# FedEx Ground Solar Power System
# Woodbridge, New Jersey

## BSC Participates in Largest U.S. Rooftop Solar Panel Installation

BlueScope Construction was a key part of the recent FedEx Ground Distribution Hub solar panel installation in Woodbridge, New Jersey. When energized in December 2009, it became the largest rooftop photovoltaic array in the United States. It was the fifth solar project for a FedEx facility, but the first solar installation for FedEx Ground and BlueScope Construction (BSC). The system is owned and operated by BP Solar.

*The FedEx Ground Woodbridge facility after panel installation. The facility has 538,000 square feet of roof space and fifty percent of the roof area was used for the solar panels and raceway.*

BlueScope Construction provided structural design, building shell materials and erection on the original Woodbridge facility and its subsequent expansions. BSC was asked to join the rooftop solar project by FedEx Ground to help ensure that all roof warranties remained intact with the addition of the solar panels.

Because reinforcement of the roof structure was impractical in an operating facility, BSC evaluated unused MEP (mechanical, electrical, plumbing) dead load capacity by surveying the completed systems in place to determine the extent of roof area capable of sustaining the weight of the photovoltaic modules and the required cable and raceway. Exclusion zones were identified to allow the solar power engineers to arrange the optimum array. The total roof size of the facility is 538,000 square feet with 50% of the roof area used for photovoltaic modules or raceway. BSC helped the project team work out a material staging and installation plan that minimized rooftop traffic and protected the integrity of the roof. Inverters and cable marshalling cabinets were located on the ground adjacent to existing electrical equipment.

*The solar panels were attached to the MR-24 roof panel seams, eliminating the need for roof penetrations and ensuring the continuation of the roof's 25-year weathertightness warranty.*

BP Solar and BSC coordinated the direct attachment of the photovoltaic modules to the Butler MR-24® standing seam roof system without any roof penetrations. This coordinated engineering effort will not compromise the superior 25-year weathertightness warranty offered with the roof and allows the roof to continue to provide excellent performance for FedEx Ground.

Approximately 12,400 solar panels were placed on the roof. The system has a generating capacity of 2.42 megawatts of electricity, which could provide up to 30% of the hub's annual energy needs.