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OPC Purchases Murray Energy Facility

Combined-cycle facility will add 1,250 MW in coming years

OPC recently purchased the Murray Energy Facility, a combined-cycle generating facility in Murray County, just outside Dalton.

The plant has two units, one of which is committed to Georgia Power through next May. The two natural gas units can generate a combined summer planning reserve generating capacity of approximately 1,250 megawatts.

OPC closed on the plant in early April, purchasing the facility from an affiliate of KGen Power Corporation.

"This acquisition of an existing, low-cost and proven facility in Georgia to help meet our Members' future power supply needs is a good strategic fit for our power supply portfolio," said OPC President and CEO Tom Smith. "A diverse generation portfolio is important in order to provide reliable, cost-effective power to the Member Systems," he added.

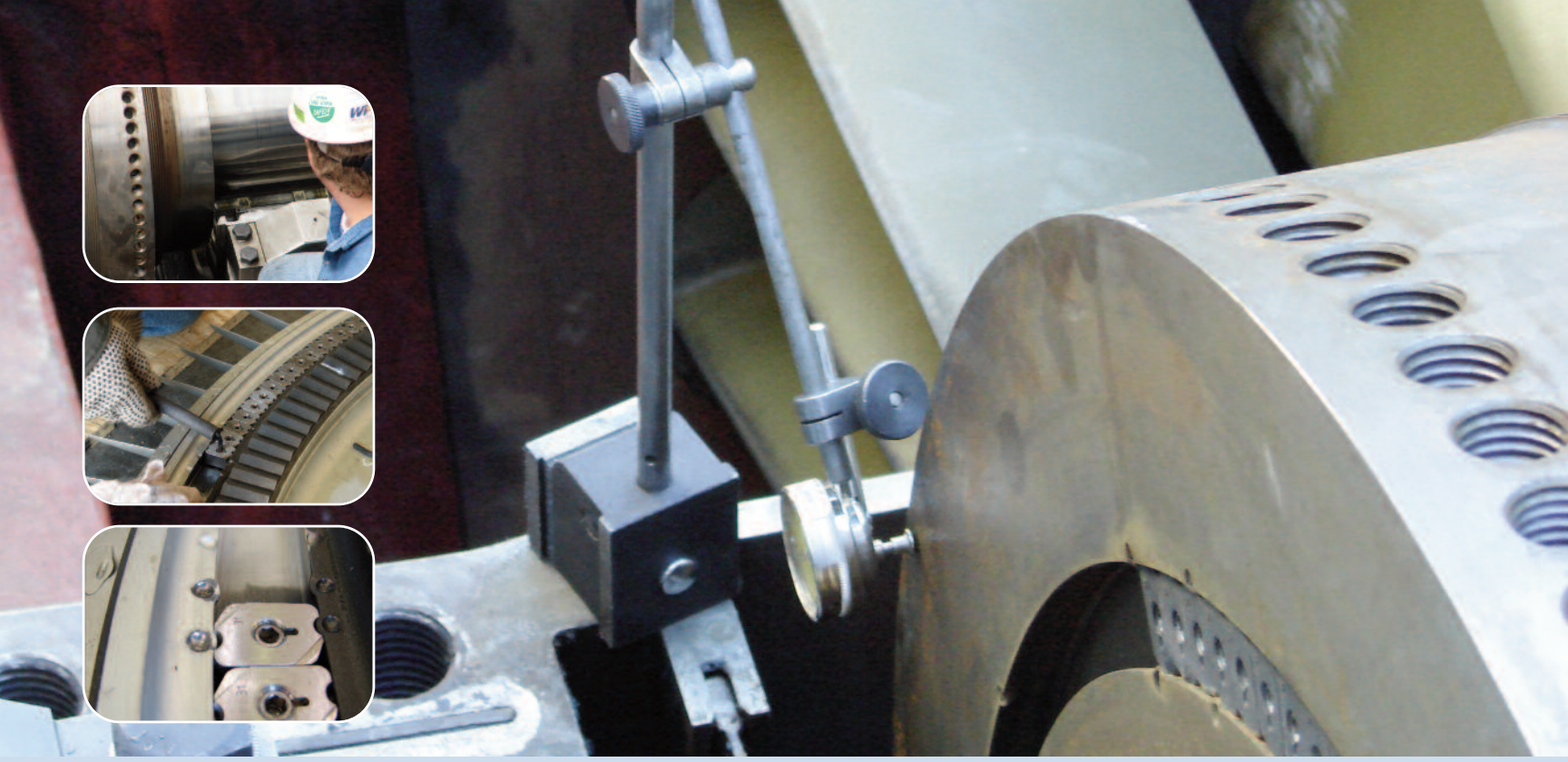
OPC canceled a 605-megawatt combined cycle plant that was in the siting stage once the Murray purchase was finalized. "The purchase of the Murray Plant gives Oglethorpe Power and our Member Systems a significant block of generating capacity at a very reasonable cost," said OPC Executive Vice President & Chief Financial Officer Betsy Higgins. Higgins expects long-term financing for the Murray units to come primarily from loans guaranteed by the Rural Utilities Service (RUS). Taxable bonds would make up the difference for any amount not funded through the RUS loan program.

About the Murray Energy Facility

The Murray Energy Facility is located on a 49-acre site near Dalton, Ga. The facility comprises two natural gas-fired combined-cycle plants with a capacity of 1,250 MW.

The entire output from one of Murray's two generating units is contracted to Georgia Power Company through May 2012 via a power purchase agreement. OPC is currently marketing the output from the second unit through short-term sales.

The two Murray units have a common control room but operate independently. Each unit uses two natural gas-fired combustion turbine generators, two supplemental-fired heat recovery steam generators, a chiller system (for cooling of turbine inlet air in the summer) and one condensing steam turbine generator operating in combined-cycle mode.



Solving a Vibration Problem

When it comes to ensuring that OPC's energy facilities run smoothly, there's no such thing as a "good vibration." That's because vibrations in any of a plant's energy generation machines and auxiliary equipment indicate an imbalance that can result in serious damage to a component. Not only can that mean costly repairs or replacement, it can even cause a unit to shut down.

According to Jeff Patterson, Combustion Turbine Technician at Sewell Creek Energy Facility, any number of things can cause an imbalance including a worn bearing, dirt or contaminants on the machine, or even a missing component. "At Sewell Creek, there are 17 stages of compression and four stages of turbine, as well as an attached generator rotor per unit, where vibrations can potentially cause serious problems," he said.

Fixing a Vibration With Weights

Most vibrations in a plant's generating machinery, such as turbines and generator rotors, can be solved by placing a series of small weights on specially designed flat areas called balance planes. Adding, subtracting or simply moving the weights on the balance plane can make a difference and reduce or eliminate a vibration.

"Even a minimal adjustment can have an extraordinary effect," Jeff said. "Adding 20 grams of mass could be enough to make a 30-ton rotor run smoothly."

Continuous Monitoring Systems

At Sewell Creek, energy generation machines such as gas turbines have two built-in vibration monitoring systems. One is an integral part of the plant's control system where vibrations can be monitored continuously as a machine is running under operating conditions. If this monitoring system detects a high vibration, it will indicate an alarm and/or automatically shut down a unit.

The second monitor — known as a "proximity vibration system" — is a stand-alone system that does not interface with the control system, but is considered to be more accurate. This monitor indicates an alarm if a high vibration is detected and shows the approximate location.

Predictive Maintenance

While Sewell Creek's gas turbines are always monitored while they are running, other critical equipment, such as pump motors, fan motors and compressors, are checked during monthly predictive maintenance using a hand-held vibration monitor by plant technicians who follow a specific maintenance route. Once the monitor is connected to a component, that piece of equipment is then started up by the plant operator. Readings taken by the monitor are saved to a computer and downloaded to a spreadsheet for analysis.

Large components, such as turbines and generators, which must be run in order to be tested by the automatic alarm system, are usually checked during the run season or immediately following a major maintenance of the unit. When an adjustment to a balance plane is necessary to fix a vibration, an outside contractor is called in to oversee any distribution of weights. Once the weights are in place, the unit is run again while the balancing expert is still on site to make sure that the vibration has been corrected.

Vibration Analysis

While vibrations seem simple enough to monitor and fix, it takes experience and expertise to solve a high vibration that can cause a unit to shut down.

For turbines and generators, an outside contractor licensed by the industry is brought in to analyze the myriad of data the monitoring systems produce, and to oversee the distribution of weights. Raw data taken from the stand-alone vibration monitoring system is used to create a polar graph that plots the motion of a rotor while it runs and determines where weights should be placed.

For auxiliary equipment, such as pump motors and fans, readings taken from the monitors are sent to Rocky Mountain, where one of OPC's resident experts in vibration analysis can determine if bearings are failing, equipment components are not aligned, or if a belt needs to be replaced.

If action is needed to fix a vibration, a work order is issued through the plant's Maximo Managed Maintenance program with specific recommendations for that particular piece of equipment, such as replacing a loose or worn belt or worn bearings, or rewinding a motor. Once repairs are made to a piece of equipment, it can be tested immediately to ensure that the problem has been solved.

Vibrations that aren't fixed can cause the equipment to fail, and that can result in the complete shutdown of a unit. Jeff explained that monitoring and regular predictive maintenance is essential in order to keep the units running.

"It's much easier and less costly to replace a bearing than it is to replace an entire motor that fails because a bearing is going bad," Jeff said.

Betsy Higgins Named CFO of the Year

It's been quite a year for Betsy Higgins. In addition to her busy schedule as Oglethorpe Power's Executive Vice President & Chief Financial Officer and team mom for her two sons' varied sports activities, Betsy was named winner of the Atlanta Business Chronicle's 2011 CFO of the Year in the category of large private companies. The prestigious award recognizes both her expertise in finance and her exceptional leadership at OPC.

Betsy Higgins named 2011 CFO of the Year in the Private Company/Large category by the Atlanta Business Chronicle.

In her 14 years at OPC, Betsy earned the rank of Executive Vice President & Chief Financial Officer in 2008 after serving as CFO since 2004. Her responsibilities include oversight of corporate finance, strategic planning, acquisitions, capital structure, investor relations, rating agency relations, treasury, tax, accounting, risk management, business continuity planning and the corporation's code of ethics.

"Betsy's expertise in finance, coupled with her experience as a power supply planner, her training as an industrial engineer and her understanding of the electric utility industry make her an exceptional financial head and leader."

Tom Smith,
OPC President & CEO

During the last year, Betsy has worked to maintain strong liquidity and raise capital to finance an aggressive "build/buy" growth plan for OPC – including the construction of two nuclear units at Plant Vogtle, in partnership with Georgia Power. This project, estimated to cost OPC $4.2 billion, came during a very uncertain economic period when capital markets were tentative.

While the Vogtle project is scheduled to be operational in 2016 or 2017, the challenge lies in an always-changing legislation and the uncertainty of the nuclear industry following the recent earthquake in Japan. A lot could happen in the next five to six years that will affect that project.

"We are always subject to regulations and legislation that could render our decision uneconomic. This is the [most] uncertain I have seen the industry in my career," said Betsy. "But sometimes challenges are fun to deal with and to navigate through. It is not so challenging that it is impossible."

Betsy was OPC's lead negotiator for a $3 billion financial arrangement with the Department of Energy for the first of $18 billion in loans for the construction of new nuclear technology.

"There was a law passed that allowed the government to make loan guarantees on money to be used in nuclear technology as they try to provide some incentives for us to dip our toes in the water to build nuclear facilities. This allows us to borrow money at a more advantageous price than we can get in capital markets," she said. "Nuclear has not been developed here for more than 20 years. It is pretty ground-breaking for this project to be the first of its kind. Nuclear is expensive to build, but once it is built it is inexpensive to operate. It is a good, safe option for electricity delivery."

During the last two years, Betsy was also the lead negotiator on the purchase of three power plants collectively appraised at about $900 million, the most recent deal being the Murray Energy Facility which was estimated at approximately $530 million and closed in April.

"In that deal, we got a power plant for about half the price that it would have cost to build a new plant. That was very satisfying," Betsy said.

Under Betsy's leadership, OPC's total assets have grown to approximately $7.5 billion at the end of 2010 from $5 billion in 2008. She has made sure the corporation maintained strong liquidity through committed lines of credit, cash and a commercial paper program to fund acquisitions and capital expenditures associated with the construction of the Vogtle units. Commercial paper was issued in 2010 at historically low rates for OPC that averaged less than 0.4 percent, providing a low-cost source of interim funding for the project.

Tom Smith, OPC's President & CEO, said that Betsy's "expertise in finance, coupled with her experience as a power supply planner, her training as an industrial engineer and her understanding of the electric utility industry make her an exceptional financial head and leader."

In 2010, Betsy led an initiative to ensure administrative and general costs were identified and allocated appropriately between expense and capital. This required a thorough review of costs and development of a new allocation methodology for capital projects.

Tom added that due in large part to Betsy's planning and financial acumen, OPC continues to be well-positioned to fulfill its obligations to its Members, bondholders and creditors, and is in good standing with rating agencies and other financial institutions.

Tom Smith Named to Georgia's "Most Influential" List

Georgia Trend, a well-respected publication for business and politics, recently published its list of "100 Most Influential Georgians." The magazine highlighted prominent people who in the past year have positively affected the course of events in Georgia, especially during the toughest economic times since the Great Depression.

Tom Smith, OPC's President and CEO, was honored for the fourth consecutive year by being named to *Georgia Trend* power list of notable business, academic and political leaders, including Arthur Blank, UGA President Michael Adams, Gov. Nathan Deal, U.S. Senator Saxby Chambliss and Coca-Cola Enterprises CEO/Chairman John Brock.

In naming Tom to the 2011 "100 Most Influential Georgians," *Georgia Trend* stated, "Smith continues to burnish his reputation as a can-do leader of a company serving EMCs that collectively supply electricity to 4 million Georgia customers."

Tom was humbled to be among the many outstanding leaders recognized in this year's list. "Being included in this list is way more than a personal honor," said Tom. "It represents the accomplishments and hard work of all our associates and our Member Systems at Oglethorpe Power."

OPC's Ken Rosanski Receives EPRI Leadership Award

Ken Rosanski, Resident Manager of Plant Hatch, received the Leadership Award for Program Management Excellence presented by the Electric Power Research Institute (EPRI) at the Nuclear Power Council Advisory meeting held in New Orleans in February. This award recognized Rosanski and OPC for Program Leadership in Low Level Waste/Radiation Protection/Chemistry and High Level Waste/Spent Fuel Transportation.

Mike Price, OPC's Executive Vice President and COO commented on the significance of this award. "I'm very proud of the work Ken has done in leading such an important nuclear program," he said. "He deserves the recognition for his commitment in strengthening OPC's leadership role in the safe development of nuclear power."

OPC Associate Recognized With PowerAid Award

Donnetta Scoggins receives PowerAid Award from Billy Ussery.

The 2010 Volunteer of the Year Award was presented to Donnetta Scoggins, Manager of SEC Reporting, during the all-associates meeting in February. Each year the award recognizes an associate for their time and effort spent in the spirit of volunteering.

Donnetta spread her volunteering spirit among several activities last year. She was active in working at Café 458, The Salvation Army Angel Tree Sorting as well as with MedShare. "My life is enriched by knowing that the small contributions I make through my volunteering efforts have a direct and positive impact on family, community and society as a whole," explained Donnetta as she reflected on her volunteerism.

PowerAid is now in its third year and continues to grow in scope and the number of volunteers. In the past year, 64 OPC associates worked on 17 volunteer activities for a total of 408 volunteer hours, or the equivalent of 51 days of service donated to the community.

Billy Ussery, Executive VP, Member and External Relations and PowerAid Director, presented Donnetta with an engraved crystal paperweight. "Recognizing an associate for such an outstanding volunteer effort is truly a privilege and an award I look forward to presenting," said Billy.

POWERAID

Georgia Forestry Commission and Oglethorpe Power Celebrate Replanting Success

On May 5, OPC and the Georgia Forestry Commission (GFC) celebrated the planting of nearly 150,000 seedlings in a partnership to reforest about 400 acres of hardwood forestland burned in wildfires near the Okefenokee Swamp in 2007. The replanting took place over several seasons from 2009 through 2010 in the 33,000-acre Dixon Memorial State Forest, located in Ware and Brantley counties.

In commemoration, OPC and GFC dedicated a roadside sign marking the project. Working closely with GFC, OPC replanted designated wetland areas with pond cypress, bald cypress, red maple, swamp chestnut oak and water tupelo trees. The plantings took place in areas where GFC did not plan to replant because of budget restraints and, thus, the recovery of these wetland areas would have been much slower if left to natural processes alone.

Clarence Mitchell, Senior Vice President, Regulatory & Contract Operations for OPC, said recent testing showed the replanting has been very successful, achieving a seedling survival rate well above the industry average.

"We are extremely pleased to have been part of such a successful effort to reforest a portion of one of Georgia's most diverse and important ecosystems," Mitchell said. "Ultimately, all Georgians benefit from efforts like these to protect and preserve our state's vital natural resources."

Robert Farris, director of the Georgia Forestry Commission, went on to explain that the benefits of the reforestation project will only multiply as time progresses.

"Thanks to the partnership with Oglethorpe Power, this reforestation project helps heal a wound in this community left by one of the worst wildfires in our state's history. As these new trees continue to grow, so will the benefits to the environment, wildlife and the community as a whole."

People PROFILE:

Tracy Robinson

Operation & Maintenance Supervisor, Hawk Road

Tracy Robinson was destined to follow a career in the field of engineering. His father worked in the aerospace industry and his older brother was career military. Born in Marietta, Ga., Tracy was in the fifth grade when his family moved to Hartwell, Ga. after his father retired. Following eight years in the Navy, Tracy received an engineering degree in electronic technology from Florida A&M in 1988, and he worked for a short time at McDonnell Douglas at the Kennedy Space Center. In 1993, he began working at the newly built Hartwell Energy Facility before transferring to Hawk Road in 2000, where he is currently plant manager.

What are your primary job responsibilities? My job as Operations & Maintenance Supervisor at the Hawk Road Facility includes maintaining the safety and reliable operation of the plant and responding to the energy needs of our Member Systems.

What are your greatest job challenges? My day-to-day responsibilities are focused on ensuring the plant is prepared to operate at a moment's notice. Maintaining 100 percent plant reliability, which includes combustion turbine starting reliability, is our greatest challenge. On March 19, we had a failure of a bushing on our Unit 2 generator step-up transformer, which caused major damage and fire. We had just completed a hot gas path inspection — part of a six-week major maintenance on the Unit 2 combustion turbine, after finishing maintenance on Unit 3 in preparation for the plant's run season — when the incident occurred. Other challenges include corporate and regulatory compliance with maintaining a safe work place as our highest priority.

Describe a typical day. My daily activities vary according to the season. During the run season, my work is centered on operating the plant — meeting dispatch and operational needs. When we're out of the run season, we concentrate on major maintenance of the facility as well as supporting other sites and their maintenance activities.

What would you say was the most demanding part of your job? I'd say that dealing with the multiple responsibilities of managing the safety, environmental and regulatory issues of plant operations are the most demanding aspects of my job.

What value does your role/department bring to the Members? My staff and I bring both experience and ability to maintain and operate the facility and be available to the Members when they dispatch us for operations. We have a good crew of six combustion turbine technicians and one staff assistant who have been working together for a long time.

What is your background as it relates to the electric cooperative industry? I began working in the electric power industry at Hartwell when the plant was being built in 1993. At the time, it was owned by Dynegy and American National Power, an independent power producer partnership. During the seven years I worked there, the facility had a power-purchase agreement with OPC, so there was some interface with electric co-ops. In 2000, I transferred to the Hawk Road facility, which was built and owned by Dynegy until it was purchased by OPC in 2009. Also, during my time with Dynegy, I managed other power plants in Georgia, North Carolina and Louisiana.

What attracted you to your profession? After I graduated from high school, I attended Young Harris College for a short time. But I had always been interested in the military since my father was a WWII veteran and later worked for Lockheed, and my older brother served in the Navy. While my brother was stationed in Hartwell as a recruiter, I joined the Navy and stayed in for eight years. While there, I received exceptional training in aviation electronics.

What is your greatest professional achievement? I'm extremely proud of the years that I spent in the Navy. One of my greatest experiences was when I served as a flight deck troubleshooter on the aircraft carrier, USS Eisenhower. My military career started me on my professional path. The electrical training I received in the Navy was superlative and I wouldn't trade that for any other education. That opened the door to the aerospace field when I went to work for McDonnell Douglas, which in turn led me to industrial electrical engineering and eventually to my current position as O&M Supervisor of Hawk Road.

What do you do for fun in your spare time (sports, hobbies, etc.)? Raising two teenage daughters consumes much of my spare time, but I like to hunt, fish and play golf when I can.

OPC's Board of Directors

Oglethorpe Power Corporation's Board of Directors has re-elected Benny W. Denham of Sycamore, Ga. as its Chairman. J. Sam L. Rabun of Louisville, Ga. was re-elected as Vice Chairman. The elections took place in a Board meeting at the conclusion of Oglethorpe Power's Annual Meeting of Members in Braselton, Ga. Denham and Rabun will each serve a one-year term as Board officers. Their terms on the Board of Directors expire in 2013.

Denham, a member of the Irwin EMC Board (Ocilla, Ga.), is an At-large Member Director of the Oglethorpe Power Board. Rabun, a member of the Jefferson Energy Cooperative Board (Wrens, Ga.), is a Member Director of the Oglethorpe Power Board.

The following were elected to three-year terms on the Oglethorpe Power Board during the Annual Meeting: Bobby Smith of Planters EMC in Millen, Ga., At-large Member Director; Larry Chadwick of Cobb EMC in Marietta, Ga., Member Director; Tony Ham of Okefenoke Rural EMC in Nahunta, Ga., Member Director; Danny Nichols of Colquitt EMC in Moultrie, Ga., Manager Director; and Randall Pugh of Jackson EMC in Jefferson, Ga., Manager Director.

OPC Celebrates the Retirement of Brian Prevost

Brian Prevost, Vice President & Controller, waves good bye to his colleagues and prepares for the next phase of life in retirement.

Old Shoes Bringing New Hope

Oglethorpe Power, in partnership with Tucker High School, collected over 170 new and gently worn shoes during the month of May to assist the children of Ghana. "The generosity of our associates was truly amazing. It seemed as though the donation containers were always filled and now these shoes will bring new hope to children on the other side of the world," said Demetrice Clayton, Powering the Youth of Tomorrow Coordinator for Tucker High School.