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Building

Central Florida

OUC's Events Center Chiller Plant





OUC Events Center Chiller Plant

Cool!

by Shawn Straight
Photos Courtesy of Macbethphoto.com

Standing near your seat, your face painted blue and white, surrounded by thousands of fans, screaming, dancing, hootin' and hollerin', — your only thought — sink it, (and maybe you'll go get a hot dog after the shot). It never occurs to you that you're cheering in comfort, that your drink stays frosty and that your warpaint doesn't run. Why? Air conditioning. That simple little thing that any Floridian will tell you is a necessity, not a luxury.

As the excitement builds for the eminent completion of the new Amway Center, few people will take notice (which is how it is meant to be) that they are enjoying their favorite team, concert and event in the same cool temperatures that they might experience at home. They won't give a thought to the

46 foot high, 6,000 square foot facility that pumps the chilled water to the air conditioning units within the new Arena.

But that's the beauty of it. The building, nestled near the Southwestern corner of the new Amway Center, is meant to simply, fit in. Designed with the aesthetics of the surrounding neighborhood in mind, the new OUC Events Center Chiller plant does its job with the utmost efficiency. The unassuming building was completed on June 4, 2010, after eight and a half months of labor. The result? OUC's most cost effective and efficient chiller plant to date.

Providing 4,000 tons of cooling capacity, the plant was designed specifically to handle the cooling needs of the new arena, however, it is also integrated into the downtown Orlando grid and can supplement its cooling needs as well. This was due to some big picture thinking

between OUC and the contractors, Integrated Project Delivery, Inc. (IPD). It was this joint effort that really makes this project unique.

Dave Bramlett, the OUC project engineer for the chiller plant, worked very closely with IPD to make sure that, not only were the arena's needs met, but that the other considerations involved in such a project were also met. Being on the outskirts of the residential neighborhood surrounding the area, there were certain criteria from the Downtown Development Board that had to be addressed in the construction of the project, including: noise levels, safety and security.

The collaboration wasn't merely between OUC and Integrated Project Delivery, but within IPD itself. IPD is actually a union of five companies: Westbrook Mechanical Contractors, Andrew General Contractors, Peninsula Engineering, Territo Electric and Helman,

Hurley, Charvat Peacock Architects. They use a system, called, interestingly enough, Integrated Project Delivery.

Just as the name implies, the system integrates all the key players at the beginning of, and throughout the process to streamline costs and increase efficiency. So the project owner, the architects, engineers and contractors/builders are all involved in the decision making. As opposed to the traditional method of construction, which starts with the archi-

proved, stamped and sent down the assembly line, they can take part in the design process, making suggestions and improvements from the inception. Instead of having to take those plans and try to accommodate the geographical, political and aesthetic issues that may not have been known initially, they can have a round table discussion and say "We already know these are the roadblocks, how can we design a detour that gets the job done better?"

That's exactly what happened with the OUC

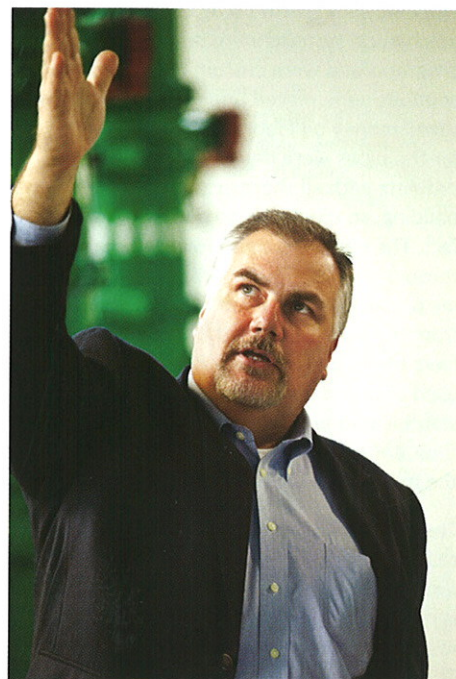
"... this is the best plant we've built to date."

— Dave Bramlett
OUC Project Engineer

itects, then brings in the engineers and then the general contractors, this allows everyone to look at the project from the beginning and make suggestions and adjustments that are best for the project and the customer.

Instead of a contractor and engineer working from a set of plans that have already been ap-

Events Center Chiller Plant. The companies that comprise IPD, worked together with OUC, to provide them with a plant that was going to be cost efficient for the long term. This was very important to OUC. It's very easy to look at an initial price tag and make a decision based on that alone, which is what happens so often with large projects. But the cost



Jim Roberts of Westbrook, points out interesting features to ABC.

per lifecycle was a major consideration.

Think of it like this; if you had the opportunity to grab a brand new Corvette at half the price, would you do it? You could paint the town in the epitome of the American Sports Car, stealing glances from passers-by. You'd be the envy of all your friends. Ah, but wait, you still have to pay for gas, insurance, repairs and other out of pocket expenses. Now that bargain isn't looking so great.

The same principal applies. Because Integrated Project Delivery presented OUC with several viable options, they were able to use equipment and machinery that may have been a little more expensive, but could save millions of dollars over the lifecycle of the plant.

Upon the initial planning of the project, IPD was also able to provide some cost saving solutions simply by adjusting the plans. By choosing Marley cooling towers, which have a smaller footprint than the initial type to be

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The Crew from Integrated Project Delivery, Inc. (L to R) Joseph Territo of Territo Electric, John Elsea of Peninsula Engineering, Jim Roberts of Westbrook, Renato Carvalho of HHCP Architects and Todd Andrew of Andrew General Contractors.

used, they saved OUC over \$100,000 by adjusting the design at the beginning — something that probably would not have happened using traditional building methods.

The efficiency doesn't stop there. All of the mechanical systems were designed in 3D CAD programs and were custom built. Electrical conduits were placed under the floor, which saved money on labor costs. The hangers for the pipes were designed from the to coordinate with all the structural steel of the building, so there was no guesswork after the fact. The pipes were also lowered, by crane, through the ceiling at a key point in the building process. This is an efficient departure from the traditional method, which would have them raised on lifts. Reclaimed water is used to prime the traps, which saves a substantial amount of water. They used variable frequency drives along the walls instead of the middle of the floor. The list goes on.

The Integrated Project Delivery process is really grabbing a foothold in the marketplace. Jim Roberts, of Westbrook, says, "The process is really becoming attractive to buyers. It allows us to pool resources and share costs. There's a formula to help distribute profits to our members." Why is this important? Jim says that it reinforces the positive attitude of teamwork. "We're not worried about who's

going to sue because we're all in this together," he adds jokingly. He uses a mountain climbing analogy ... "If one of us falls, there're others to pull us back up."

There are always detractors that don't see the big picture. They are usually concerned only with initial numbers. "If everything isn't going out to bid, how do I know that I'm getting the best price?" What they aren't seeing is that both time and money are saved by streamlining the process, that they actually have a team of people using all of their resources to find the best bids. Anyone in construction, and any other business, will tell you, streamline the process and you streamline the costs.

OUC's Dave Bramlett says "The entire process was an excellent experience ... the attention to detail was incredible and this is the best plant we've built to date." He also added that the " ... collaboration with internal groups inside of OUC as well as the contractors went extremely well. They offered several options for almost every aspect of the project." He leaves no doubt that he is very proud of the finished product.

The OUC Events Chiller plant is an excellent example of how the sum of the parts can be greater than the whole. OUC's willingness to think "outside the box" is commendable and a great number of Orlando residents stand to



benefit from this. Since this was their eighth project with Integrated Project Delivery, Inc. since 2004, it's obvious that, not only that they believe in the process, but that they are working toward a brighter future for our community. The whole project was just ... cool. ■