.5</td>
<td>0.8</td>
</tr>
<tr>
<td>C: Combustion - Combustion, automotive, traffic or construction</td>
<td>360</td>
<td>16 %</td>
<td>0 to 4.0</td>
<td>0.8</td>
</tr>
<tr>
<td>O: Other - including food, grease, or manure</td>
<td>347</td>
<td>15 %</td>
<td>0 to 4.5</td>
<td>0.9</td>
</tr>
<tr>
<td>N: No Odor - No odor detected</td>
<td>691</td>
<td>30 %</td>
<td>0 to 0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
FLYGT IS THE LONE STAR IN MUNICIPAL AND INDUSTRIAL PUMPING.

Those other pump companies might court you an woo you and promise you the world — until they make the sale, tumble out of business, and ride off into the sunset. Thank goodness that’s not how ITT Flygt does things.

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INTRODUCTION
With the advent of the Trinity River Corridor Project and desire to be a good neighbor, the City of Dallas has placed emphasis on addressing the odor issues at the Central Wastewater Treatment Plant, located south of the downtown area. Malcolm Pirnie Inc. is working with the City on a multi-phase program to systematically assess and implement prioritized solutions that produce the greatest odor reductions at the most reasonable costs. Specifically, this paper addresses the overall odor assessment approach, recommendations, and the results of the first phase of improvements at the Dallas Plant Headworks as the City makes progress toward its goal of odor reduction. The Dallas Plant Headworks was the largest odor contributor but is now one of the lowest. The next phase of odor control facilities planning and design is currently in progress to address the remaining odors at the CWWTP.

APPROACH
Figure 1 summarizes the approach used to develop the odor control master plan.

RESULTS
Odor Survey
The predominant odor constituent at all unit operations evaluated at the CWWTP was hydrogen sulfide. Table 1 summarizes the hydrogen sulfide loads for the odor sources at the CWWTP identified as part of the odor survey conducted in June 2000.

Table 1 – Prioritized Hydrogen Sulfide Loads (Year 2000)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Source Group</th>
<th>H2S Emission Rate (tons per year)</th>
<th>% H2S Contributed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DP Headworks</td>
<td>28</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>WRP Headworks 2</td>
<td>25</td>
<td>45</td>
</tr>
<tr>
<td>3</td>
<td>DP Trickling Filters</td>
<td>1.06</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>WRP Primary Clarifiers</td>
<td>0.66</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>DP Primary Clarifiers</td>
<td>0.56</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>WRP Trickling Filters</td>
<td>0.36</td>
<td>0.6</td>
</tr>
<tr>
<td>7</td>
<td>DP Headworks</td>
<td>0.20</td>
<td>0.4</td>
</tr>
<tr>
<td>8</td>
<td>Sludge Storage Tank</td>
<td>0.047</td>
<td>0.1</td>
</tr>
<tr>
<td>9</td>
<td>WRP Sec. Clarifiers</td>
<td>0.035</td>
<td>0.06</td>
</tr>
<tr>
<td>10</td>
<td>DP Sec. Clarifiers</td>
<td>0.010</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

1. Sources: DP = Dallas Plant. WRP = White Rock Plant. The CWWTP consists of two parallel trickling filter plants which are joined after secondary clarification and before activated sludge treatment.

2. Estimated based on earlier (1999) testing. Currently under construction; to be confirmed.

The Dallas Plant and White Rock headworks buildings represent the most significant hydrogen sulfide sources at the treatment plant. The two sources together contribute 95 percent of the total hydrogen sulfide load from the plant. The third ranked significant source; the DP trickling filters contributes only 1.8 percent of the total load. The remaining unit operations have a relatively minor contribution to the plant’s total hydrogen sulfide load.

Results of the Dilution to Threshold analysis are presented in Table 2. The primary clarifier launders have D/T values well above 1,000. The DP headworks grit tank launders also displayed a high D/T value. As noted, all of the locations with a D/T value greater than 1,000 occur early in the treatment process. With the exception of the flooded trickling filter D2, there was also turbulence associated with the locations. The combination of turbulence and high aqueous sulfide concentrations resulted in the emission of odorous H2S.

Air Dispersion Modeling
Figure 2 shows the results of modeling conducted using field data obtained during the odor survey at the CWWTP with existing odor control facilities (activated carbon scrubbers at the Dallas and White Rock Headworks). As observed, the maximum-1hr H2S impacts where odors could be perceived (boundary of plume highlighted in yellow) of 13 ug/ m3 extend well
into the downtown area and along the Trinity River corridor heading in a northwesterly direction. The plume also extends to the west of the plant as was observed during the odor survey.

<table>
<thead>
<tr>
<th>Location</th>
<th>Time</th>
<th>Date</th>
<th>D/T</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Rock Primary Clarifier #3 Launder</td>
<td>10:45</td>
<td>06/08/2000</td>
<td>10,000:1</td>
</tr>
<tr>
<td>Dallas North Circular Primary Launder</td>
<td>9:15</td>
<td>06/08/2000</td>
<td>9,000:1</td>
</tr>
<tr>
<td>Dallas Headworks Grit Tank Overflow</td>
<td>8:25</td>
<td>06/08/2000</td>
<td>8,000:1</td>
</tr>
<tr>
<td>Dallas North Circular Primary Influent</td>
<td>8:50</td>
<td>06/08/2000</td>
<td>3,000:1</td>
</tr>
<tr>
<td>Dallas Rectangular Primary Launder</td>
<td>8:50</td>
<td>06/08/2000</td>
<td>1,600:1</td>
</tr>
<tr>
<td>White Rock Primary #1 Influent</td>
<td>10:00</td>
<td>06/08/2000</td>
<td>1,600:1</td>
</tr>
<tr>
<td>Dallas Trickling Filter D2</td>
<td>5:00</td>
<td>06/06/2000</td>
<td>1,200:1</td>
</tr>
<tr>
<td>Sludge Storage Tank</td>
<td>10:00</td>
<td>06/07/2000</td>
<td>500:1</td>
</tr>
<tr>
<td>Dallas Secondary Influent</td>
<td>11:20</td>
<td>06/07/2000</td>
<td>400:1</td>
</tr>
<tr>
<td>Dallas Rectangular Primary Influent</td>
<td>8:43</td>
<td>06/08/2000</td>
<td>400:1</td>
</tr>
<tr>
<td>Dallas Trickling Filter D3</td>
<td>4:40</td>
<td>06/06/2000</td>
<td>300:1</td>
</tr>
<tr>
<td>Dallas Trickling Filter C2</td>
<td>11:52</td>
<td>06/06/2000</td>
<td>150:1</td>
</tr>
<tr>
<td>Dallas Trickling Filter C3</td>
<td>11:45</td>
<td>06/06/2000</td>
<td>150:1</td>
</tr>
<tr>
<td>White Rock Trickling Filter A1</td>
<td>2:40</td>
<td>06/07/2000</td>
<td>80:1</td>
</tr>
<tr>
<td>Dallas Trickling Filter B2</td>
<td>11:15</td>
<td>06/06/2000</td>
<td>50:1</td>
</tr>
<tr>
<td>Dallas Trickling Filter B3</td>
<td>11:20</td>
<td>06/06/2000</td>
<td>50:1</td>
</tr>
<tr>
<td>White Rock Trickling Filter A1</td>
<td>1:48</td>
<td>06/07/2000</td>
<td>50:1</td>
</tr>
<tr>
<td>White Rock Trickling Filter A1</td>
<td>1:58</td>
<td>06/07/2000</td>
<td>40:1</td>
</tr>
<tr>
<td>White Rock Trickling Filter A1</td>
<td>3:30</td>
<td>06/07/2000</td>
<td>40:1</td>
</tr>
<tr>
<td>White Rock Trickling Filter A1</td>
<td>2:30</td>
<td>06/07/2000</td>
<td>20:1</td>
</tr>
<tr>
<td>Dallas Trickling Filter A4</td>
<td>10:45</td>
<td>06/06/2000</td>
<td>10:1</td>
</tr>
<tr>
<td>Dallas Trickling Filter A2</td>
<td>10:50</td>
<td>06/06/2000</td>
<td>5:1</td>
</tr>
</tbody>
</table>

D/T less than 100 – indicates that the odor potential is low and odor control is usually not required.
D/T from 100 to 1,000 – the odor potential is considered medium to high and odor control requirements, if any, will depend on the type of source and other considerations, such as proximity to nearest receptor.
D/T above 1,000 – the odor potential is considered high and odor control is often required.

Figure 2: Air Dispersion Modeling Results - Maximum 1-hr H2S Impacts (Uncontrolled Conditions-Year 2000)

DISCUSSION
The emission rates derived from the 2000 odor survey helped prioritize the odor sources at the CWWTP plant according to the H2S emission rate potential (annual tons of H2S released). The H2S emission rate potential was used as a surrogate indicator for odor potential impact beyond the plant perimeter. Immediate and long term recommendations were made for odor reduction at the CWWTP.

This prioritized list of odor sources was used to develop a multi-phased odor reduction master plan that focused on reducing the odor sources that have the greatest off site impact first. For example, based on the odor survey results, the first area that requires odor control facilities is the Dallas Plant Headworks. For this odor source, several odor control alternatives were developed, screened and ranked as described in the Methodology section above for applicability for the Dallas Plant Headworks odor reduction. The most appropriate technology to implement, as determined by the screening/ranking process, was organic media based biofiltration. Similarly other odor control facilities were defined for the rest of the prioritized odor sources.

Based on the findings and recommendations, the City asked the Malcolm Pirnie Team to design a 40,000 cfm organic media biofilter and associated odor collection and conveyance facilities to treat the odors from the Dallas Plant Headworks. The odor control facilities were designed, constructed, and brought on-line by mid-2003. Figure 3 shows a picture of the Dallas Plant organic media biofilter.

Figure 4 shows the performance data of the organic media biofilter approximately two months after startup. Influent H2S levels experienced by the biofilter ranged from 5ppmv to 105ppmv with an average load of about 50ppmv. Despite the
wide variation in influent loading, the biofilter sustained a consistent effluent concentration less than 0.02 ppmv. The Dallas Plant Headworks biofilter was successful in reducing the H2S emission rates by greater than 99%. The organic media biofilter reduced the largest odor source at the CWWTP such that it did not have a perceptible odor contribution to the plant’s perimeter. The biofilter continues to operate as efficiently to date.

After completion of implementation of the odor control facilities at the Dallas Plant Headworks in 2003, a second odor survey, similar to that conducted in 2000, was performed to determine the effectiveness of the Dallas Plant Headworks’ odor control facilities in reducing overall plant perimeter odor perception and to refine/reprioritize odor sources at the plant before the next phase of odor control improvements was implemented. Additional air dispersion modeling was also performed using the H2S emission rates derived from the second odor control survey. Figure 5 shows the isopleth for this second phase of modeling. The boundary of perceptible odors has substantially shrunk in all directions after the implementation of odor control facilities at the Dallas Plant Headworks. The plume does not extend close to the downtown area as it did in 2000. There is also less migration of odors to the east of Interstate 45. Similarly, the zone of odor perception immediately west of the plant is predicted to be lower. These predictions were also validated during the 2003 community survey.

CONCLUSIONS
Through the use of a combination of odor surveys, community surveys, and air dispersion modeling it was possible to develop an effective multi-phased plan to effectively and successfully reduce odor release from the CWWTP. Prioritizing the odor sources provided an effective means for the City to incorporate timely odor control facilities into their capital improvements program to mitigate the offsite odor perception by addressing the most significant odor sources first. The creation and use of a prioritized plan assures public stakeholders that their contributions are being used effectively.

Section Activities Continued from page 8.

- SECTION 10-BEAUMENT/PORT ARTHUR - No Report
  Representative Karin Warren - 409/785-3006

- SECTION 11-SAN ANTONIO - No Report
  Representative Don Vandertulip-210-375-9000
dvandertulip@pape-dawson.com

- SECTION 12-CORPUS CHRISTI - No Report
  Representative Foster Crowell - 361/857-Water.
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Well, Texas has done it again this year! We can all be proud that three of our own WEAT nominations have been chosen by WEF to receive national recognition during the upcoming WEFTEC 2004. Let’s all mark our calendars to attend the WEFTEC Awards Reception to be held at 5:15 p.m. on Tuesday, October 5, in the Louisiana Ballroom A of the Ernest Morial Convention Center in New Orleans. Let’s join in with the rest of the country in honoring the following Texas award winners:

- **Bayer Polymers LLC** has been selected as recipient of the 2004 WEF Industrial Water Quality Achievement Award.
- **Bayport Industrial Wastewater Treatment Facility (GCWDA)** has been selected as recipient of the 2004 WEF Philip F. Morgan Medal for its contributions to solving wastewater treatment plant operational problems.
- **WEAT** has been selected as recipient of the 2004 WEF Member Association Safety Award. (Hooray for our WEAT Safety Committee’s hard work and fantastic accomplishments!)

WEFTEC will also recognize the award winners at its Hall of Excellence in the convention center (in the Exhibits Hall of prior conferences) with a display of photos and brief descriptions.

There is no time like RIGHT NOW to begin working on WEAT nominations for 2005. You can view updated awards criteria at [www.weat.org](http://www.weat.org), or you can contact me at 972-387-3339 or [hydronic@dallas.net](mailto:hydronic@dallas.net) to receive your own copy. I’ll be glad to help you in any way I can.

---

**The Water Environment Federation’s WEFTEC.04**

Join thousands of water professionals at the most powerful water quality event of the year! WEFTEC offers an unparalleled educational and training experience to anyone committed to water quality, and brings you the largest and most comprehensive Water Quality Exhibition in North America. This year’s conference and exhibition features 95 technical sessions, 23 workshops, 7 facility tours, over 800 exhibiting companies, and more! From October 2-6, 2004, you are invited to join us at WEFTEC.04 in New Orleans, Louisiana.

WEAT is sending two teams to compete in this year’s **WEFTEC Operation Challenge** - Texas Champions, TRA CReWSers and City of Austin’s Dillo Express (2nd in State).
2005 WEAT & WEF AWARDS STATE LEVEL NOMINATIONS
NOMINATION DEADLINE: NOVEMBER 1, 2004

This is our opportunity to honor outstanding achievement and service within our own state’s water environment industry. Let your peers know that their dedication and talents and hard work are appreciated. Don’t wait! Do it today!

**WEF ARTHUR SIDNEY BEDELL AWARD**
acknowledges extraordinary personal service to the Member Association (WEAT).

**WEF GEORGE W. BURKE, JR. AWARD**
recognizes municipal and industrial wastewater facilities for active and effective safety programs.

**WEF WILLIAM D. HATFIELD AWARD**
recognizes operators of wastewater treatment plants for outstanding performance and professionalism.

**WEF LABORATORY ANALYST EXCELLENCE**
recognizes individuals for outstanding performance, professionalism, and contributions to the water quality analysis profession.

**WEAT LIFETIME ACHIEVEMENT AWARD**
recognizes a current or past WEAT member who has demonstrated continual and tireless contributions toward the improvement of the water environment throughout a long and distinguished career in the wastewater treatment industry and in WEAT/WEF.

**WEAT PILLARS OF THE PROFESSION AWARD**
recognizes an individual with a long and distinguished career in the wastewater treatment or water quality industry who has demonstrated meaningful and substantial contributions toward the improvement of the water environment and who has had a positive impact on the success and growth of WEAT.

**WEAT MUNICIPAL WASTEWATER TREATMENT PLANT OF THE YEAR AWARD**
acknowledges a municipal wastewater treatment plant in Texas that has consistently exhibited outstanding performance of daily activities beyond the normal call of duty.

**WEAT INDUSTRIAL WASTEWATER TREATMENT PLANT OF THE YEAR AWARD**
acknowledges an industrial wastewater treatment plant in Texas that has consistently exhibited outstanding performance of daily activities beyond the normal call of duty.

**WEAT OUTSTANDING OPERATOR OF THE YEAR**
recognizes a wastewater treatment plant operator (municipal and/or industrial) in the State of Texas who has demonstrated outstanding professionalism at his/her facility and has performed his/her duties tirelessly and with dedication to the betterment of the water environment.

**WEAT MEDAL OF HONOR FOR HEROISM**
is presented to an individual (or group of individuals) from the State of Texas who has demonstrated exceptional courage and bravery in the performance of a single act of heroic behavior involving the water environment industry.

**WEAT SIDNEY L. ALLISON AWARD**
recognizes a person (or entity) who has made significant contributions to the engineering, science, and/or operation and maintenance of wastewater collection and pumping stations with the mission to transport wastewater to a treatment plant.

**WEAT WINFIELD S. MAHLIE AWARD**
recognizes a person who has made significant contributions to the art and science of wastewater treatment and water pollution control.

**WEAT T. L. SATTERWHITE AWARD**
recognizes an individual, an engineering firm, or an industrial entity for the development of a solution to an industrial wastewater treatment problem.

**WEAT EMERGING LEADER AWARD**
recognizes a young WEAT member who has provided outstanding service in support of WEAT.

For updated criteria, further information, and to submit a nomination, please contact:

WEAT Awards Committee
Attn: Betty Mayo, Chair
Hydronics, Inc.
5710 LBJ Freeway, Suite 270
Dallas, Texas 75240
Phone: 972-387-3339   FAX: 972-387-9399
E-mail: hydronic@dallas.net
ON THE FEDERAL FRONT
Washington – Six-Week Recess Begins

The Appropriations Committee cleared its version of the FY 2005 Environmental Protection Agency budget, recommending $613 million less for the agency than its FY 2004 level. EPA funding is included in the VA, HUD, and Independent Agencies appropriations bill. The largest portion of the cut is the clean water state revolving loan fund funded at $850 million, a $492 million reduction from FY 2004 levels.

The following lists the granted amount and the expected change from 2004 levels.
- $123 million for Brownfields grants (-$48 million)
- $1.16 billion for state environmental program grants (-$40 million)
- $74 million for the Leaking Underground Storage Fund (-$1.5 million)
- $228 million for State and local air quality assistance (+$1.3 million)

The House Transportation and Infrastructure Committee approved legislation (HR 784) that would authorize $1.5 billion over five years to aid communities in controlling sewer overflows through upgrades to sewer and wastewater systems. The bill authorizes EPA to provide local governments with grants totaling $250 million annually between FY 2005 and FY2010. Eligible infrastructure projects would be similar to projects funded through the state revolving funds.

WHAT'S NEW AT TCEQ
Rock Crushers and Quarries. In a press release sent out August 13, 2003, Governor Rick Perry announced an interim Advisory Committee on Rock Crushers and Quarries. The Committee will study The Texas Commission on Environmental Quality’s (TCEQ) authority to adequately address citizen concerns about the construction and operation of rock crushers, including rock crushers operating in association with quarries. Governor Perry named three state senators, three representatives, and three public members to the committee. The committee is scheduled to submit a report including recommendations for changes to the permitting laws to the governor and Legislature no later than December 13, 2004.

Recently, TCEQ initiated an aggressive campaign to inspect rock mining facilities across the state looking for violations of state environmental laws such as failure to implement a site specific Storm Water Pollution Prevention Plan, illicit discharge violations of storm and/or process water, and petroleum storage tank system compliance. Inspections are concentrated in the regions of the state where a large percentage of rock mining facilities are located. These are: Abilene, Austin, Dallas/Fort Worth, Houston, San Antonio, Waco. Certain inspections discovered discharges into adjacent water bodies.

Regional Certification for Water and Sewer Utilities. TCEQ provides regional certification based on certain criteria. Regional service providers are exempt from paying sales tax on water-and-sewer-related equipment and materials.

Questions about the certification process may be directed to Utilities and Districts Section staff at 512/239—4691. A sample letter to request certification and a list of providers already certified are available as PDF files. Staff at the Office of the Comptroller at 800/252-5555 can answer questions about which equipment and materials qualify as tax exempt.

LEGISLATIVE REPORT
Water Policy. A special hearing of the study issues related to ground and surface water law, policy, and management was held at Baylor University Law School. The hearing spotlighted Waco’s water quality problems induced by upstream dairies. The members reviewed scientific finds and political issues that have developed over the last few years. Those issues, along with funding alternatives for compost projects and other programs to reduce cow manure in the river, will provide a foundation for passing water quality legislation next session. Apparently, the North Bosque River effort is a model for cleaning up other impaired waterways, setting the standard for the nation with stronger rules, stronger enforcement and more equitable enforcement.

Rule of Capture Symposium was held June 15, 2004 and included the history and evolution of the rule of capture and its relationship to Chapter 36 of the Water Code and groundwater pumping. Conference proceedings are in TWDB Report 361. To order a printed copy of the 174-page report call (512) 463-8337. Several PDF files of the report are available on-line at http://www.twdb.state.tx.us/home/index.asp.

The Water Rights Advisory Work Group met on September 9, 2004 to discuss reuse from the applicant’s point of view, the rule 20 permit process and Commission Actions and Court Decisions.

The Science Advisory Committee of the Study Commission on Environmental Flows met on June 18, 2004. Items on the agenda include State Methodology for Determination of Freshwater Inflow to Bays and Estuaries and Approaches to Establish Minimum Requirements for Freshwater Inflow to Bays and Estuaries.

For more information, contact Rebecca Cobos at Rebecca.cobos@ci.austin.tx.us or (512) 972-0083.

From Ron Sieger
Past President

To my WEAT Family,

I recently had surgery for cancer and want to thank each and every WEAT member and friend for your support and prayers. WEAT is truly a family of water professionals who continue to support their friends and members.

The surgery was difficult, but I came out of it better because of my WEAT friends. I cherish your plants, cards, emails, and calls. I cannot thank all of you enough. As my tough days are not yet over, I humbly ask that you keep me and others in your thoughts and prayers. Thank you so much.
In the last column, I explained how “subscribers” of the Water Research Environment Federation (WERF) benefit from its research through free copies of detailed technical reports, project executive summaries, the quarterly newsletter, and various workshops and seminars. Subscribers don’t just receive benefits from the Federation’s research, they also provide crucial input that shapes the evolving research agenda and keeps it relevant. How does this happen?

WERF solicitis input through subscriber surveys and meetings, then prioritizes research funding through its Technical Advisory Committees and its Research Council. This year WERF funded six solicited and three unsolicited projects, including two on emerging contaminants.

**Spotlight on Stormwater Research**

A primary focus for WERF has been stormwater. One of the major projects in this area was *Best Practices for Treatment of Wet Weather Wastewater Flows*, which reviewed available and emerging technologies to improve the performance and efficiency of wet weather wastewater treatment. Recent completed projects include *Metals Removal Technologies for Stormwater, Reducing Peak Rainfall-Derived Infiltration and Inflow Rates: Case Studies and Protocols, and Effective Practices for Sanitary Sewer and Collection Systems Operation and Maintenance*.

Ongoing stormwater research includes the project *Selecting Stormwater Treatment and Control Options*. This research will assist stormwater managers in selecting, sizing, and prioritizing stormwater controls or best management practices.

**Spotlight on Upcoming WERF Events**

**WEFTEC** – WERF will sponsor several workshops: check listings and descriptions at [www.werf.org](http://www.werf.org)

**Interactive web seminars:**

- **Nutrient Treatment and Management**
  - November 10, 2004  2:00-4:00 EST
- **Collection Systems and Wet Weather Management**
  - December 8, 2004  2:00-4:00 EST

About becoming a subscriber … Since WEAT is a member subscriber to WERF, every WEAT member is already linked to WERF — please use this opportunity to provide input through your WEAT leaders! Each subscriber receives a *single* free copy of downloadable research reports; therefore, one of the greatest benefits of WERF membership is available only if your organization is itself a WERF subscriber. For public agencies, membership fees depend on the daily average treated flow; for corporate subscribers, membership fees depend on wastewater- and/or stormwater-related billings.

In the next issue:

*Overview of WERF’s biosolids research, WERF’s 2005/2006 Long-Range plan*

---

**Project Engineer Wanted**

San Antonio Water System (SAWS) is a municipally owned utility company providing water, wastewater, and reuse service to a customer base of approximately one million people. SAWS provides both retail and wholesale water and wastewater service through a workforce of 1600 dedicated professionals. In addition, SAWS provides chilled water and/or service to various high profile customers in the downtown area.

SAWS is searching for Project Engineers having background in design and construction of water treatment plants, pump stations, large capacity transmission lines, lift stations, water storage tanks, instrumentation controls, and wastewater treatment plants.

Candidates must have a Bachelor of Science Degree in the Engineering field and the Professional Engineer License in the state of Texas.

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Position Closing Date October 8, 2004

The San Antonio Water System believes in a diverse workforce and is an Equal Opportunity Employer.
All Things YP  
By Heather Harris

As an active WEAT YP, I approve of the message “All Things YP”. Does this slogan sound a little familiar? This time of year, YP can stand for “Year of the President”. With the Presidential election in full force, it got me to thinking about the many issues that face our great nation.

Of course, one of the key issues is the quality of our environment. One part of the WEAT mission statement is “to benefit society through protection and enhancement of the water environment”. To do this, many people are dedicating their time and resources to make this statement ring true.

The Young Professionals group is an integral part of the fine-tuned WEAT machine. Without participation of YP’s, the machine is not as efficient. So give your local chapter a call, attend a meeting, volunteer for a committee, and before you know it, you’ll be making a difference.

Just like this year’s Presidential election, your individual vote (participation) counts!

SAFETY  
By Jerry Garcia

CARRYING TOOLS

Many hand tool injuries occur when tools are being carried or when they’re simply left somewhere. Usually, these common sense items are easily overlooked. The mindset of, I’ll be right back and nobody has been by the whole time I have been working here, I can leave a tool laying here, or put that tool in your pocket while you get something else, is definitely going to be the very thing that causes an accident.

Remember these rules:

- Carry pointed tools such as screwdrivers with the pointed edges away from your body.
- Use a toolbox or belt if you’re carrying several tools. Make sure the toolbox lid is securely fastened. In addition, the tool belt shouldn’t be so overloaded that you leave a trail of tools on the floor or ground as you walk.
- Haul tools up a ladder in a bucket or bag and bring them down the same way. Never haul tools or equipment over the head of a person, not even if they are wearing a hard-hat.
- Keep track of your tools and don’t leave any lying around, especially if you’re working above ground level or near an opening such as a manhole or meter vault.
- Always hand, don’t throw, tools to co-workers. Pass them handle first. Be extra careful when passing sharp or pointed tools to a co-worker.

These simple yet important rules can mean the difference between a routine day or a day you would rather forget. You may also be left with a small reminder in the form of a cut or other injury that leaves a scar. Pay attention to the little things and keep your routine days routine.
2004 WEAT Membership Drive
Help A Colleague Succeed Professionally

A 5-minute conversation, a phone call, or a quick e-mail - that’s all it takes to share the benefits of WEAT membership, strengthen your industry and, in the process, become a prize winning sponsor! Read on to recollect the benefits you enjoy that could be shared!

Multiple Prizes Will Be Awarded To Sponsors

- Every time you recruit a new member, your name will be entered into the Grand Prize Drawing! The more members you sponsor, the greater your chances of winning.
- The WEAT member who recruits the most new members will be recognized at Texas Water 2005 and awarded a valuable prize!
- The runner-ups will receive other great gifts!
- To receive sponsor credit in this year’s recruitment drive, make sure that the NEW members you recruit submit their completed applications and payment with your name written on the ‘Sponsor’ line, no later than December 31, 2004.

WEAT and WEF – A Powerful Partnership

The Water Environment Federation (WEF) and the Water Environment Association of Texas (WEAT) are not-for-profit education and technical organizations dedicated to working for water quality professionals. WEF membership includes over 36,000 water professionals from around the world, working in every area of water quality. WEAT has over 1,500 members and is committed to providing you with the tools needed to stay on top of a changing political, economic and global environment, while offering you leadership opportunities and knowledge base that is truly extraordinary.

WEAT And WEF Provide the Best Water Quality Education And Training

Texas Water – WEAT’s annual Conference and Exhibition. Held in conjunction with TAWWA, Texas Water is the largest water conference in the five-state region. This three-day event features 100+ technical papers, 300 exhibitors, workshops, facility tours and networking.

WEFTEC. WEF’s Annual Technical Exhibition and Conference is regarded as being the most powerful water quality event in the world, attracting thousands of professionals each year who attend over 80 technical sessions, 20 workshops, facility tours, and have access to over 800 exhibiting companies at the largest water quality exhibition in North America.

Specialty Conferences. These one to three day conferences deliver the latest technology and research targeted to address cutting-edge topics in water quality.

WEAT Education and Training. WEAT and its 20 local sections hold training and several specialty conferences throughout the year. Sections are located in the major Texas cities and offer membership meetings with technical speakers. Texas WET is a bimonthly magazine that brings WEAT’s leadership to all its members. WEAT’s Water Education and Training Program (WEAT-WEAT) is set up to provide practical and affordable training for all areas of the Water Profession.

WEF’s Training Program. Targeted to meet the needs of utilities, individuals, and trainers and designed as preparation for certifica-
ting and continuing education requirements, WEF’s Training Program offers a wide range of resources.

Technical Manuals and publications. WEF publishes more than 180 manuals and publications, many of which have become definitive references for the water quality profession. Highly respected authors and years of research make WEF’s bookstore the leading resource for the latest practices and technologies.

WEAT And WEF Provide Tools Designed To Enhance Your Career

Leadership Opportunities. Committee involvement and service in volunteer positions offer you access to a network of professionals working to advance the world of water quality.

Young Professionals Program. Water quality professionals with fewer than 10 years working experience and/or are under the age of 35, are eligible to join WEAT and WEF at 50% discounted dues, valid for the first year of membership. Additionally, local sections of WEAT provide numerous opportunities for networking with other young professionals, including social hours and volunteer programs.

Information on the latest technologies. WEAT and WEF keep their members well informed of the latest developments, regulations, and innovations needed to stay ahead and achieve the highest standards possible in your field.

Pride and recognition of making a difference. As part of WEAT and WEF, you will be connected to a community of people, like you, who are striving and succeeding to make the world’s water cleaner and safer. WEAT and WEF are committed to providing the best tools and resources available for those wanting to make a positive impact on our environment.
CALL FOR PAPERS
Individuals desiring to present a paper at the 3rd Bi-Annual Odor and Corrosion Conference & Expo should prepare a ONE page abstract describing the subject matter in sufficient detail to allow evaluation of the proposed topic. Suggested topics are:

- Emissions from Collection Systems, Wastewater Treatment Plants, and Landfills
- Emissions from Composting Facilities and Emissions from Biosolids Processing and Land Application
- Emissions from Manufacturing and Industrial Facilities
- Regulatory, Air Quality Permitting, and Policy Issues
- Odor-Complaint Response, Community Involvement, and Community Relations
- Emissions Capture, Cover, and Ventilation
- Operations and Maintenance Issues Associated with Wastewater Treatment Plant Odor Containment
- Wet Chemical Scrubbing and other Chemical Treatment Alternatives
- Carbon Adsorption and other Physical Treatment Systems
- Biological Treatment Systems or other Innovative Control Technologies
- Ventilation Controls for Sewers and Tunnels under Positive Pressure

Abstracts with the greatest potential interest will be selected for presentation. Criteria for selection of a paper include:

- Originality
- Significance of Work
- Technical Content
- Quality of Abstract

SUBMISSION DEADLINE: FEBRUARY 1, 2005

Send Abstracts with Abstract Submittal Form to:

Chris Quigley
CH2M Hill
6210 Highway 290 East, Suite 430
Austin, TX, 78723
Phone: (512) 453-2468 x225
Fax: (512) 453-4109
Email: cquigley@CH2M.com

Find Abstract Submittal Form at WEAT.ORG.
Present
CONTROL OF FATS, OILS, & GREASE (FOG)
ADVANCED TRAINING COURSE

November 4 & 5, 2004
Houston, Texas

Supported in cooperative agreement by
US Environmental Protection Agency—Office of Water

TRAINING COURSE MODULES

- **Marketing your Grease Control Program**
  Convincing your administration and stakeholders that they need an Oil & Grease Control Program

- **Permits**
  Identifying and classifying sources
  Developing a permitting process

- **Legal Authority**
  Writing good sewer use ordinances and grease control regulations
  Sample ordinances from several successful programs

- **Enforcement**
  Violation recognition
  Enforcement response guide
  Enforcement documents
  Fines & penalties

- **Oil & Grease Management**
  Identifying grease creators
  Pollution prevention
  Permitting and inspection
  Disposal and containment

- **Effective Inspection Training**
  Reviewing current regulations
  Inspection techniques
  Gathering Facility Operational Data
  Completing Inspection Forms
  Conducting follow-up - communicating inspection concerns and recommendations

- **Design Issues**
  Assuring effective grease trap/interceptor design
  Sample collection
  Alternative Methods: Generation and Interception

- **Operation & Maintenance Issues**
  Grease trap and interceptor MOM
  Ensuring the use of reputable waste haulers
  Confirming that FOG wastes are properly disposed of
  Lateral cleaning issues – Who’s responsible for the grease?
  Vapor hood cleaning

- **Additives**
  Pros/Cons
  Case studies
  Research Report

- **Grease Control Program Record-keeping /Information Management**
  Integrating Oil & Grease Program information into Collection Systems databases/information systems
  Tracking the effectiveness of your FOG Control Program

- **Success Stories**
- **Additional Resources for Implementing Grease Control Programs**
- **Summary**

Registration form and details can be found on the following page and on WEAT’s website at www.weat.org.
FOG COURSE REGISTRATION FORM

Houston, Texas - November 4 & 5, 2004

Registration Instructions
- Complete the registration form below. Complete one form for each person attending the workshop.
- Payment must accompany registration forms. (Photocopies of checks are not acceptable.)
- Make checks payable to Water Environment Federation.
- Approved US government purchase orders must accompany the registration form. Government purchase orders are not accepted on-site.
- Confirmations will be emailed or faxed within 3-5 business days of receipt. Due to volume, WEF cannot confirm receipt of registration forms by phone.

PRE-REGISTRATION DEADLINE: Wednesday, October 27, 2004
Registration Forms will be processed on a space available basis. If you do not register before Wednesday, October 27, 2004, you must register onsite. Please call to be sure space is available. All cancellations must be submitted in writing to WEF on or before October 27, 2004 in order to receive a full refund. A 25% cancellation fee will be deducted from all refunds.

To Register
Online: Credit card payments only www.wef.org (Click on Events) 1-703-684-2471
By Fax: Credit card & government purchase orders only 1-800-666-0206 (select menu option #2) 1-703-684-2452
By Phone: Credit card payments only
Outside the United States or Canada
By Mail: Check, credit card, Government Purchase Order:

Registration Coordinator
Water Environment Federation
601 Wythe Street
Alexandria, VA 22314-1994

WEF MEMER ID# (For Member Rate) ___________

(Please mark selection)

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Total Payment (must accompany form)

Last Name __________________________ First Name __________________________
Organization __________________________
Address __________________________
City __________________________ State __________ Country __________ Zip __________
Telephone __________________________ Fax __________________________
Email __________________________
Method of Payment: □ Government PO (O) PO No. __________________________
□ Company Check (C) Check No. __________________________
□ Personal Check (P) Check No. __________________________
□ AMEX __________ □ Master Card __________ □ VISA __________
Credit Card Number __________________________ Expiration Date __________________________
Signature __________________________ I authorize WEF to charge my credit card for the amount listed above.
A brand new committee has been launched by the WEAT Board of Control. On July 23, 2004, the Board voted into existence the Manufacturers and Representatives Committee (MARC). The Committee was formed expressly to meet the needs of Texas companies and individuals actively distributing or manufacturing products for the municipal or industrial wastewater market.

Initial members of MARC will be Mr. Keith Williams of Ashbrook Corporation, Mr. Matt Madolora of Premier Chemicals, Mr. Sam Caillouet of CF Engineered Equipment, Mr. Scott Long of Seepex, and Mr. Brian Phenegar of Environmental Improvements. Serving as Co-Chairs of MARC will be Mr. Ron Mayo of Hydronics and Ms. Nita Bailey of Conservatek. In April of 2005, Ms. Bailey will assume full Chair responsibilities for a three-year term.

Advisors to MARC will be Mr. Joe Lindeman of Archer Western Contractors, Mr. Foster Crowell of the City of Corpus Christi, Mr. Matthew Berg of CH2M HILL, and Mr. Tom Webber from the Texas Commission on Environmental Quality (TCEQ).

The initial committee meeting will take place within the near future in order to establish a formal Committee Mission Statement and to plan for future activities. One of the objectives of MARC will be to introduce new equipment technology into the marketplace through seminars and mini-conferences.

If you wish to take an active role in developing this MARC effort, please contact Ms. Nita Bailey at 936-539-1747 or Mr. Ron Mayo at 972-387-3339.

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### 3rd Annual AWWA Drinking Water Seminar

**North Central Texas Chapter of Texas**

The North Central Texas Chapter is pleased to announce the Third Annual Drinking Water Seminar to be held on October 29, 2004 at the Petroleum Club in Fort Worth. The seminar will offer valuable information on topics such as drinking water treatment, distribution quality, financing and regulatory updates. Operator Certification Hours and engineering PDH credit will be given for the seminar. For additional information, please contact Mali Culp at (817) 332-8727.

**PROGRAM SCHEDULE**

**7:30-8:30** Registration

**8:45-9:00** Welcome - David Wasson, Benbrook Water and Sewer Authority

**Water Treatment Session**

**9:00-9:30** Treatment Technologies for Compliance with the Stage 2 DBPR and LT2ESWTR – Susan Crawford, CDM

**9:30-10:00** Decision Making Process for Selecting Membranes for Water Treatment – Larry Patterson, Upper Trinity Regional Water District

**10:00-10:15** Break

**10:15-10:45** Ozone Disinfection – Joe Giannone, Ozonia North America

**10:45-11:15** Ultraviolet Disinfection/Oxidation – Christian Williamson, Trojan Technologies

**Water Quality Session**

**11:15-11:45** Nitrification in Drinking Water Systems – Richard Talley, City of Fort Worth

**11:45-1:00** Lunch

**1:00-1:30** Unidirectional Flushing – Richard Weatherly, Freese and Nichols, Inc.

**Funding, Finance, and Regulatory**

**1:30-2:00** Funding and Finance – Tim F. Glendening, Tim F. Glendening & Associates

**2:00-2:15** Break

**2:15-2:45** Municipal Water Audit Guidelines – Mark Mathis, TWDB

**2:45-3:30** Regulatory Updates – Jack Schulze, TCEQ

**Cost:** $95 (by October 21st) - $110 (after October 21st)
WEF Director’s Report
By Ron L. Mayo

During the New Orleans WEFTEC 2004, the Water Environment Federation will be asking those of us who serve as WEF Directors to redefine the interaction of the Member Associations with the WEF. The House of Delegates (formerly Board of Control) will meet on October 2 and October 10 of 2004 in order to establish priorities of the Member Associations.

Please contact me (972-387-3339) or Co-Director Betty Jordan of Alan Plummer Associates (817-284-2724) if you have concerns that need to be addressed or if you have ideas you would like to be considered during this reorganization session. Your input is needed and welcome.

President’s column. Continued from page 4.

enced in the last issue, the Manufacturer and Representative Committee has been formally adopted as a standing committee.

As we move forward, WEAT will be providing increased financial benefits to our members such as lower fees for participation in many activities from WEAT sponsored seminars to local section meetings. Keep your memberships current.

Texas Water 2005. The initial local arrangements planning meeting took place in July in the offices of the Harris-Galveston Coastal Subsidence District in Friendswood, Texas. WEAT’s chair for Texas Water 2005, Brian Broussard was thoroughly prepared and propelled the committee to an exceptional start. They have a large number of volunteers lined up but are always looking for additional resources. If you are interested in being a part of Texas Water 2005 contact Brian at brian.d.broussard@mwhglobal.com to get on board.

WEFTC.04. This is the last issue prior to WEFTC.04. If you have not already registered, you can still register on-line at www.wef.org. See you there.

WEAT WEAT. Continued from page 6.

this time. Please check the WEAT website for date and schedule.

3rd Annual Odor and Corrosion Seminar
WEAT will hold its 3rd Annual Odor and Corrosion Seminar in late May 2005 in the DFW Metroplex area. The Call for Papers is located in this issue and on WEAT’s website.

PERSONAL NOTE:
WEAT’s past president, Ron Sieger, recently went through cancer surgery. Ron is resting at home for several weeks after his ordeal. He is feeling much better now and hopes to return to his normal lifestyle within a month. Ron has a message for his WEAT friends in this issue. We all wish Ron a speedy recovery.

FOR WASTEWATER OPERATORS, ENGINEERS, LABORATORY MANAGERS and TECHNICIANS

Wastewater Organism CD - $30

“Very inexpensive and a worthwhile investment”
Betty Jordan of Alan Plummer Associates, Inc.

You can now purchase Wastewater organism database CD that has more than 150 high quality micro-photographs that can be magnified up to 1200x. This is ideal for viewing cell contents and differentiation. The file is Acrobat and is compatible with any computer. All files can be viewed directly from the CD. To purchase your CD, go WEAT’s website at www.weat.org

Reviewed by:
Ron Sieger, CH2M Hill
Patty Cleveland, Trinity River Authority
Rhonda Harris, Pro-Op
Betty Jordan, Alan Plummer Associates, Inc.

Excellent for all Wastewater Laboratories
### Committee Chairs

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<thead>
<tr>
<th>Committee</th>
<th>Chair</th>
<th>Phone Number</th>
</tr>
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<tbody>
<tr>
<td>Audit &amp; Budget</td>
<td>Bob Smith</td>
<td>214-752-8300</td>
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<tr>
<td>Awards</td>
<td>Betty Mayo</td>
<td>972-387-3339</td>
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<tr>
<td>By-Laws</td>
<td>Patty Cleveland</td>
<td>817-493-5100</td>
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<tr>
<td>Conference Mgmt (Annual)</td>
<td>Brian Broussard</td>
<td>713-403-1669</td>
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<tr>
<td>Conference Mgmt (Seminars)</td>
<td>Randy Bush</td>
<td>214-360-9929</td>
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<td>Ethic Education</td>
<td>Robert McMillon</td>
<td>817-277-7591</td>
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<td>Exhibits</td>
<td>Rhonda Harris</td>
<td>956-795-2600</td>
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<tr>
<td>Government Affairs</td>
<td>Rebecca Cobos</td>
<td>512-322-3663</td>
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<td>International Liaison</td>
<td>Ron Carlson</td>
<td>817-277-7591</td>
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<td>Membership</td>
<td>Jennafer Covington</td>
<td>972-980-2188</td>
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<tr>
<td>Nominating</td>
<td>Ron Sieger</td>
<td>972-980-2170</td>
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<td>Program</td>
<td>Phil Spitzer</td>
<td>214-570-7054</td>
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<tr>
<td>Public Education (co-chairs)</td>
<td>Karen Bick</td>
<td>214-665-7539</td>
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<td></td>
<td>Cathy Henderson</td>
<td>972-262-5186</td>
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<td>Bill Goloby</td>
<td>713-641-9169</td>
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<td>Resolutions</td>
<td>Jim Taffe</td>
<td>817-594-2277</td>
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<td>Safety</td>
<td>Leonard Leinfelder</td>
<td>972-937-2624</td>
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<tr>
<td>Student Affairs</td>
<td>Bill Rixey</td>
<td>713-743-4279</td>
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<tr>
<td>Young Professionals (co-chairs)</td>
<td>Becky Guthrie</td>
<td>940-349-8938</td>
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<td>Heather Harris</td>
<td>512-453-2468</td>
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### Executive Committee

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<td>Raymond Longoria</td>
<td>214-217-2252</td>
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<tr>
<td>President-Elect</td>
<td>Richard Eason</td>
<td>512-261-6222</td>
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<td>Vice-President</td>
<td>Paul Roach</td>
<td>214-638-0500</td>
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<td>Secretary</td>
<td>Curtis Smalley</td>
<td>254-776-1441</td>
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<td>Treasurer</td>
<td>Brad Castleberry</td>
<td>512-322-5800</td>
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<tr>
<td>Past WEF Director</td>
<td>Carolyn Ahrens Wieland</td>
<td>512-472-3263</td>
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<tr>
<td>WEF Director</td>
<td>Ron Mayo</td>
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<tr>
<td>Historian</td>
<td>Carol Batterton</td>
<td>512-239-6306</td>
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<tr>
<td>Past President</td>
<td>Ron Sieger</td>
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<td>Betty Jordan</td>
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<tr>
<td>PWO Representative</td>
<td>John Bennett</td>
<td>817-430-4657</td>
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### Mission Statement

The Water Environment Association of Texas is an open association of water environment professionals, practitioners, and operations specialists with a broad range of expertise working together to:

1. Meet the needs of its members for professional growth and development;
2. Educate the public on water environmental issues;
3. Benefit society through protection and enhancement of the water environment.
Utility Memberships Are Now Available in WEAT

Are you a utility employee?
Do you or your colleagues have difficulties getting your membership dues paid for or reimbursed?
Do your colleagues have to pay non-member registration rates for WEAT events?
Would your utility benefit from a single line item in the budget to cover membership dues?

If so, consider the benefits of WEAT Utility Memberships.

♦ All employees of the member utility will be able to register at all WEAT meetings, conferences, seminars and workshops at the lower member rate. Additionally, WEF member benefits apply to the specific individuals designated by the utility.

♦ Dues structure will provide discounts over separately purchased memberships, and utilities may purchase additional memberships at a reduced rate.

♦ Utility membership will allow utilities to budget adequately for WEF and WEAT memberships and further enable utility staff to take advantage of the WEF and WEAT benefits.

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* Wastewater Flows are the total permitted flows of all the facilities within the utility.

Active and Professional Wastewater Operations (PWO) individual memberships include WEF Highlights, Texas WET, and either WE&T (including Operations Forum) or Water Environment Research. Executive memberships receive all publications given to Active and PWO members and also the following publications: WEF Industrial Wastewater, Regulation Watch, Biosolids Technical Bulletin, Watershed and Wet Weather Technical Bulletin, Utility Executive, and Laboratory Solutions. Dues are calculated based on combined permitted wastewater flow for wastewater facilities, as shown in the table. Utilities with a permitted flow of less than 10 mgd may select from 2 categories, providing an option to include an active membership rather than only PWO memberships. After determining the appropriate category, it must be determined who shall receive each of the individual memberships shown in the right column of the table.

The application can be downloaded from www.WEAT.org. Contact Cheryl Smith for additional information at (866) 406-9328 or cheryl@weat.org.