Georgia Chapter of APPA

Leadership in Educational Facilities

GAPPA News

July 2015

"Transforming and Enhancing the Facilities Managers of the Future"

Jekyll Island 2015! **The convention center successfully hosted GAPPA 2015 Conference. The weather was so great. Each member enjoyed attending the conference .**

We had 101 booths, 21 sponsors, and plenty of attendees. There were 142 golf participants, 32 golf sponsors, and 4 tennis players. We had 21 guests visiting GAPPA from other regions. 21 stipends were awarded to assist with the cost of attending the conference. The musical group Grape Vine entertained the crowd at the Tuesday banquet.

For a sample of photos from the convention,

please check GAPPA web site. Select Annual meeting: www.gappa.org

For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.

WWW.GAPPA.ORG

Tech's Campus Gets 'Smart'

The Smart Energy Campus Program uses Georgia Tech as a living laboratory and collects data from energy utility systems all over campus. Through collaboration among multiple campus departments, insights from this project will directly impact energy planning and consumption on campus in many ways, with the hope of making Tech's energy utility systems more efficient.

Smart Energy Campus is a joint sustainability research initiative with the School of Electrical and Computer Engineering, the Aerospace Systems Design Laboratory (ASDL), and Georgia Tech Facilities Management. Beginning in 2013, the idea behind this project was to see if Georgia Tech researchers could be of use to Facilities by utilizing data analysis as well as modeling and simulation tools to evaluate and optimize different energy systems on Tech's campus.

"It is extremely exciting to know that our team is supporting some of the most brilliant complex-system designers in the world," said Mark Demyanek, assistant vice president of Operations and Maintenance within Facilities Management. "Using our built environment as a living laboratory is a concept that is growing in higher ed, and I believe we at Georgia Tech are leading that growth in a thoughtful and responsible way."

Already, the Smart Energy Campus Program has created software for the Facilities Management Energy Conservation team to use when analyzing utility consumption trends and identifying potential energy efficiency projects. This project is designed to save labor hours, resources, and money by quickly identifying buildings that have unusually high energy usage, and then notifying teams to remedy the problem.

"The Smart Energy Campus Program is trying to take advantage of new modeling tools and large amounts of data to gain deeper insight and predict what can happen in terms of energy utilization on campus," said Scott Duncan, research engineer in the ASDL.

The Facilities Management team consists of five people who meet with the research team several times per

For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.

WWW.GAPPA.ORG

Georgia Tech's campus is home to many research laboratories, but how often is Tech itself the subject?

month. The research members on the team have included graduate students, research engineers, and postdoctoral fellows, all of whom serve as another set of eyes to interpret the data and help Facilities see problems in different ways.

"This program is revolutionary in getting access to data," said Duncan. "If we were doing this program for a community outside of campus, it would be difficult to get access to this much data."

With so much data, the project continues to grow and the mission evolves. Building a predictive model of campus energy is no easy feat.

"We keep finding things to do and smaller side projects to work on," said Duncan. Through thermal network and electric grid modeling of campus, researchers will have greater agility and insight to see where energy is not being used efficiently, as well as analyze the effects of energy system technology upgrades.

Wesley Harding, stationary engineer in Facilities; Linyu Zhang, a graduate student with the ASDL; and Jung-Ho Lewe, research engineer in the ASDL, tour the Holland Heating and Cooling Plant, located in the center of campus.

Through the research effort, areas of improvement will be more visible and enable Facilities to channel resources toward areas of need. The ultimate vision of the research team is a "smart" system that will identify and react to problems and inefficiencies on its own, potentially without human assistance.

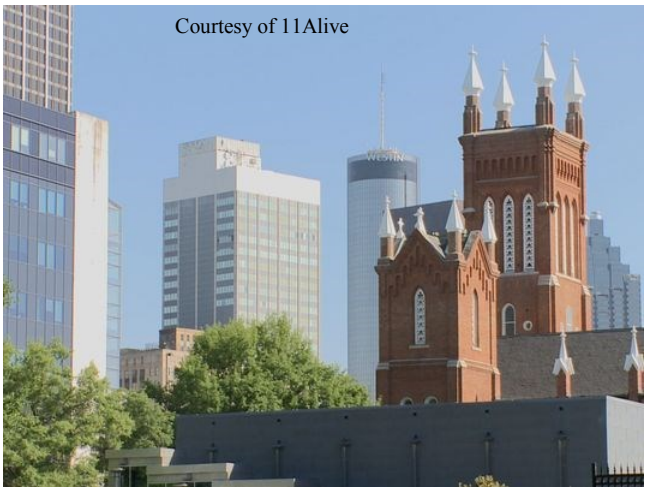
"With any luck, one day soon, campuses across the world can use these tools to manage their facilities resources more efficiently," said Demyanek.

Newsletter Committee Chair and Editor:
Casey Charepoo
WWW.GAPPA.ORG

Atlanta phases in new energy policy

ATLANTA -- City leaders say a new policy passed by the council is already saving them money. It requires buildings in the city to record and report energy usage and look for ways to cut back on energy usage.

Checking in the Hyatt Regency you may not realize the hotel has found ways to save millions.


Courtesy of 11Alive

"The guest experience doesn't change at all: LED lighting, low-flow toilets, low-flow shower heads, the technology is such now that you don't notice a difference," said Walter Woods, marketing director of Hyatt Regency Atlanta.

Woods says they've cut power usage by 30 percent and water consumption by 50 percent each year. That's what the City of Atlanta would like to see other buildings as well.

Atlanta Building Energy Efficiency Project Manager Matt Cox says commercial buildings make up 66 percent of the energy used in Atlanta -- making them the biggest source of consumption and the largest producer of emissions.

But that could change with the city's new energy policy.

It will apply to more than 2,350 buildings. They'll have to annually report their energy use to the City, and use that information for an energy audit every 10 years to look for ways to improve. The data will be made public.

"We are taking this as a way that we can lead by example," Cox said. "So we've got 100 buildings that we've already been through the benchmarking process and we saw $300,000 in energy savings back to the City of Atlanta last year through those processes alone."

Brandy Mitcham with the Building Operators and Managers Association says the group worked with the city on crafting the policy. She says some are already using efficiency measures, but they hope to work with the city on ways to continue that trend so it doesn't create too much of a financial burden.

"If we can have a productive conversation about how to help property owners overcome that, then we can not only meet the cost of compliance, but go above and beyond in making the recommended improvements," Mitcham said. Still, Woods at the Hyatt say these changes are what customers expect.

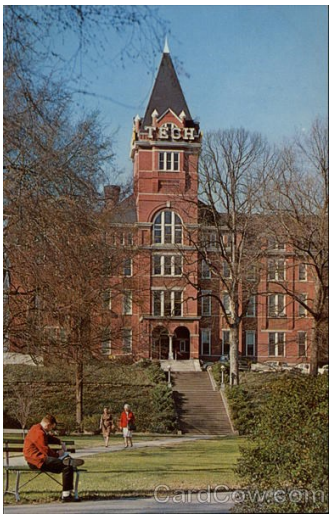
"It's a win-win for us because we get to make the guest experience great and reduce our impact and it's good for business as well, it saves us a lot of money," Woods said.

Courtesy: 11Alive Staff, WXIA

For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.

WWW.GAPPA.ORG

Georgia Tech West Campus gets new Dining Commons



Juneau Construction Company is excited to announce that we have just been awarded the new West Campus Dining Commons project on the prestigious Georgia Institute of Technology campus in Atlanta, Georgia. Juneau has assembled a talented team of experienced Higher Education construction professionals to construct this 42,000 square foot facility.

Juneau Construction in conjunction with Cooper Carry Architects have been tasked with designing and constructing a sustainable state-of-the-art facility that maximizes functionality and flexibility of academic and dining spaces to create a cohesive, interactive environment for students and faculty/staff using the facility.

The new West Campus Dining Commons will provide seating for 520 students in both a traditional dining setting and 90 additional seats in a covered outdoor dining area for a total of 610 seats. This new building will include not only kitchen and dining spaces but also instructional and community spaces. West Campus Dining Commons will also include an additional 10,000 square feet of multi-use academic program space for multiple programs. This project is slated to start in early 2016 and complete in time for the 2017 fall semester. Courtesy: AJC

Summer is heating up

Atlanta is earning its Hotlanta nickname this summer with high temperatures and humidity to match. While summer brings fun in the sun, it also brings dangerous conditions for workers.

The past few summers have shown that the risk of heat illness from high temperatures is one of the most serious challenges to the safety and health of workers. Do you know how to keep your workers safe in the heat? Follow these tips to ensure a cool and safe summer!

- Check the weather forecast when making plans outdoors. Know how to use the heat index and factor that into your plans.
- Stay hydrated! Drink water or sports drink every 15 minutes, even if you're not thirsty.
- Dress in cool, loose-fitting, lightweight, light-colored clothing.
- Stay in the shade when possible.
- Take frequent breaks from work or other physical activities, especially if you are not use to hot conditions.
- Know the warning signs of heat related illnesses and what to do if your or someone around you is experiencing a heat illness.

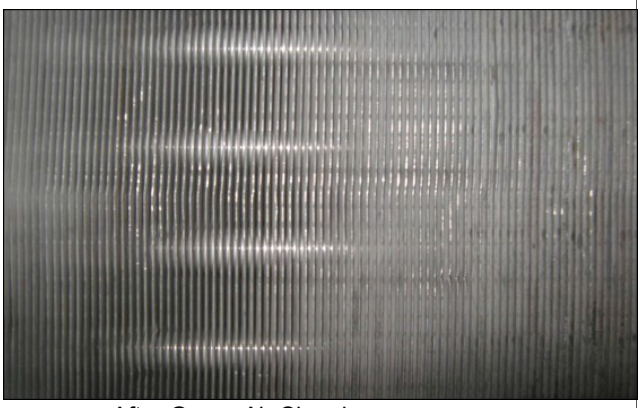
Myrtle Turner Harris, Ph.D., MPH, CET

Newsletter Committee Chair and Editor:
Casey Charepoo
WWW.GAPPA.ORG

GREEN AIR ENVIRONMENTAL and new efficient coil cleaning

Green process of cleaning HVAC coils without the use of chemicals. Use of medium pressure, high temperature steam to penetrate any depth, height, and width coil. This cleaning process is so power-ful, that in most cases, we get our air handler units to within 3% of design specifications. Traditional methods of cleaning coils only allow for the 1st inch of the coil to be cleaned. What about a coil that is 10" deep? Over a short amount of time, microbial and bacterial growth begins to grow deep into a coil, thus reducing the unit's efficiency and capacity. In most cases, AHU's are running at 70-75% of its de-sign specifications. Our process restores these units to like new condition, and also destroys microbial and bacterial growth on the coils.

Before Green Air Cleaning



After Green Air Cleaning

Athens Regional Hospital:

Athens Regional Hospital, located in Athens, GA, is a 400 bed hospital facility. One of the air handler units that serves the OR had a chilled water coil that was clogged. Over time, dirt, microbial growth, and other biological growth form a film across the coil. Not only does this hinder heat transfer on a coil, but it also prevents air flow thru the coil. Chemical use on coils of this size (10" in depth) will push the contaminants deeper into the coil, along with its corrosive nature, it won't get penetration of the coil, to clean it as needed. Green Air's chemical free use of steam to clean this coil, allowed the unit not only to get more airflow, but also allowed for better heat transfer for this AHU. The process has been used in healthcare, higher learning, K-12, and municipalities. Instead of replacing coils or AHU's, we've been able to restore units to like new conditions, and allow the end user to use those capital funds in other needed areas. More efficient AHU's allow for lower energy costs, more airflow exchanges, and peace of mind. We can help you reduce costly compressor and fan motor replacements.

For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.
WW.GAPPA.ORG

GREEN AIR ENVIRONMENTAL and new efficient coil cleaning

How Does Loss of Capacity Hurt My Facility?

When you look at your HVAC equipment, it has a tonnage associated with the model and serial number. Whether it was an 80 ton air handler, or a 200 ton air cooled chiller, you paid for the capacity in which you purchased. Over time, dust, microbial growth, fouling occurs on all HVAC coils. When this happens, the capacity (tonnage) for that equipment is reduced. That 80 ton air handler may now be operating at a 72 ton capacity. Some symptoms are sweating walls, not enough airflow or air exchanges, poor heat transfer, not enough temperature differential across the coil, differential pressure too high, high head pressure on compressors, high amperage on fan motors, fan motors running hot and many more. Our powerful steam cleaning process can restore your units to like new capacity. When the coils are deep cleaned using our steam process, it can give you what you originally paid for, no matter the age of the equipment. While you are paying for a unit that is under performing, you are also paying higher energy costs. The space that your 80 ton air handler was designed expects 80 tons of cooling, thus making the unit work that much harder to try and get that 80 ton capacity. Green Air can save you monies on energy and HVAC operational costs.

Benefits of the Green Air Chemical Free Steam Coil Cleaning process includes:

- Totally GREEN – uses no chemicals
- A 350 degrees process sanitizing the coils/blowers assembly
- Removing latent debris from deep within the coils providing a deep cleansing
- Creating improved air flow
- Creating better cooling capacity
- Enhance HVAC system life
- Improving indoor air quality
- Extended HVAC equipment life

For more information please contact,
E-mail: info@greenairenv.com
or visit,
Web: www.greenairenv.com

Newsletter Committee Chair and Editor:
Casey Charepoo
WWW.GAPPA.ORG

Solving Our Aging Workforce Problem

Every day, I work on district heating and cooling systems that were conceived, designed, constructed and commissioned by people long gone. When I think about it, that's actually a good thing. Our industry has been around long enough to have second, third or even fourth generations working on the energy systems that continue to serve our cities, colleges and institutions. The subject of this column, however, is about the near-term future of our industry, not the past. The district energy industry, like others, is faced with an aging workforce that must be replaced if we are to remain viable. In the last two years, I have seen numerous articles in the trade literature pointing out the problems

THE DISTRICT ENERGY INDUSTRY IS FACED WITH AN AGING WORKFORCETHAT MUST BE REPLACED IF WE

of an aging workforce and the need to find, train and employ younger workers in U.S. industries. By 2016, one third of the total U.S. workforce will be 50 years or older.1 In my dealings with clients I find many engineers, managers and operating personnel who are nearing retirement and who lament the few replacements ready to step into their roles.. No doubt we could benefit from an IDEA survey that quantifies the workforce problem we all face. The challenges associated with the aging workforce and attracting new workers into the district energy industry must be addressed on two fronts. First, the industry as a whole can work through IDEA, APPA and ASHRAE to publicize the importance of district energy and promote greater awareness of career opportunities. Secondly, actions can be initiated by individual enterprises to ensure continuity and transfer of information and to support rewarding career paths for district energy employees.

In the United States, IDEA has long been the industry's trade association. IDEA is stronger today than ever and serves our industry through conferences and workshops, publishing *District Energy* magazine and conducting lobbying activities on behalf of the members. Recent activities have also included competition for grants, supporting member services such as education and outreach, and expansion into social media and the Internet. In 2009, IDEA established the John Gray Scholarship Program to support individuals wishing to pursue knowledge about energy in general and about district energy specifically. All of these activities are supported by the 1,700 active IDEA members. Undertaking this agenda is a tall order for such a small association, which must address the many facets of the energy industry. That said, IDEA can do more to assist the industry by collecting data on district energy workforce needs and implementing programs targeted at attracting young people into careers in the field. For example, IDEA can develop informational videos specifically for this audience outlining what district energy is and the opportunities for careers as engineers, operators and managers in the industry. IDEA may find it attractive to partner with APPA, ASHRAE or ASME student organizations to introduce the district energy industry to students before they seek career positions. Providing lowcost access to *District Energy* magazine, as well as emails, newsletters and links to possible job opportunities could help all members connect with the next generation. A drive to increase student members, for whom there already is an attractive annual dues structure, could produce a mailing list for other IDEA members who can then stay in touch with the potential younger workforce. IDEA may also wish to consider a special membership category for people early in their career – say

For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.

WWW.GAPPA.ORG

Solving Our Aging Workforce Problem

those who are younger than 35. A lowercost dues structure and less-expensive attendance at IDEA conferences could encourage more people to network with our industry's seasoned professionals firsthand. Finally, IDEA can promote the worldwide district energy industry in a way that communicates impressive district energy infrastructure growth where energy planners seek to minimize greenhouse gas production and maximize energy efficiency through combined heat and power and district energy systems. Each of our individual organizations must also work to solve the aging workforce problem. We must realistically review compensation, professional development, job stability and opportunities for advancement in order to compete with other industries for a limited labor pool. A starting point would be to assess the age and duties of workers and devise ways to retain employees past normal retirement age. Bringing in younger apprentices and exploring part-time opportunities may be a viable option. Another strategy that will pay dividends is to document existing systems, operations and maintenance procedures, system design, etc., and make use of modern computer management systems to ensure that the valuable information stored in older employees' memories is retained for the next generation. I never cease to be amazed at clients who are almost totally dependent on one or two individuals to know system specifics, a practice that is certainly dangerous to reliability and long-term enterprise success. To ensure continued success in the field, each organization must invest in training and professional development. This can be done through in-house programs or courses provided by outside vendors, even IDEA. Many younger-generation employees find the practical world intimidating and welcome training that will help them be successful and productive. Finally, at the local level each organization should publicize what it does, familiarize the community with career opportunities and maintain good public relations with local schools that may become the source of the future workforce. These have been a few ideas to consider.

I hope we will see "employee development" forums at upcoming district
energy meetings with the purpose of identifying how IDEA can assist all members in preparing for our industry's future .

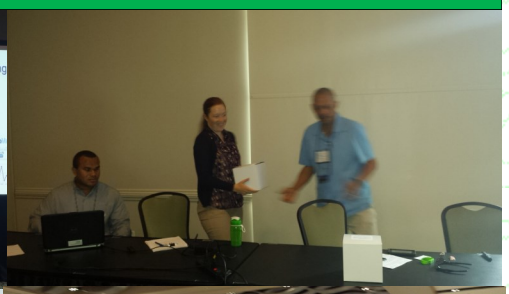
Newsletter Committee Chair and Editor:

Casey Charepoo

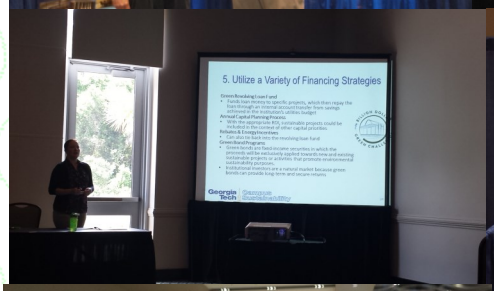
WWW.GAPPA.ORG

WWW.GAPPA.ORG

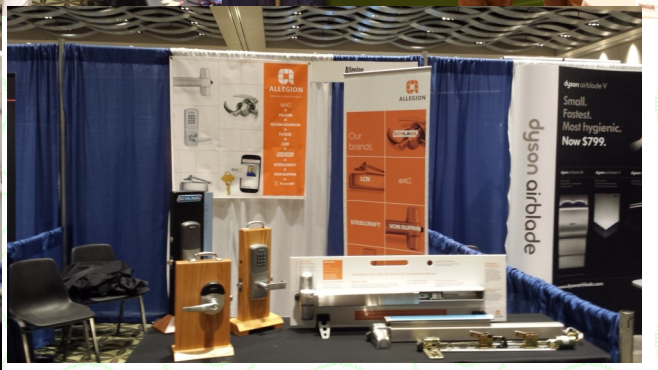
GAPPA Conference 2015 Jekyll Island



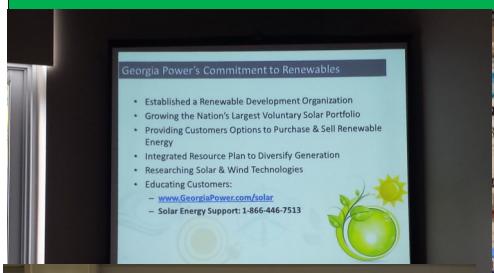


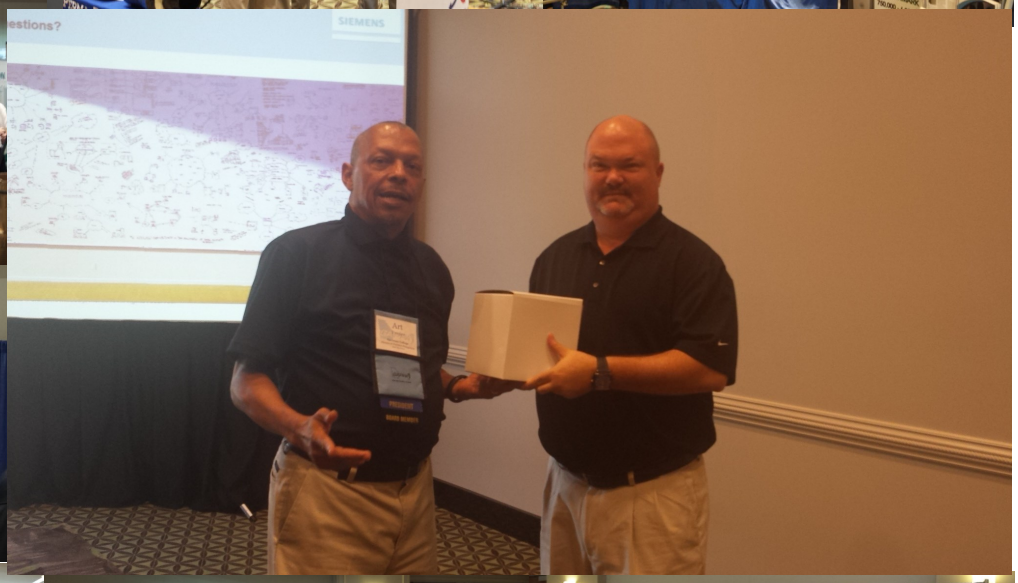


For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.

WWW.GAPPA.ORG

GAPPA Conference 2015 Jekyll Island



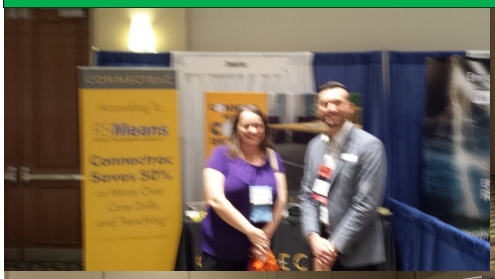


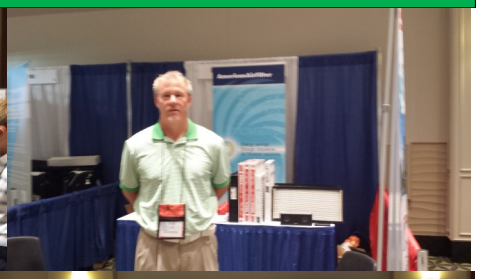
Newsletter Committee Chair and Editor:

Casey Charepoo

WWW.GAPPA.ORG

GAPPA Conference 2015 Jekyll Island




For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.

WWW.GAPPA.ORG

GAPPA Conference 2015 Jekyll Island








Newsletter Committee Chair and Editor:

Casey Charepoo

GAPPA Conference 2015 Jekyll Island

For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.

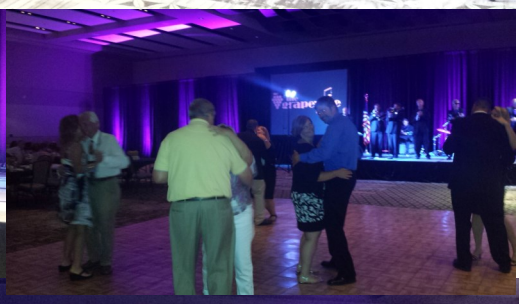
WWW.GAPPA.ORG

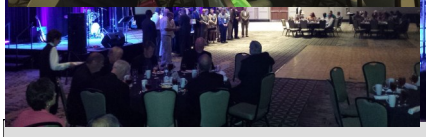
GAPPA Conference 2015 Jekyll Island









Newsletter Committee Chair and Editor:
Casey Charepoo

Recent PURPA Enforcement Actions:

Do they signal a policy shift at FERC?

Congress enacted the Public Utility Regulatory Policies Act (PURPA) of 1978 in response to the 1973-1974 Middle East oil embargo and the resulting dramatic spike in crude oil costs with significant macroeconomic impacts. PURPA was an attempt to reduce dependence on foreign oil by promoting alternative energy sources and energy efficiency while diversifying the electric power industry. PURPA opened the door for combined heat and power facilities to sell their excess electric generation at guaranteed minimum rates to incumbent electric utilities.

QUALIFYING FACILITIES AND LEGALLY ENFORCEABLE OB-

PURPA created two types of "Qualifying Facilities" (QFs): small power production QFs and cogeneration QFs. Small power production QFs must have primary energy sources that are biomass, waste or renewable and can be no larger than 80 MW. Cogeneration QFs, such as CHP facilities, must produce steam or thermal energy for industrial purposes in addition to electric energy. As originally enacted, PURPA prohibited electric utilities from owning more than 50 percent of a QF because Congress enacted the statute to encourage the entry of new generation providers while preventing incumbent utilities from taking advantage of PURPA's pricing incentives.

The principal incentives include (1) the ability for a QF to sell electric energy at the "avoided cost" of the purchasing utility, which guaranteed a higher sale price to the QF; (2) a "must-sell obligation," which required the electric utility to sell backup power, maintenance power and other services to the QF; and (3) an exemption for QF owners from the requirements of the Federal Power Act and the Public Utility Holding Company Act.

In 1980, the Federal Energy Regulatory Commission (FERC) adopted regulations implementing PURPA, which facilitated new entry through QF self-certification and requiring electric utilities to purchase all capacity and energy that the QF makes available. The FERC regulations stated that a utility's must-purchase obligation is triggered by the creation of a "legally enforceable obligation." FERC explained that a legally enforceable obligation exists when a QF commits capacity to sale and when the parties agree to essential transaction components. An executed contract is not required to incur a legally enforceable obligation. This prevents an electric utility from circumventing a must-purchase obligation by refusing or delaying to sign a contract.

2005 AMENDMENTS TO PURPA

In the Energy Policy Act of 2005 (EPAct 2005), Congress updated PURPA in recognition of the major restructuring of the electric industry in the decades following PURPA's passage. First, Congress removed the must-purchase obligation in new contracts if the QF has access to
1. Independently administered, auction based day-ahead and real-time energy markets and markets for long-term sales of capacity and energy; or 2. Transmission service pursuant to an open-access transmission tariff in a regional transmission organization market; or 3. Wholesale markets at least of "comparable quality" to those outlined in 1 and 2. FERC regulations implementing EPAct 2005 establish a rebuttable presumption that a QF smaller than 20 MW lacks nondiscriminatory access to electric markets. This means that the electric utility's must-purchase obligation remains in those cases unless it can show that the QF has nondiscriminatory access to electric markets. In addition, electric utilities are no longer required to sell backup or maintenance power to a QF if:
• Competing retail electric suppliers are willing and able to sell and deliver electric energy to the QF, and
• The electric utility is not required by state law to sell electric energy in its service territory. EPAct 2005 also requires that the use of a QF's thermal output must be "productive and beneficial" and that the electric output must not be intended "fundamentally for sale to an electric utility." IDEA members with cogeneration plants should meet these criteria. The reason behind this change was to overturn FERC orders permitting the growth of so-called "PURPA machines" – that is, QFs lacking "productive" uses of the thermal output developed specifically to make profitable electric sales at higher avoided cost rates.

FERC RECENTLY PURSUED A PURPA ENFORCEMENT ACTION AGAINST THE IDAHO PUC. DOES THIS SIGNAL A NEW TREND?

For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.

WWW.GAPPA.ORG

Recent PURPA Enforcement Actions:

Do they signal a policy shift at FERC?

In addition, EPAct 2005 removed the limitation on electric utility ownership of QFs, and many electric utilities are now actively developing QFs around the country.
Finally, under EPAct2005, QFs larger than 20 MW now must obtain market based rate authority from FERC to make non-PURPA electric sales.

FERC'S APPROACH TO

PURPA authorizes FERC to bring an enforcement action in federal district court against any state or nonregulated utility for failing to implement FERC's PURPA regulations. PURPA also permits QFs to petition FERC to initiate an enforcement action; FERC then has 60 days to take action. If FERC does not take action within 60 days, the petitioning QF is permitted to bypass FERC and bring an action in federal court. Enforcement actions fall into two general groups: (1) "failure-to-implement" claims and 2) "as-applied" claims. Generally, failure-to-implement claims include instances where a state or a nonregulated utility has failed to implement PURPA regulations and FERC and federal courts have jurisdiction. As-applied claims involve disputes over how a state or a nonregulated utility applies the implementation mechanisms they have adopted. State courts have jurisdiction over as-applied claims. However, the distinction between failure-to-implement and as-applied claims often is not clear-cut. Usually, petitions to FERC for PURPA enforcement also include a request for FERC to issue a declaratory order. However, FERC has broad discretion in deciding whether to exercise its PURPA enforcement authority. In fact, since gaining its PURPA authority in 1978, FERC has found in several instances that PURPA was violated but chose nevertheless not to initiate an enforcement action in federal court. Recently, though, things changed. In late 2012 and early 2013, FERC issued notices of its intent to initiate a federal court enforcement action for the first time – notably – against a state regulatory authority. In the notices, FERC declared that the Idaho Public Utilities Commission (PUC) violated PURPA by implementing a rule defining a "legally enforceable obligation" as existing only when a contract is executed or a valid complaint is filed with the Idaho PUC. In the notices, FERC reiterated that a legally enforceable obligation can occur when the parties reach an agreement and before the parties execute a contract.
Factors that may have set these particular FERC orders apart include these:
• The Idaho PUC had the opportunity to conform its policy to recent FERC orders on the same issue, but it chose not to do so.
• The Idaho PUC claimed it had heeded
FERC's rulings while continuing to rely on the rule FERC found at odds with PURPA.
• The petitioners were developing wind farms, and current federal policy is strongly pro-renewable. Not all states embrace this policy, though, and it is possible that FERC wanted to send a signal to all states about obstructing federal policy. FERC Commissioner Tony Clark issued two sharp dissents in the 2012 and 2013 notices of intent. Commissioner Clark would have preferred FERC to issue a legal determination but then allow the developers to fight their own fight. He was also concerned that PURPA may force energy consumers to bear undue burdens and that FERC's efforts may be contrary to consumers' interests. On Dec. 24, 2013, FERC and the Idaho PUC signed a memorandum of agreement to settle the enforcement action in federal court. The Idaho PUC acknowledged that a legally enforceable obligation may exist before actually writing a contract between a QF and the purchasing utility.

WHAT COMES NEXT?

Though noteworthy, it is hard to say whether FERC's first federal court PURPA enforcement action signals a trend toward greater FERC assertiveness in matters of PURPA enforcement. The Idaho case may be unique, involving as it did a direct collision between federal pro-renewables policy and a state commission's repeated defiance of FERC. On the other hand, FERC's former enforcement director, Norman Bay, is now a sitting FERC commissioner and will become chairman next year. Given Commissioner Bay's record as a strong enforcement director, it would not be surprising if a higher level of FERC activity in PURPA enforcement emerges during his tenure.

This article was originally published in *District Energy* magazine. © 2014 International District Energy Association,

Gary J. Newell, Attorney, Jennings, Strouss & Salmon PLC; and Alan J. Rukin, Attorney, Jennings, Strouss & Salmon PLC

Newsletter Committee Chair and Editor:
Casey Charepoo
WWW.GAPPA.ORG

5 Ways to Tell if a Mixed Use Facility Will Work on Your Campus

Mixed Use Facilities are gaining in popularity on campuses across the country, representing a blurring of the line between the edge of campus and the surrounding community. "Mixed Use" has a broad meaning, encompassing projects that include multiple campus and commercial uses such as office space, incubators, retail, restaurants and hotels.

The projects are only limited by your creativity and, of course, the viability of the local market. Based on experience in procuring and developing successful Mixed Use Facilities, I recommend the following five steps to determine campus readiness for a given project:

1. Conducting a local market scan.
2. Gathering on-campus interest for the Mixed-Use Project.
3. Establishing appropriate financial risk levels
4. Determining a viable location for the project.
5. Addressing issues of project control.

So, you will know that a Mixed Use Project will work on your campus...

1. If You've Done Your Homework (A Local Market Analysis)

Thinking that a mixed use project would be successful on your campus is much different than studying the market to understand if there is enough interest, density and money to make such a project feasible. Conducting an independent market analysis to understand the appetite for a given development type and what unmet demand might exist will give you a solid understanding as to whether your proposed project might be viable.

The same holds true if you are presented with an unsolicited offer to develop a mixed use facility on campus. Ideally you will receive an independent market analysis from the proposer *prior* to giving the proposal serious consideration; doing so demonstrates that the proposer is serious and the proposal is based on solid market understanding. If you don't have the capacity or expertise in-house to review the market analysis, engage a real estate or economics firm to evaluate it for you.

One note of caution on demonstrating market: be careful that you understand who is currently serving your target market(s) and whether your proposed project will enhance the market or simply poach from existing businesses. Take a moment to consider any unintended consequences that may arise from your project's success; empty storefronts adjacent to campus or changes in use may occur if you've captured all of the market at the expense of existing businesses. If you think this is a possibility, you may want to rethink your project or get creative on how you might influence the transition of businesses that are affected by your project.

2. If Your Students and Staff are Clamoring for it (i.e., You've Gathered On-Campus Interest)

Okay, notwithstanding the previous section: you certainly want an independent market analysis to help you evaluate the potential of your project. However, there's a powerful informal process of talking to your staff and students about their needs and desires for your campus which can give you an idea of what might be viable in a given project. This is where you can understand the project's potential and fill in the gaps that the market analysis might miss and give you an idea about whether the project is worth investing in if the study does not fully support the proposed project.

Good questions to ask:

For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.

WWW.GAPPA.ORG

5 Ways to Tell if a Mixed Use Facility Will Work on Your Campus

- What's missing on campus?
- What examples from other campuses would you like to see here?
- What do you not want on campus/What won't work?
- What amenities or services could make you more successful?

Ideally you can get a sense of whether your prime constituents would support and embrace the project as they are the core of your market. Their feedback and input will certainly create a stronger project and greatly increase its potential for success.

3. If You are Willing to Pay for it (i.e., You've Taken a Close Look at Financial Risk)

Let's say your market analysis comes back that the market is weak or untested for your given project, which means a developer and/or tenants would not want to take the risk without some form of incentive or inducement. An institution may feel strongly enough about the project (see the above section about your talking to your students and staff) that it would be willing to make economic concessions or direct investments in a project to make it "pencil" in the face of market uncertainty.

This institutional participation could take many forms including: reducing the land cost to the developer, participating in the project financing or assuming lease up risk. In any case, the goal is to reduce the economic risk to a level that is tolerable for the project to

Keep in mind: Sometimes "free" isn't enough.

proceed. This type of participation/incentivizing of projects is fairly common in the realm of municipal redevelopment, especially in downtown settings where a government agency would create public/private partnerships to develop a targeted project and participate to fill the "gaps" associated with financial or market risk. Institutions might well study how municipalities have achieved their development goals and pattern some of those tools and techniques to achieve a mixed-use project on campus.

Your project needs to have some reasonable chance to succeed on its own merits at some point. Your participation may be needed to get it off the ground but that shouldn't be the only reason for its eventual existence (granted you may not be directly paid back for your investment). "Build it and they will come" does happen and it oftentimes takes speculating on a project to prove there is a viable market, but if your project's eventual success is dependent primarily on additional speculative development or poaching customers from existing businesses; you may want to rethink your investment and the project itself.

4. If You Have a Spot for it (Location, Location)

Mixed-use projects work best on campus when they are integrated into the existing fabric of the campus and capitalize on corridors or nodes of traffic and energy existing on the campus. This means locations that are frequented daily by students, staff and visitors which may also be easily found by those not necessarily familiar with the campus (near the edge of campus, viewable from an arterial street). It may not be so simple to find a location that captures on-campus traffic and is accessible to the general public, however, you will greatly increase your market and project viability if you can serve both an on-campus and off-campus market. When looking for a location for your mixed-use project, don't discount the power of an old building in the right spot. That tired, old 60's-era administrative building might be a Facility's nightmare for you, but could be transformed into a vibrant adaptive reuse office and retail project in the hands of the right developer.

Authentic and Funky buildings are in high demand right now and you may be surprised how viable some of your older buildings might be repurposed as mixed-use facilities. If you think you've got a potential candidate building talk to an architect and/or

Newsletter Committee Chair and Editor:
Casey Charepoo
WWW.GAPPA.ORG

5 Ways to Tell if a Mixed Use Facility Will Work on Your Campus

developer and get their opinion (ideally talk to several of these kinds of professionals), you might just find a diamond in the rough that you never knew you had. Finally, beware of the pull to activate (in theory at least) a campus dead zone through the development of a mixed-use project.

There's a reason why that dead zone exists, and every campus has them, so first seek to fully understand why that zone exists, then take a hard look at whether your proposed project can be viable at your chosen location.

The right project could very well transform a campus dead zone if it's large enough and vibrant enough on its opening day. But if it's not visible, hard to get to or highly speculative (build it and the tenants/operators will come), you may end up making your situation worse and be stuck with a project that can never be viable.

5. If You Know What You're Getting into (i.e., You've Addressed Issues of Control)

Mixed-use projects, by definition, include non-institutional participants which will not be under the direct control of the school. The project itself may be built and managed by third parties. For institutions whom are accustomed to wholly owning, managing and curating their campus and buildings – it may be challenging to give up or share control of a portion of their campus. There's also potential jurisdictional issues with the surrounding city/town when an institution is developing a facility that is not meant solely for campus use. Examples of good questions to ask and answer include:

- Will local zoning regulations apply?
- Who has permitting and inspection authority?
- Will local property taxes be levied?
- Who will police the project?
- Where will customers and employees park?
- Do campus design guidelines apply? What if they conflict with the project?
- What say will the institution have in project tenants?

For every great example of a successful on-campus mixed use project there an equal number that never happened because these issues, or countless others, couldn't be addressed or where never considered until it was too late. You are guaranteed to have issues and friction; it might happen within the institution, between the institution and the developer or the institution and the town (or some combination of all three). Each campus and situation will differ, but prior to charging forward with an RFP pause for a bit and figure out what you don't know and do your best to get as many answers as possible.

Conclusion

A well-planned and executed Mixed Use Facility can be a great amenity for your campus as well as the surrounding community. Getting to the point of project viability will certainly take some research, creativity and compromise. But if you're willing to do the work and the market can support your vision, a great project can be developed which might just exceed your expectations and dramatically change your campus.

by Neil Calfee (NPC Group)

Newsletter Committee Chair and Editor:
Casey Charepoo

J. Harold Harrison, M.D. Education Commons at Georgia Regents University wins South Atlantic Chapter CMAA Project Achievement Award

Gleeds is proud to announce that the J. Harold Harrison, M.D. Education Commons at Georgia Regents University in Augusta, GA received a South Atlantic Chapter CMAA Project Achievement Award on June 17, 2015. The building won in the Public Building New Construction – Constructed Value Less Than $100 Million category.

The project consisted of new construction of a 176,336 SF Education Commons building and renovation of the 22,188 SF Gross Anatomy Lab. The Education Commons houses the Schools of Medicine, Nursing, Allied Health and Dentistry with five large classrooms (two at 300 seats and three at 150 seats), 13 learning communities, a combined simulation center/clinical skills area, administration space and a small cafeteria. The entire facility has a state-of-the-art audio/visual system with Internet links to other medical universities.

Renovations to the Gross Anatomy Lab included four dissection/teaching labs, new administration space and new storage areas for cadavers.

The final construction value for this project was $55 million. The Medical Education Commons is now an essential part of the University's program, and will continue to serve the students of Georgia's only public medical school for generations.

Congratulations to the entire project team for a job well done.

User:	Georgia Regents University
Owner:	Board of Regents of the University System of Georgia
Contracting Party for State:	Georgia State Financing and Investment Commission
Project Manager:	Gleeds
Architect:	HOK
General Contractor:	SKANSKA
Structural Engineer:	KSi Structural Engineers
MEP Engineer:	Newcomb & Boyd
Civil Engineer:	Johnson, Laschober & Associates, P.C.
Audio Visual Design:	Waveguide
Materials Testing:	Cardno
Commissioning Agent:	International Commissioning Engineers

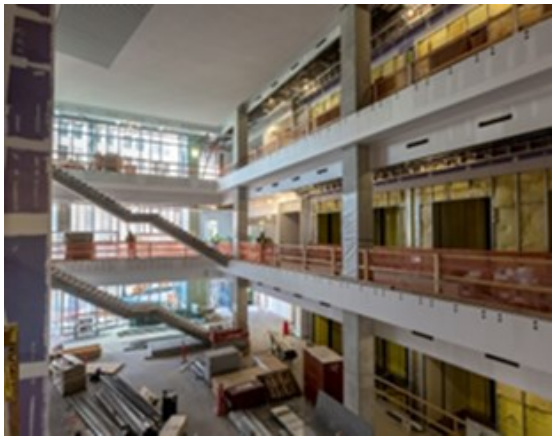
For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.
WW.GAPPA.ORG

Transitioning to Occupancy and Leveraging Your Commissioning Authority: GSU Humanities Law Building

At the 2015 GAPPA Conference, Abdul Momen (GSU), Aaron Groseclose and Barney York (RMF Engineering, Inc.) presented the Commissioning of the New Humanities Law Building, in particular discussing the ollowing:

How to leverage your Cx agent to integrate data from construction into a work order software package
How to identify what contents are needed for good Systems Manual/training
How to determine the specific needs of the O&M staff
How to identify future considerations and understand why the material must be repeatable

The new, $63M, 200,000 SF Humanities-Law Building, located on the campus of Georgia State University in downtown Atlanta, is a state of the art building containing offices, classrooms, lecture halls, law library, public conference and event space, and storage spaces. The university is seeking LEED certification for the project and has a desire for the facility to become an iconic symbol of the university's presence in the local community and foster a desire for greater community integration.



RMF Engineering Inc. (RMF) provided full LEED-NC Fundamental and Enhanced Commissioning services along with Indoor Air Quality, and Measurement and Verification. RMF quickly joined the team at the design development phase and provided design reviews, commissioning specifications, and the commissioning plan to integrate into the overall project documents.

Formal design and construction phase commissioning services were performed on the following systems:

Building Envelope
Building Automation System
Fire Protection System
Fire Alarm System
Smoke Control System
Domestic Hot Water System
Chilled Water System
Heating Hot Water System
Air Handling Units & Energy Recovery Units
Ductwork & Fire and Smoke Dampers
Laboratory Systems & Fume Hoods
Laboratory Gas Systems
Network Communications

Newsletter Committee Chair and Editor:
Casey Charepoo

Transitioning to Occupancy and Leveraging Your Commissioning Authority: GSU Humanities Law Building

Access Control & Security Systems
Switchboards & Panelboards Including Metering
Lighting Controls
Emergency Power System
Grounding System
Surge & Over-Current Protective Devices
Thermographic Survey

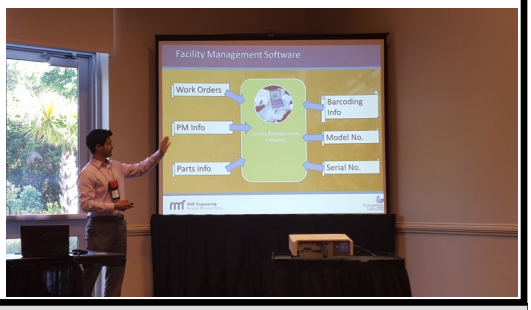
The presentation focused on RMF's approach of facilitating information transfer from design to operations and maintenance. During the design phase, GSU immediately began discussing their desire to have a thorough information transfer at the end of the project to improve building operation after occupancy. RMF and GSU identified the main information mediums GSU utilizes for building information in occupancy. RMF then began analyzing the GSU's information mediums, the information mediums utilized in commissioning and construction, and developed a plan for integration and transfer.

One critical aspect was to ensure that the building equipment inventory, equipment capacity and preventative maintenance data was transferred and input into GSU's ARCHIBUS CMMS system. RMF worked with the design and construction teams to facilitate the data transfer from the Commissioning Documentation, the submittals and the O&M documentation to the ARCHIBUS System.

RMF also worked with the team to develop project specific systems manuals and detailed systems training sessions. The systems manuals were designed to contain isometric system schematic drawings. These give a visual representation of the facility relative to the building systems, providing a one-stop-shop for visualization of system layout. Systems training sessions were also recorded so the files can be archived and recalled when there is an operational question or new hire to train.

It takes a facilities management leader to spearhead this type of process and advocate for the collection and transfer of information, but the majority of the information is already in the depths of the project waiting to be collected and harnessed. Leverage your CxA and move your facilities into the new age of information and facilities management.

By: Vance Nall, PE. RMF Engineering, Inc.



For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.

WWW.GAPPA.ORG

Drone Investment and Use in Construction is Accelerating

While the FAA has eased up on restrictions with its proposed new rules, "333" exemptions issued under the current regulations still require the operator to have a pilot's license. This does not seem to be holding up companies from wanting to deploy drones; more than 2,500 requests have been filed. Driven by anticipation of the FAA new rules expected to be issued later this year or in 2016, investment in companies providing drone hardware and services to contractors is also growing. According to a June 19 article in *Bloomberg Business*, over $210 million has been raised in 2015 by drone businesses including AeroCine, Airware, DroneDeploy, Skycatch, Kespry and SZ DJI Technology Co. DJI, according to the article, raised $75 million in May giving it a valuation of $8 billion.

The rate of FAA-issued exemptions is also accelerating. To date, 664 exemptions have now been issued. Since our last report on May 14, we counted more than 200 exemptions issued to construction firms, utilities or industry service providers. This includes those specifically offering mapping, surveys, imaging, data collection and inspections for construction, engineering, geospatial analysis, multi-spectral imagery or photogrammetry services. Our count did not include companies that listed their operations for other industries or generically as "aerial photography," although some of these firms may intend to offer services to contractors as well. From viewing recent exemptions, it appears the turnaround time from application to written exemption is now less than 90 days.

ConstructionPro Week, Volume: 4 - Issue: 25

Do Owners Drag Their Heels In Making Contract Award Decisions?

When public project owners solicit bids for construction contracts, they establish a deadline for submittal. But owners do not commit to awarding a contract immediately after bid opening. They often allow themselves 60, 90 or even 120 days to evaluate bids or proposals. Bidders assume prompt contract award at their peril.

The date of contract award has a significant impact on the scheduling of the work. A later award can push work into inclement weather, thereby increasing its cost. This was the experience of a contractor on a recent federal project.

Final proposals were due July 1, with the contract to be awarded within 90 days. The government awarded the contract on Sept. 20, well within the allowed period. The contractor, whose excavation work was pushed into the winter months, argued unsuccessfully that it had reasonably anticipated a prompter contract award.

Do project owners really need that much time to evaluate bids or proposals? While lengthy award periods may be comfortable for owners, they increase the uncertainty and risk for contractors. Wouldn't shorter award periods encourage tighter bidding? Your comments are welcomed

By Bruce Jervis

ConstructionPro Week, Volume: 4 - Issue: 25

For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.

WWW.GAPPA.ORG

Keeping Construction On Track at Georgia Universities

Unique construction scheduling needs, diminishing budgets and increasing workloads have made it challenging for universities across the U.S. to accomplish their repair needs. Georgia's colleges and universities have found success in streamlining facility and infrastructure repairs, renovations and straightforward construction projects with Indefinite Quantity Contracts (IQC). This construction procurement method, is available through the Georgia Department of Administrative Services convenience contract, and is available to all public entities in the state, including colleges and universities.

Gordian ezIQC® is an easy and intelligent construction procurement method, enabling Georgia's university facility managers to accomplish a large number of projects with a single, competitively-bid contract, with complete transparency to track each dollar spent. This is an ideal process for accomplishing repairs and alterations quickly, during peak summer and holiday construction periods, or in the face of looming funding deadlines.

Case Study: Georgia Regents University Remodel

Georgia Regents University in Augusta used the ezIQC process to create the Confucius Institute, a center promoting the Chinese culture and language through a partnership with Shanghai University of Traditional Chinese Medicine.

Scope of Work:

The scope of work involved demolishing a previously existing 1,600 square foot interior space and building new office spaces, an upscale lobby and reception area, and a unique museum to display Chinese artifacts. Textured resin panels, incorporating organic and recycled materials, served as an aesthetic focal point for the interior features of the Confucius Institute. This high profile project was supervised by Chinese representatives from Shanghai University, as well as personnel with Georgia Regents University, and received local press attention.

Project Success:

This project illustrates the agility and speed of the ezIQC process. The timeline was short and expectations were high as the ezIQC team coordinated with end-users, facility owners and architects and engineers to create a detailed scope of work that would serve the needs of the Confucius Institute. Complex coordination was required as the construction was executed in phases, and the scope was defined more in each phase. The building where construction took place also housed the university president and leadership staff, so minimum disruption was essential. Loud activities had to be coordinated and completed on days that would not impact the building inhabitants. The fast timeline and phased construction process made this project a good fit for ezIQC. This project was successfully completed on time.

For more information on Georgia's indefinite quantity construction process, visit http://www.eziqcga.com/.

For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.

WWW.GAPPA.ORG

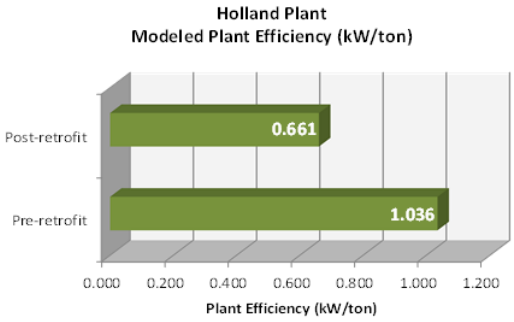
Georgia Tech Central Plant Energy Performance Contracting

Georgia Tech's commitment to be a leader in sustainability has shifted into high gear through the new GSFIC Energy Performance Contracting Legislation approved in 2015. The new EPC Legislation provides an additional source of capital funding to state entities to perform utility savings and infrastructure improvement projects. Georgia Tech is one of two Board of Regents Universities that were requested to participate in the first round of projects through the Board of Regents. As a long sought after goal, Georgia Tech decided to focus the project on Central Chilled Water Plant performance and plant water conservation improvement initiatives.

After a competitive selection process, the Georgia Tech Chilled Water Central Energy Plant Energy Performance Contract procurement was competed and awarded to Johnson Controls. Through the project development process, Johnson Controls, Georgia Tech Engineering , Georgia Tech Sustainability, Georgia Tech Plant Operations, RMF Engineering, and Optimum Energy worked hand in hand to develop an energy efficiency plan that takes into account campus master planning goals, campus capacity requirements, Operations Requirements, Serviceability, and Yellow Book Design Standards.

Through the Energy Performance Contracting Team, the following energy savings and conservation measures were determined to be the best fit for the Georgia Tech Campus.

- Optimize the chilled water plant performance by converting the plant configuration from constant volume primary – variable secondary design to variable primary-only system
- Implement chiller, tower, and pumping dispatch strategies utilizing a patented application of the Hartman Loop (CPO 30) powered by OptimumLOOP™
- Remove two existing 1,060 ton McQuay chillers
- Install one new 2,000 ton high-efficiency York chiller with VFD
- Install one 2000 Ton Compressor VFD on existing Chiller #7
- Add VFDs to condenser water pumps and cooling tower fans
- Install a second well at each plant for condenser water make-up.
- Install well water and city water pre-treatment systems to provide better make-up water quality to reduce blow-down.
- Install sidestream filtration to allow high-cycle condenser water operation.
- Eliminate use of domestic water for boiler induced draft (ID) fan Babbitt bearings and single-pass cooling on the McQuay Chillers.
- Improve the Holland and 10th Street chiller plant efficiency by making improvements to the chilled water distribution systems in select low-delta T buildings.

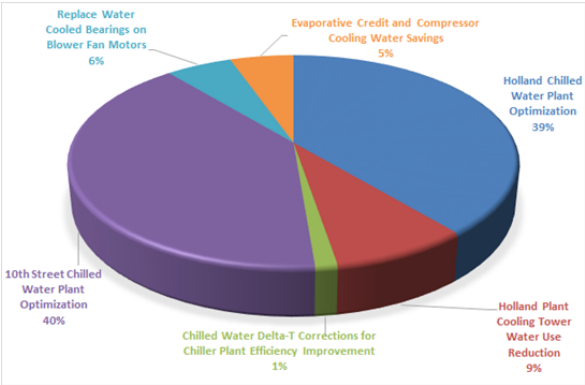


Newsletter Committee Chair and Editor:

Casey Charepoo

WWW.GAPPA.ORG

Georgia Tech Central Plant Energy Performance Contracting

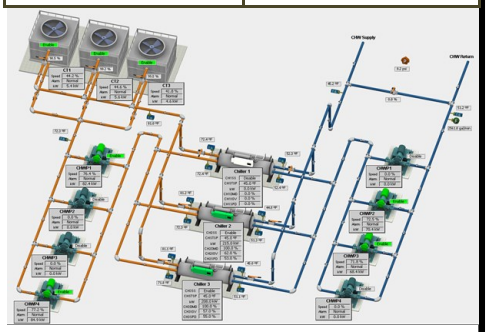


- Install new closed-loop chilled water lines for the shop air compressor cooling.

The conservation measures implemented will provide Georgia Tech the following utility, capital, capacity, and maintenance improvements.

- Replace equipment that is approaching end of its rated useful life.
- Current state-of-the-art chillers offer far superior part-load performance
- Considerably lower pumping energy associated with the variable primary-only system configuration.
- Partially alleviate low delta-T syndrome
- Adding drives to pumps and fans allows for optimal speed and electronic trim control.
- Improve overall chilled water plant efficiency
- Aqualogix® optimization technology yields consistent condenser water chemistry and minimum cost of operation, even under varying load conditions.
- Allows for conventional condenser water treatment, which has proven reliable at Georgia Tech.
- Automated monitoring provides alerts for timely response to upsets and excessive water usage.
- Eliminates the non-metered cooling tower make-up water that was discovered while analyzing the difference between billed
- water for the plant and sub-metered water in the plant.
- Eliminates the wasteful single-pass cooling, especially when option for closed-loop cooling is conveniently available.
- Improved system reliability by keeping domestic water connections as a back-up.
- Improve capacity of the chilled water plants.

Average Annual Pre kW/TON	Average Annual Post kW/TON
1.036	0.661



When complete the Georgia Tech Energy Performance Contract will have installed $7.7 M in capital improvements over a 14 month construction duration. The total project will have return on investment of less than 7 years, and the entire project will be funded through guaranteed utility savings. The utility savings include $1.478,000 per year in electrical savings, $228,000 per year in water savings, and $150,000 sewer savings. (Total Annual Utility Savings $1,856,000).

By: Scott McVay Senior Account Exec, Johnson Controls

For previous copies of "GAPPA News" newsletter, check online. We also have photos of previous annual meetings.

WWW.GAPPA.ORG