

## **Austin Energy to Test Innovative On-Site Generation**

Austin Energy and Department of Energy (DOE) officials will cut the ribbon June 14<sup>th</sup> on a prototype power plant that could revolutionize on-site generation for businesses. The plant, called a cooling-heating-power (CHP) facility, will be one of the largest in the nation to test a new technology approach: using the waste heat exhaust from a natural gas-fueled generator as the only fuel source for a chiller that provides air conditioning and heating.

The ribbon cutting will take place at 2:00 p.m. at the plant site in the Domain Industrial Park in north Austin. Austin Mayor Will Wynn will be joined by DOE and State officials in dedicating the plant. The event, which will include tours of the facility, is expected to be attended by engineers and other technology experts from around the nation.

Recycling waste heat to power another generator or to help run a chiller is not new. What is new is for a chiller this size to be fueled by waste heat alone –without any supplemental fuel. The project’s chiller, called an absorption chiller, is capable of delivering 2,500 tons of chilled water -- sufficient to air condition 1,000,000 square feet of office space. This project has also been sized so that the full waste heat output of the natural gas-powered generating unit closely matches the full output capability of the chiller. The result is extraordinary fuel efficiency in the 70% to 80% range against 55% efficiency for the best generating technology available today.

“Austin is extremely pleased to partner with the Department of Energy and the Oak Ridge National Laboratory (ORNL) in the testing of this emerging technology,” said Austin Mayor Will Wynn. “Our goal is to make Austin a destination for clean energy development. To achieve that, we are willing to invest and participate in development of that technology.”

Another critical aspect of this CHP plant is the fact that it uses pre-manufactured or off-the-shelf components. This is expected to significantly lower the cost of replicating similar on-site generation systems (called distributed generation). Off-the-shelf capability allows systems to be scaled up or down in size or configuration, to serve a variety of situations. The CHP plant at the domain was delivered in two sections and was basically assembled with seven welds.

“This technology will be adopted by all the major building manufacturers,” said Ron Fiskum, Integrated Systems Technical Manager, Department of Energy. “An integrated system, assembled at the factory that can provide power, cooling and heating with greater efficiency than ever achieved – with fewer emissions. This is the future.”

Austin Energy already owns and operates a district cooling plant at the industrial park providing chilled water for air conditioning and steam for heating to businesses located

within the complex. The new CHP plant will allow Austin Energy to meet the cooling needs of new Domain customers as well as businesses in the surrounding area.

“This project continues to build our experience in providing ancillary energy services as well as operating leading-edge technology,” said Austin Energy General Manager Juan Garza, “Our goal is to become experts in the operation, deployment and integration of on-site generation.”

The 4.5-megawatt (MW) Domain CHP plant is one of six DOE research projects nationwide involved in testing innovative distributed generation technology. The \$8.3 million dollar project will be owned and operated by Austin Energy. The DOE is providing \$3 million of the project cost. The plant’s designer and builder is Burns & McDonnell, an engineering architectural, construction and environmental services firm with offices worldwide.