FOR IMMEDIATE RELEASE
June 14, 2004

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Dedication Ceremony for Innovative "Recycled Energy" Facility Draws High-Ranking Officials

Austin, Texas – The Department of Energy (DOE) unveiled its latest effort to diversify the nation's power supply at the dedication ceremony here today for a revolutionary Cooling-Heating-Power (CHP) facility. CHP is a form of distributed energy that recycles valuable waste heat produced in electrical generation.

The 4.5 MW unit has a new technological approach – it recycles the waste heat from the natural gas-fired generator, and this waste heat is the **only** fuel source for the chiller that provides air conditioning and heating.

The dedication took place today at an Austin Energy facility. Austin Mayor Will Wynn hosted the event and several officials representing the DOE, Oak Ridge National Laboratory (ORNL), and the Environmental Protection Agency (EPA) attended the ceremony.

"This new facility is 40 to 50 percent more efficient than conventional units in how it uses fossil fuels to generate power and thermal energy," said Ed Mardiat, director of CHP development for Burns & McDonnell, the prime design-build contractor. He estimates the plant will be at least 70 percent efficient.

To achieve these results, a low emission, natural gas fired combustion turbine was installed in conjunction with an absorption chiller that recycles waste heat produced by the turbine to produce chilled water without the need for any additional fuel. The chiller is capable of delivering 2,500 tons of chilled water, sufficient to air condition 1 million square feet of office space.

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Burns & McDonnell was awarded a project by the DOE and after an extensive site selection process partnered with Austin Energy to integrate this first of a kind system at The Domain Business Technology Park in Austin, Texas.

The DOE's Distributed Energy Program focuses on reducing the demand on the nation's electrical transmission grid and increasing efficiency of electrical supply through on-site cooling, heating and power. Onsite power also provides building owners with additional protection from power outages. By sponsoring research and development of new technologies, the DOE hopes to make these types of packaged integrated energy systems the preferred method of providing cooling, heating, and power,

DOE is not the only government agency supporting CHP projects. On May 13, 2004 at the 2nd Annual EPA Partners Meeting in Washington, D.C., Austin Energy received an EPA EnergyStar Certificate of Recognition because the Burns & McDonnell-DOE CHP project demonstrates leadership in environmental performance, by improving efficiency. The project not only saves energy and money, but also reduces greenhouse gases (i.e., carbon dioxide) and other air pollutants, like nitrous oxides, which contribute to acid rain.

"There's no one approach to solving the long-term energy needs of the U.S.," Mardiat said. "DOE's effort will go a long way toward making industrial, institutional, and commercial power users more self sufficient." Burns & McDonnell is proud to have been selected by the DOE to take a leadership role in this CHP development effort.

This effort began when Burns & McDonnell, partnered with Solar Turbines, a Caterpillar Company, and Broad USA, to complete this prototype system, using $3 million of cost share funding from the DOE through Oak Ridge National Laboratory (ORNL) and $5.3 million for Austin Energy, the owner and operator of the CHP plant.

ORNL is managing development of six similar systems by teaming with industry and energy users. The Burns & McDonnell-DOE development project sited in Austin is one of two large scale CHP systems.

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"When you consider the reduced energy cost savings and emissions, in addition to the benefits of improved system efficiency, security, reliability and power quality, this type of integrated energy system can be implemented at a customer's facility nearly anywhere in the U.S. market," Mardiat said. "We are currently evaluating a variety of facilities at hospitals, university and college campuses, airports and large corporate or government offices complexes to install similar packaged CHP systems."

"Less complex than traditional one-of-a-kind designs which need extensive on-site engineering, these integrated systems result in lower capital costs, shorter construction schedules, easy replication for multiple applications and control systems that can optimize facility energy use," said Jan Berry, research and development program manager for ORNL.

"Austin Energy is pleased to join with DOE to test and verify technology in an innovative manner," said Cliff Braddock, director of energy business development for Austin Energy. "We believe that the low emissions and extraordinary high efficiencies of the integrated energy systems provide a positive response to effectively meet our customers' complex energy needs while allowing us to meet our clean air challenge."

Founded in 1898, Burns & McDonnell is an engineering, architectural, construction, and environmental services firm with more than 1,700 employees and 16 offices worldwide. For more information about Burns & McDonnell, visit their website at www.burnsmcd.com

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