

QUARTERLY UPDATE

PROJECT UPDATES

2007 Pacesetter Plant Award

Michigan State University's T.B. Simon Power Plant received the 2007 *Combined Cycle Journal* Pacesetter Plant Award and was featured in their Fourth Quarter 2006 issue. MSU was recognized for the initiative to increase power production to meet increasing campus demands rather than purchasing it from the grid. Cummins & Barnard was retained by MSU to provide engineering design for the Unit 5 and Unit 6 expansion project. The units went into commercial operation in June of 2006.



Unit 5 is a 24.5 MW steam turbine addition capable of receiving high pressure steam from any of MSU's coal/gas-fired boilers or from the HRSG installed in conjunction with Unit 6. Unit 6 is a 15 MW Solar combustion turbine with a HRSG providing steam to any steam turbine through the high pressure steam header. This unit adds black start capability to the campus in support of sustaining critical research and was commissioned early in January of 2006.

Consumers Energy Company Next Generation Program

Cummins & Barnard has been selected by Consumers Energy to serve as Owner's Engineer for their Next Generation Program. The project involves development of additional generation through new coal-fired and combustion turbine electric generation and repowering of existing facilities.

University of Michigan Alumni Hall Museum of Art Addition and Renovation

C&B designed a replacement tunnel section for utilities feeding the existing and expanded museum in which all utilities were active and suspended while tunnel construction and new supports were built around the existing utilities. C&B also performed civil and site design relating to tunnel reconstruction and is providing construction period services. The project is in the early construction phase.

University of Michigan

North Quad Residential and Academic Complex

C&B is working as a consultant to Einhorn Yaffee Prescott, providing civil and site utility design services and contract documents for a utility extension project to bring steam, chilled water and power to the site from adjacent buildings and utility tunnel. C&B is also providing construction period services. The residence space for 460 students is in the early construction phase.

University of Michigan Health System Cardiovascular Center

C&B was responsible for preparing a detailed utility survey, developing a baseline study and implementing a structural monitoring program for many sensitive hospital and laboratory buildings as well as historical University buildings surrounding the compact site. These activities were undertaken at the Owner's request to help avoid damage or interruptions to vital utilities servicing the hospital complex as well as protect the integrity of near-by historically significant University buildings. The 350,000 gross square foot facility is nearing its completion.

University of Michigan

C.S. Mott Children's and Women's Hospital

C&B is acting as a subconsultant to HKS, Inc. to provide site, civil and structural engineering to support construction of a 1,000,000 sq.ft., 346 bed replacement hospital. C&B has been asked to provide engineering, design, analysis and contract documents as well as construction period services. Work includes consulting and design for site and utility LEED requirements.



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Confidential Industrial Client

C&B is providing design engineering for air quality control system (AQCS) additions to ensure compliance with the Industrial Boiler MACT Regulations. The AQCS equipment is being used downstream of six travelling grate stoker boilers and includes three pulse jet fabric filter baghouses, hydrated lime injection, induced draft booster fans, a new three-flue stack, and interconnecting ductwork and associated support steel. C&B has performed detailed engineering and procurement support for the design phase of the project which is nearing completion. C&B is also providing construction support.

CORPORATE AWARDS

2006 Excellence in Construction Award



Cummins & Barnard was pleased to be part of the University of Kansas Hospital New Central Utility Plant project that was recently awarded the ABC (Associated Builders & Contractors, Inc.) 2006 Excellence in Construction Award for an Electrical Industrial Project over \$750,000.

Brian D. Bird, P.E. was the C&B Project Manager for this effort. The Central Utility Plant for the University of Kansas Hospital went into commercial operation in March 2006. C&B was responsible for all utility plant systems design including electrical power, steam, chilled water, softened domestic water, fire protection water supply and medical air sourcing for the hospital as well as backup electrical generation for the Central Utility Plant.



PROFESSIONAL ACTIVITIES

ASME Performance Test Code



Andy Sutherland has been a member of the ASME Performance Test Code Committee (PTC-4) for Fired Steam Generators since 2004. PTC-4 is a code that provides standard procedures for testing and evaluating performance of boilers. The PTC-4 code committee typically hosts quarterly conference calls and meets once a year in January to discuss/address technical inquiries, assign research topics for committee members and define the necessary steps before a revised code can be released. Andy was assigned to research the accuracy of thermocouples

in comparison to RTDs for long term, high temperature applications. His analysis will be incorporated into the Section 4 and 5 revisions of the code and clarify items that caused confusion for the end user. The current code was issued in 1998 and the latest revision will be issued after the comments from the industry review are incorporated.

AACE Board Meeting



Bob Bakewell organized and lead an AACE (Association for the Advancement of Cost Engineering) Region 4 meeting in Indianapolis, Indiana on March 24, 2007 as part of his responsibilities as Region 4 Director. The meeting was a roundtable discussion on section related issues concerning membership growth, section fund raising and academic scholarships.

2007 Bentley Empowered Conference, April 29-May 3



Kurt Huss will present "The Convenience of AutoPlant Multidiscipline Plant Design" in Los Angeles, California. Presentation showcases the 3-D capabilities of AutoPlant and various available software features.

NFPA Certified Fire Protection Specialist

James Bauman, P.E. earned the NFPA CFPS designation in March 2007. The CFPS Board's goal is to promote the discipline of fire protection and prevention. There are approximately 2,600 professionals in the world who have achieved the title of "Certified Fire Projection Specialist."



2007 Coal-Gen, August 1-3, Milwaukee, Wisconsin

P. Jason Dobson, P.E.'s abstract has been selected for presentation at the 2007 Coal-Gen Conference. Jason will be presenting "Evolution of High Chromium Alloy Steels in Fossil Power Plant Environments." The presentation will address the increasing need for proper processing and control of durable, elevated temperature resistant materials from start to finish to ensure that service performance is according to design. It will also cover the material characteristics of higher chromium alloy steels, recommendations for future use of Grade 92 steel, avoidance of problems that are being encountered in the power industry with these materials, and ongoing ASME code changes to address industry concerns. The paper will provide guidelines for Owners and the power industry to achieve "proper" material processing and control.



QUARTERLY UPDATE

Michigan State University, Capstone Course Project

C&B participated in a technology assessment project to limit CO₂ emissions post combustion with a group of students from MSU. The team investigated integrated gasification combined cycle (IGCC) and pulverized coal (PC) burning systems. Steve J. Herrygers and Chris A. Zuelch, P.E. were the C&B sponsors who worked with the students and their Faculty Advisor, Dr. Farhad Jaber. William H. Damon, III, P.E., CEO, and Roger W. Nagel, P.E., Manager of Advanced Engineering and Project Development, from C&B were also actively involved during the semester. The MSU team, will be presenting the research project results at the MSU College of Engineering Design Day on Friday, April 27, 2007.



Michigan Forward "Clean Coal Important to Michigan's Economic Development"

Steven P. Yambor, P.E., Vice President of C&B, recently published a cover story in the March/April 2007 edition of *Michigan Forward*. The article pointed out that 60% of electricity produced in Michigan (kW consumed) is supplied from coal utilized in highly efficient steam cycles to drive steam turbines for electric generation. Mr. Yambor also addressed the economic consequences for universities and industries who now use or always have used natural gas for their heating steam. The natural gas is on average two to three times more costly than coal on a dollars per BTU basis. The article concludes with information relating to improved efficiency and decreased emission rates of modern coal-fired plants and suggests that replacing the aging base load coal-fueled plants is the only way for Michigan to meet the State's energy requirements in a cost competitive manner.



PEOPLE

Mark Wiitanen, Project Manager



Mark A. Wiitanen P.E. recently re-joined C&B as a Project Manager. He has twenty years of experience in power generation engineering, construction and development of greenfield and retrofit facilities for utility, industrial and IPP clients. Previous experience includes a variety of energy projects performed at Black & Veatch, Allen-Bradley and most recently DTE Energy Services. Mark graduated from Michigan Tech with a degree in Electrical Engineering.

Patrick A Curry, Technical Field Consultant



Patrick Curry will be functioning as a Field Consultant on behalf of the Owner at the construction site of a new 760 MW supercritical coal-fired power plant in Kentucky. The duties of this position include ensuring the EPC contractor is installing, testing and commissioning the steam turbine generator and associated systems per the terms of the EPC contract. Additionally, this position will work with the Owner's operating staff through construction, startup and testing to ensure that the turnover and training is aligned per the requirements of the EPC contract.

CORPORATE EVENTS

Jeans For A Cause

C&B is proud to continue the "Jeans For A Cause" tradition. The first Friday of every month, employees have the ability to wear jeans if they make a charitable contribution. The January donations went to the Washtenaw Area Council for Children, February to the Ennis Center for Children, and March to the Jackson YMCA.