



# THE STANDARD

FALL | WINTER 2011

**BAKER**  
CONCRETE CONSTRUCTION



# EXPECT MORE



## From the President

*Dan Baker, President / C.E.O.*

*We're excited to share this issue of "The Standard" with you. Despite a continuing slow economy, we've had some successes lately that are cause for celebration.*

*Our Washington DC group, Baker DC, LLC, has enjoyed winning a host of quality projects lately, including the Marriott Marquis hotel that is currently under construction. Baker is executing a "top-down" construction technique on that project that will allow for simultaneous construction activity, an accelerated build schedule, and an overall cost savings.*

*We're also proud of our Baker RD group, based in Clovis, New Mexico, that recently completed the execution of the Lubbock (Texas) Wind Ranch, a proof-of-concept wind farm for Cielo Wind Services. That project installed three Samsung 2.5-megawatt turbines—the first Samsung turbines in the U.S.A.*

*While our Texas crews are harnessing the wind, our Ohio crews are harnessing the river. We're just underway on the Meldahl Hydroelectric Plant, a three-35MW-turbine electric power project on the Ohio River just east of Cincinnati.*

*As proud as I am of these projects, nothing is more satisfactory than our continued successes with our Incident and Injury Free (IIF) program. Our own Jeff Paulin is highlighted in this issue for his quick, life-saving actions. Thanks to Jeff, and so many more of our firm IIF believers, we're making a positive difference every day.*

*As always, I welcome your feedback. Thank you for your interest. <*



## IN THE SPOTLIGHT



### JEFF PAULIN

*I am glad that Baker offered the CPR class and that I was certified. I hope to never have to use it again, but I would do it in a heartbeat for anyone at anytime.*

- On the Hershey Next Century Expansion project in Hershey, Pennsylvania, Jeff Paulin, Baker Concrete Finisher, found an unresponsive co-worker lying down in the back of his truck. Quick to action, Jeff began CPR on the individual and had someone call 9-1-1 for help. The paramedics arrived approximately 15 minutes later, and attempted to revive him with a defibrillator. He was revived, and later stabilized at the hospital and was released after a few days with no signs of damage. Thanks in part to Jeff, this man was able to go back home to his family and friends. Baker salutes Jeff on his heroic effort to save a fellow co-worker! Quality training coupled with his natural devotion to humanity allowed Jeff to save a life. No tribute is large enough to thank him for his efforts, but we honor Jeff for his capability and spirit.



### TECO EAST CHILLER BUILDING

Houston, Texas

- **ENR Top Specialty Contractors:** Baker was recently ranked #1 in the 2011 Top 20 Concrete Specialty Contractors category in Engineering News-Record (ENR) that was published October 17, 2011. Baker has been ranked in the top 3 of the Top 20 Concrete Specialty category since 1989. Baker also ranked #10 overall in ENR's 2011 Top 600 Specialty Contractor list.



### NOVA SOUTHEASTERN UNIVERSITY - CORAL REEF

Hollywood, Florida

- **ABC Excellence in Construction Award:** The Associated Builders and Contractors (ABC) of the Greater Houston Chapter selected Baker for two 2011 Excellence in Construction awards. Baker was awarded an ICE award for the Lubbock Wind Ranch project, and a Merit award for the TECO East Chiller Building project.
- **Construction Association of South Florida (CASF):** The CASF selected a Baker Field Engineer, Mike Castellon, for their prestigious Craftsmanship award. Mike was chosen based on his dedication and excellence at the Nova Southeastern University - Center for Excellence for Coral Reef Ecosystems Science Research Facility in Hollywood, Florida.

# The Power to Build Power

On the outskirts of Lubbock, Texas, sits the Lubbock Wind Ranch, a 7.5-megawatt wind power complex that heralds three Samsung Heavy Industries 2.5-megawatt wind turbines. This clean energy will supply power to roughly 7,500 homes in the southwest region's power pool.

Installation and erection of each of the turbines involved:

- An 800-ton capacity Demag crane with 197' of main boom and 118' of luffing jib was used to erect the turbine
- A 90-ton Demag hydraulic truck crane was used for assistance
- Tower Base Section: 105,600 lbs
- Tower Lower Mid Section: 99,000 lbs
- Tower Upper Mid Section: 72,600 lbs
- Tower Upper Section: 61,600 lbs
- Nacelle: 209,000 lbs
- Blade and Hub Assembly: 118,899 lbs
- Number of Base Foundation Bolts: 180
- Number of tower bolts: 312
- Number of Blade to Hub Bolts: 194
- Number of Hub to Nacelle Bolts: 58

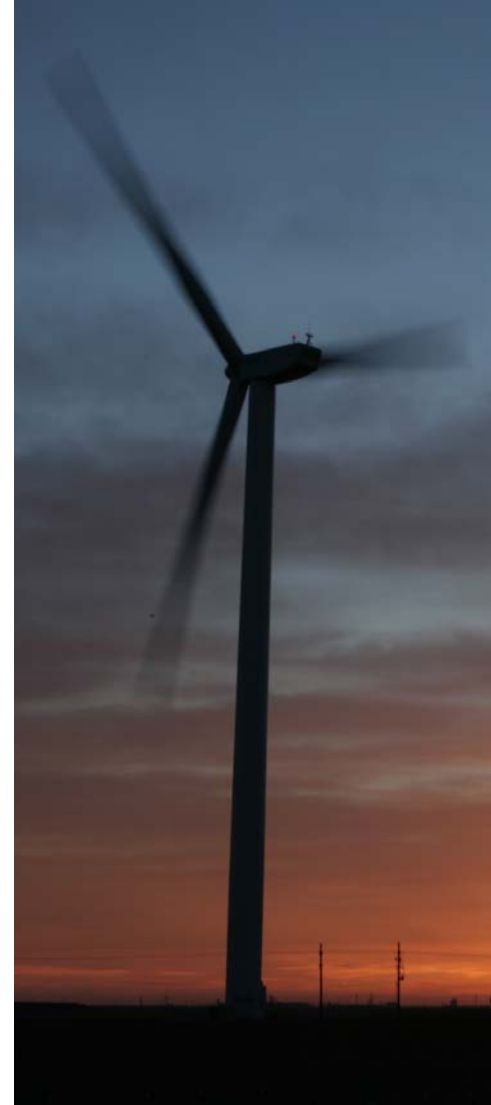
## LUBBOCK WIND RANCH

Baker's Renewable Division (BakerRD) recently erected and put into service three Samsung 2.5-megawatt prototype wind turbines for Cielo Wind Services, Inc. The sequence for erecting these turbines is relatively simple. Hoist and set four tower sections, attach the three blades to the hub, hoist and set the nacelle (the cover housing the turbine generator), then finish with setting and attaching the hub and blade assembly to the nacelle. Easier said than done!

Considering the innovative construction type and the magnitude, Lubbock Wind Ranch represented a rigorous construction challenge for Baker. The BakerRD project team immediately planned the project including identifying crane placement, and calculating component weights, rigging and inspections, and wind limitations. Before hoisting any of the components, a lift plan was developed to determine factors such as load weight, crane configuration, rated

capacity, and site conditions. Also, work and fall zones were established.

Because it was a prototype, the first of its kind in the United States, BakerRD and Cielo worked very closely together throughout the construction of Phase I. The installation manual provided by Samsung Heavy Industries (SHI) was thorough, yet contained several technical issues that needed to be addressed. At the end of Phase I, Baker suggested several recommendations to the manual from the construction experience in order for the construction of these turbines to be constructed more easily and safely in the future. This extra effort went to good use as SHI updated and revised their manual using Baker's feedback. And for Phase II construction, no additional changes were needed to the manual, and construction ran smoothly. ◀



*Samsung 2.5-megawatt Wind Turbine in Action*



# CODE OF BUSINESS ETHICS



## Code of Conduct Training Sessions

*A supplier constantly offered me tickets to games and other events. Then he offered to take me to Atlantic City and even Las Vegas. I repeatedly declined his offers. Finally, he came into my office to get us to purchase more of his stuff. I told him that everything was ordered through our yard. He said he knew that they wouldn't order anything without my approval and asked what was it going to take to get me to buy from him. I told him to get out of my office and haven't seen him since.*

One of our Project Managers relayed this story during one of Baker's recent Code of Conduct training sessions to illustrate how ethical situations occur in real life. This is just one of the reasons why Baker adopted a Code of Business Ethics.

Baker adopted a Code of Business Ethics to further memorialize how we all are expected to conduct business and uphold Baker's reputation in the industry. To date, over 600 leads and keys have attended these sessions at Baker's offices and project sites all over the country. The Code of Business Ethics is also distributed to all new co-workers at orientation. In summary, Baker's Code of Conduct emphasizes:

- The safety, health and welfare of our fellow co-workers, our customers, and the public.
- That we perform services only in areas where we are competent and fully qualified.
- That we perform our duties ethically as representatives of Baker and its customers.
- That we uphold Baker's reputation.
- That we provide the best possible service to our customers and communities.

## Code of Business Ethics

Baker's Code of Business Ethics is available at: [http://www.bakerconcrete.com/who\\_we\\_are/ethics.aspx](http://www.bakerconcrete.com/who_we_are/ethics.aspx), or by contacting [communications@bakerconcrete.com](mailto:communications@bakerconcrete.com) to request a copy. ◀



# MARQUIS OF DC

The first of its kind for Baker DC, the 15-story Marriott Marquis in Washington DC is not typical hotel construction. This 1,200 room establishment promises to be a high-quality lodging option in the nation's capital with generous amenities and services. However, what makes it truly unique is the top-down construction technique. The top-down construction method allows the above-grade and below grade portions of a structure to be constructed simultaneously. For the below grade portion of this structure, slurry walls and drilled shafts with plunge columns will be installed. Then, crews will excavate down to the first level below grade. Slab reinforcement, embedded items, and walers are then installed, and the first slab below grade is placed. The cast-in-place slab acts as lateral support for the structure. Access holes in the slab allow equipment to excavate down to the next level once the concrete has reached sufficient strength. This process is then repeated for subsequent levels. While this is taking place, construction can proceed above ground level.

Currently, Baker DC is contracted to complete the below ground portion of the project in addition to the helix ramp for vehicle access. This scope amounts to over 39,000 cubic yards of concrete and comes with challenges outside of the top-down construction process. The difficult logistics of DC construction, air flow and sensory requirements, and LEED certification mandate extreme attention to detail and an extraordinary focus on quality planning and implementation.

Baker DC's Project Manager, Richard Williams is focused on seeing this project safely come to life. "Top-down construction brings special considerations when it comes to safety," said Williams. "First, clear and vivid coordination with the excavation contractor is critical to ensure that equipment is transported at a time and in a manner that is safe and effective. Secondly, proper crane signal communication is vital. Finally, monitoring atmospheric conditions below grade will ensure that all co-workers are operating in a safe, healthy environment."

Baker's portion is scheduled for completion in the Spring of 2013 with the overall project finishing the Summer of 2014. <



## HARNESSING THE OHIO RIVER

Located just thirty-six miles upstream from the city of Cincinnati, the Meldahl Hydroelectric Plant is the newest addition to the region's renewable energy portfolio. The site contains an existing lock and dam facility on the Ohio River that is being expanded to include power generating capabilities. Capturing the flow of water is a highly dependable source of renewable energy, and the new \$504 million project is estimated to average over 558,000 MWh of gross annual energy output once complete.

Additionally, the project has been a long sought boon for the City of Hamilton, the project's original licensee. After licensing in 2008, Hamilton partnered with American Municipal Power (AMP) to permit and build the plant. Baker is installing the concrete scope on the project and has formed a joint venture with the

Alberici Corporation to complete general construction on the plant.

The project will direct water from the river through an intake approach channel into a concrete powerhouse where the flow of water will power three hydro-turbines. The water will then reenter the main channel via a tailrace channel. Baker's portion of the project focuses on the 260-foot by 210-foot powerhouse that contains three 35-megawatt, bulb-type turbines. With federal and state mandates on renewable energy use in effect, the Meldahl project goes a long way toward meeting these standards.

The plant is scheduled for operation in 2014, at which time it will begin distributing much needed renewable energy to the grid. ◀