The CWEA Annual Conference was held in Santa Clara April 29th – May 2nd. The Annual Conference Committee worked diligently over the past year to make the 2014 conference the best yet. This year’s theme was Training + Innovation = Excellence and in keeping with this theme the committee made several innovative improvements to the conference which included:

- Improved technical sessions through leadership and speaker training throughout the year
- Re-invented opening general session that focused on innovation
- Expanded Operation Challenge to include international teams
- New mobile app for conference to communicate with attendees

The 2013 Awards Luncheon was held on the last day of the conference, May 2nd. CWEA’s awards program has grown to acknowledge outstanding achievement in more than 20 categories honoring exceptional California water environment professionals, collection systems, and treatment plants. Categories include Plant of the Year, Collection System of the Year, Public Education Program of the Year as well as awards of individual professionals in various vocations. The program seeks to recognize outstanding achievements within the water environment field, improve the professional status of all personnel working in the field, and stimulate public awareness of the importance of wastewater treatment to public health and the water environment.

Nominations that advance through CWEA’s 17 local sections’ awards programs are eligible to compete at the state level. Congratulations to the nominees to the 2013 awards program for their diligent work to keep California’s water clean. Local members winning at the State level included:

- Encina Wastewater Authority, Encina Water Pollution Control Facility – Plant of the Year, Greater than 20 MGD
- Valley Center Municipal Water District, Lower Moosa Canyon Reclamation Facility – Plant of the Year, Less than 5 MGD
- Gabriel Mendez, Leucadia Wastewater District – Collection System Person of the Year

Garry Parker, CWEA San Diego Section Past President, was elected to the State Board as Vice President. Also, 2013 Past President of the San Diego Section, Kent Bricker, was awarded the 5S Society, the gold shovel.

All in all the Annual Conference was a great success! The San Diego Section is especially looking forward to the 2015 Annual Conference as it will be here in San Diego! See you there!

- Contributed by Lisa Knox, CWEA SDS Treasurer, Dudek
Just like a tripod needs all three legs to stand up and be stable, a sewer collection/treatment system needs three legs as well. These legs are:

1. Operations – to keep things running
2. Engineering – to design the facilities
3. Management – to keep the operation staffed and funded

A sewer collection/treatment system needs all three of these legs to function properly. For a collection system to function at a high level and serve the public well, these three legs need to communicate regularly. We all know CWEA as a training and certification organization for operators. CWEA never wants to lose sight of that mission. CWEA does want to help sewer professionals, all three legs, function at their highest level by providing a venue for sharing and communication. While attending the annual conference in Santa Clara a little over a month ago I saw and participated in the enhanced communication a conference spawns. The conference was great by the way and I saw a lot of San Diego region folks there. During the various meetings, presentations and socializing the thought came to me – this is so great - operators, engineers and managers all mingling together why does it only happen once a year? The answer is simple, it doesn’t happen only once a year. We have professional meetings a least once a month in the San Diego section with the same networking and story sharing opportunities that make the annual conference so rewarding. So come on out to our meetings and participate, better yet help us organize a meeting and while you are at it invite one of the other legs to come with you.

For an even more enhanced CWEA experience, volunteer! We need a second director on the Board. If you want to participate in

The CWEA San Diego section mission is to provide education, networking, and professional development for wastewater professionals.

this rewarding opportunity let us know. You can stop by a board meeting and see what it is like. Any past President or current Board Member will tell you serving is a rewarding experience both professionally and personally.

The CWEA San Diego section mission is to provide education, networking and professional development for wastewater professionals. The Board is always interested in event suggestions so don’t be shy. The Board members with contacts are listed in this newsletter. Feel free to contact anyone of us with comments or suggestions of how CWEA can serve the membership better.

Flush with confidence,
Steve Jepsen, CWEA SDS President, Dudek
2014 BOARD MEMBERS

PRESIDENT
Steve Jepsen
Dudek
sjepsen@dudek.com
760.415.4332

VICE PRESIDENT
Leeann Warchol
Encina Wastewater Authority
lwarchol@encinajpa.com
760.268.8849

TREASURER
Lisa Knox
Dudek
lknox@dudek.com
760.479.4110

SECRETARY
Richard Gurevich
richardgurevich@yahoo.com
619.929.1957

FIRST DIRECTOR
Elmer Alex, PE
City of Vista
ealex@ci.vista.ca.us
760.726.1340 x1356

PAST PRESIDENT
Garry Parker
Encina Wastewater Authority
gparker@encinajpa.com
760.268.8846

GOT NEWS OR WANT TO SPONSOR?
Contact Lisa Knox at lknox@dudek.com to submit articles and receive sponsorship information.

WAKE UP TO WASTEWATER
Leucadia Wastewater District

On Wednesday, April 9th, CWEA Operators and Engineers gathered for a Wake up to Wastewater tour at the award winning Leucadia Wastewater Authority. In 1959, residents of the unincorporated North San Diego County coastal community of Leucadia established the Leucadia County Water District. The District was established on April 8, 1959 under the County Water District Law (Division 12 of the California Water Code). Established as an independent special district, the District was authorized to provide wastewater collection and treatment services and to levy rates and fees to support those services. As such, the District initially provided wastewater services to the 2,700 residents of the Leucadia area and surrounding community. The District was later renamed the Leucadia Wastewater District in 2003 to better reflect the services provided.

Jeff Stecker, Field Services Superintendent, provided an informative presentation on benefits of sewer cleaning and quality control with CCTV verification. After the presentation, the group toured the Gafner Advanced Water Treatment Facility. CWEA local section would like to thank Leucadia Wastewater District for allowing us to tour your wonderful facility. See you soon.

- Contributed by Leeann Warchol,
  CWEA SDS Vice President,

The CWEA San Diego Section gathers at Leucadia Wastewater District for a tour of the Gafner Advanced Water Treatment Facility. The Section heard, Jeff Stecker, Field Services Superintendent, present the benefits of sewer cleaning and CCTV verification.
CITY OF SAN DIEGO CELEBRATES 2012 LARGE COLLECTIONS SYSTEM OF THE YEAR AWARD

On March 21, a special event was held at MOC II for the Wastewater Collection Division in celebration of the City of San Diego receiving the Large Collection System of the Year Award for 2012. The statewide award was presented to the Public Utilities Department by the California Water Environment Association (CWEA). San Diego competed against 17 other agencies from around the state with waste-water systems of 500 miles or more of pipeline.

The Division’s many recent accomplishments were highlighted during the lunchtime activity. The City has greatly reduced the number of sewer spills from a high in 2000 of 365 spills (an average of one a day) to 40 spills in 2012. This was due in large part by the Division’s aggressive Sewer Spill Reduction Program. All 3,000 miles of the Municipal Sewerage System were cleaned between 2001 and 2004, and a system-wide maintenance schedule was developed. Also, crews put great emphasis on addressing the two most common causes of blocked sewer lines: tree roots and grease buildup. In addition, the City is in the midst of a $585 million capital improvement program to complete necessary sewer system upgrades throughout San Diego.

Most Wastewater Collection Division staff members were present to enjoy the luncheon event. Those that spoke at the occasion included: Director of Public Utilities Halla Razak, Distribution & Collections Branch Assistant Director Stan Griffith, and Wastewater Collection Division Deputy Director Agnes Generoso, as well as CWEA State President Simon Watson and CWEA San Diego Section President Steve Jepsen.

The Department received a certificate and plaque, as well as a flag that now flies in front of the MOC II entrance. San Diego previously won the award in 1994, 1996 and 2003.

The Division continues to work hard toward reducing the number of spills with an ultimate goal of zero. While this may be an idealistic goal, the City had a “No Spill Month” for the month of February 2014, only the fourth time the Department has recorded no sewer spills for an entire month. The accomplishment was reported to the California Regional Water Resources Control Board.

We are always looking for articles to feature in our newsletter. If you have any technical or special content about our agency or district you would like to share, please contact Lisa Knox at lknx@dudek.com.
FORE!! THE SAN DIEGO SECTION HITS THE GOLF COURSE

The 19th Annual Bill Fannon Memorial Golf Tournament

On another picture perfect day on May 9th the CWEA San Diego Section held its 19th annual Bill Fannon Memorial golf tournament at the Twin Oaks golf course for the third year in a row. Following a week of record highs in the 90s seeing temperatures drop back to more normal levels was a welcome relief. This year’s tournament was attended by close to 50 players, with nearly half the participants being from agencies. Four agencies fielded teams this year including Padre Dam MWD, the City of Oceanside (the defending champions from last year), the City of San Diego, and the Santa Fe Irrigation District. Being a newcomer to our tournament, the Santa Fe Irrigation District, brought some added competition by succeeding in winning the fourth annual perpetual award. We look forward to them returning next year to defend their title against a larger field of agency teams. Many thanks to our sponsors, golf committee members and helpers, and the Section board of directors for helping to make this year’s tournament another great success.

- Contributed by Ken Fonda, Golf Tournament Chairman

Top Photo: The winning Sante Fe Irrigation team, Elijah Standing Warrior, Steve Hooker, Kevin Mazco, and Craig Biggs.
Right Photo: San Diego Section golfers ready to hit the course.

2014 AWARDS PROGRAM

Attention all local section members! The Awards Program officially kicks off July 1st.
For a list of local section awards and to download nomination forms please go to
http://www.cwea.org/mlr_member_awards.shtml
For questions, contact Garry Parker, CWEA Past President, at gparker@encinajpa.com
The characteristic "rotten egg smell" that emanates from collection systems and prompts complaints from residents is largely due to hydrogen sulfide (H2S) gas. H2S is highly toxic to humans, which is likely the reason humans can smell extremely low concentrations of the gas. While this is a good defense mechanism to warn us of the presence of a deadly gas, it is often a public nuisance and cause for complaints when the gas escapes from the sewer headspace.

In municipal collection systems, H2S is formed in areas where the wastewater contains little or no dissolved oxygen. This is common in long/oversized force mains or inverted siphons, in stagnant wet wells with excessively long detention times, or in portions of a pipe containing sediment build-up.

The production of H2S in wastewater is largely dependent on three factors: availability of nutrients, warm wastewater temperatures, and the length of time the wastewater is without dissolved oxygen. Of those three factors, the wastewater temperature has the greatest impact on the production of H2S. For instance, increasing the wastewater temperature by 10 percent will increase the production of H2S more than increasing the amount of nutrients or the time without oxygen by the same percentage. Warmer temperatures accelerate most biological reactions. This is why food will spoil much sooner inside your refrigerator. So in the same respect, warmer summertime temperature wastewater will "spoil" quicker and generate H2S at a faster rate than cooler winter-time wastewater.

H2S is generated in a slime layer that develops on the wetted portion of pipe wall. When H2S is initially formed it is dissolved in the wastewater. It eventually escapes the wastewater and into the sewer headspace as a gas. Turbulence in the wastewater accelerates the release of H2S from its dissolved form to its gaseous form in sewer headspace. If the sewer air containing H2S gas escapes the sewer headspace, it can be detected by the public, resulting in odor complaints. There are several situations that can cause sewer air to escape to the outside atmosphere.

One thing that is often over-looked is that gravity sewers in fact convey two fluids: 1) wastewater, and 2) the air above the wastewater. Typically inside sewers, the headspace air moves in the direction of the flow of the wastewater. This is caused by the movement of the wastewater itself. As wastewater flows down the sewer it pulls the air above it, causing it to move in the direction of the water flow. This movement of air causes the inside of the sewer to be under a slight vacuum, which causes fresh air from the outside atmosphere to flow into the sewer headspace. Ideally, this vacuum would be maintained as the airflow would continue unimpeded all the way down to a treatment plant or a pump station where it can be treated. However, in the real world, sewer lines inevitably encounter obstacles that prevent the continuous flow of air. When the air flow is disrupted, the headspace can lose its vacuum, causing sewer air to flow out of the sewer headspace through the manholes near the flow obstruction.

The disruptions in air flow can be inherent to the design of the sewer, such as at the inlet of inverted siphons. Since inverted siphons flow completely full for a portion of the length, they create a blockage to the downstream transport of headspace air carried by drag of the wastewater flow. As the headspace air is blocked at the siphon entrance, pressure builds and headspace air is forced through manhole pick holes, or in some cases, customer plumbing vents. This is illustrated in Figure 1.

Figure 1

continued on pg 9
California Water Environmental Association
San Diego Section

DIAMOND - $1000
- Diamond level listing in the Bull Sheet
- Diamond level listing on signage at each table at Annual Banquet
- Recognition as sponsor at local section events
- Company logo posted on SDS website, with link to company website
- Half-page full color ad on back cover or inside the front cover of one edition of Bull Sheet – please email ½ page color ad to lknox@dudek.com
- Two complimentary tickets to the Annual Banquet in January 2015
- One complimentary tee hole sponsorship at the Annual Golf Tournament
- Business Card Advertisement – please enclose business card or email to lknox@dudek.com

PLATINUM - $500
- Platinum level listing in the Bull Sheet
- Platinum level listing on signage at each table at the Annual Banquet
- Recognition as sponsor at local section events
- Company listed on rolling banner on SDS website, with link to company website
- Half-page ad on back cover or inside the front cover of one edition of Bull Sheet – please email ½ page color ad to lknox@dudek.com
- One complimentary tickets to the Annual Banquet in January 2015
- Business Card Advertisement – please enclose business card or email to lknox@dudek.com

GOLD - $250
- Gold level listing in the Bull Sheet
- Gold level listing on signage at each table at the Annual Banquet
- Recognition as sponsor at local section events
- Company listed on rolling banner on SDS website
- Business Card Advertisement – please enclose business card or email to lknox@dudek.com

BUSINESS CARD AD - $150
- Business card printed in the Bull Sheet – please enclose business card or email to lknox@dudek.com

Please make check out to CWEA-SDS.
Mail this form, business card and check to:
Lisa Knox
Dudek
605 Third Street
Encinitas, CA 92024

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☐ Business Card (please email to lknox@dudek.com)

Company Name________________________________________Contact Name________________________________________Phone Number_______________________
Email________________________________________☐ Amount Enclosed_______________________or ☐ Register online
In a similar way, surcharged pipes also block the transport of headspace air. Root intrusions or grease build-up can be enough to block the flow of air, causing air to flow out through the nearest upstream manhole(s).

Even changes in sewer slopes may cause slight pressurization of the sewer headspace, causing air to flow out at (or upstream of) the manhole where the change in slope occurs. Steep slopes will convey fast-moving wastewater, which accelerates the air movement in the headspace.

If the sewer slope transitions to a milder slope, the slower moving water will exert less drag on the air as the fast-moving water. Therefore the faster moving air from upstream will collide into the slower moving air downstream causing an increase in pressure that will push headspace air out through the nearest opening into the outside atmosphere.

So as the summer time increases the temperature of the sewer environment, biological reactions in the sewer will be accelerated and more H2S will be generated.

The additional H2S will be noticed in areas of the collection system where sewer headspace air escapes into the outside atmosphere due to blockages of the sewer air flow – likely resulting in additional odor complaints.

-Contributed by:  
  Art Garcia, PE, Project Engineer,  
  Dudek
**Send Us Your Best Shot!**

**Photo Contest**

**Congrats to Our Current Winners!**

- **April**
  - Odor Control by Adriana

- **March**
  - Odor Control Tower at MBC by Rommel Alcayaga

- **May**
  - South Lake by Cheryl Reiber

**Submit Your Best Water or Wastewater Photo & Win $25!**

- Enter by submitting your photo at www.cwea.org/sd with your name and email address
- Photo submissions are due by the 1st day of each month
- No more than 2 photos may be submitted per person, per month
- You may only vote 1 time per month
- Your photo must be water or wastewater related!
- A $25 Gift Card will be awarded to the winner and the winning photo will be featured in the BullSheet

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**2014 Upcoming Events**

- **June**
  - 19th - City of San Diego Pump Station 2 Tour

- **July**
  - 30th - Valley Center Municipal Water District, Wake up to Wastewater Plant Tour

- **August**
  - Date TBA - Wake up to Wastewater Plant Tour

- **September**
  - 23-25 - Tri-State Seminar, Las Vegas, NV
    - http://www.tristateseminar.com/
  - 27-Oct 1 - WEFTEC Conference, New Orleans, LA

- **October**
  - Date TBA - Sea World Water Treatment Tour

- **November**
  - Date TBA - Vendor Fair

- **December**
  - Date TBA - Padre Dam Municipal Water District, Wake up to Wastewater Plant Tour

- **January 2015**
  - 24th - Annual Awards Banquet

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**Calling All Volunteers!**

Interested in increasing your professional growth and serving the wastewater community? There is a board vacancy for the Second Director position. Please contact Steve Jepsen, Board President if interested.

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**We want your feedback!**

Please send your thoughts to cweasds@gmail.com or call and share your thoughts by contacting Steve Jepsen, Section President at 760.415.4332
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