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JM Coull installs photovoltaic solar system at 67,000 s/f F.W. Webb project

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JM Coull, Inc. is nearing completion of the new F.W. Webb facility. The design-build, 67,000 s/f project is scheduled for completion this month. While it resembles F.W. Webb's other facilities throughout New England, this project is different in that it incorporates a rooftop photovoltaic solar energy system. The architect was Design Science International.

In keeping with the cost-efficient sustainable construction solutions it has incorporated into previous F.W. Webb projects, JM Coull is installing a commercial solar energy system, designed to convert sunlight directly into clean, renewable, cost-stable electricity. JM Coull has combined solar energy with geothermal technology on earlier F.W. Webb projects, but this is the first that will use solar energy to generate a substantial portion of the building's electricity.

"F.W. Webb is taking a leadership role in sustainable facilities in New England and we are excited to be creating solutions that not only reduce carbon footprint, but also provide substantial financial benefit," said Andrew Coull, LEED AP, president of JM Coull. The 302kW system will offset over 430,000 pounds of carbon dioxide emissions annually, with first year electrical savings of $38,076. To engineer the system, JM Coull enlisted the help of its solar energy partner, Bella Energy, a national commercial solar developer and project engineering firm.

"Bella Energy is thrilled to work with our partner JM Coull in helping power Massachusetts with solar energy," said Bella Energy CEO Jim Welch. "By combining the solar and construction expertise of our two companies we provide value engineered energy solutions to all of our clients."

The benefits of the use of a commercial photovoltaic solar system extend beyond the reduction of carbon footprint. This commercial system provides fixed-cost energy pricing through a clean, renewable and locally generated source. The system will generate over 390,000 kilowatt hours per year and provide consistent energy for over 30 years.

The system uses 1,235 Trina solar modules, which are designed to withstand hail, wind and snow, have been strategically placed on the rooftop of the new facility to form a solar array. When sunlight hits the solar array, DC electricity is generated which then travels to the 266 kW Solectria inverter where it is converted from DC to AC electricity. The AC electricity is then passed to the electric service panel where it is routed to power the facility. A benefit of this system is that it is "grid-tied," meaning that backup electricity will be available at night or on overcast days. The grid-tied system also enables the public utility to absorb the production of excess energy. At the end of the year, the utility will pay F.W. Webb for excess kilowatt hours at wholesale rates.

JM Coull is a design-build and construction management firm and a Certified Green Building Contractor specializing in new construction and renovations for industrial and institutional markets.