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One by one, 6,720 solar panels make the rooftops of Metro Support Services Center the largest solar installation in the City of Los Angeles.

‘Watts Happening’ at the Metro Support Services Center

By Michael D. White
Staff Writer

(March 24, 2009) Metro will take another giant leap forward in its effort to become energy-efficient with the completion in late April of a solar power panel array at the agency’s Support Services Center (MSSC).

When fully functional, the 6,720 individual solar panels will generate 1 megawatt of power, or 1,000 kilowatts, and compose the largest solar installation ever constructed by a transit property in the nation, and also the largest solar installation in the City of Los Angeles.

In addition, the energy conservation measures at the MSSC shop include the installation of new HVAC, energy management and compressed air systems and the replacement of about 4,000 lighting fixtures. All in all, the new solar panel array and the capital improvements will cut the MSSC’s annual \$1.1 million energy bill by almost 50 percent.

“The MSSC is the mother ship of Metro’s maintenance operations,” said Tim Lindholm, Metro director of capital projects. “Due to the nature of heavy maintenance work and other functions at the facility, the MSSC shops use a huge amount of electricity every year and its complete transformation into one relying on solar-generated power sets a real benchmark for Metro reaching its goals of utilizing new technologies to reduce carbon emissions and cutting operating costs.”

The project is a public/private partnership among Metro, Chevron Energy

Solutions and the Bank of America, which financed the project. In addition, the project will receive about \$6 million in incentives from the Los Angeles Department of Water and Power, the Gas Company, and the Southern California Air Quality Management District.

San Francisco-based Chevron Energy Solutions, which designed and installed the panels, will also provide long-term oversight of the MSSC solar array and the new equipment and, in addition, will guarantee the energy savings and the level of energy generated by the panel array for the next 10 years.

The MSSC covers about 27 acres and consists of five separate buildings used primarily for the central maintenance of Metro's bus fleet, the rebuilding of engines, transmissions, and general bus repair. The facility also houses Metro's central parts warehouse, as well as its Stops and Zones, vehicle technology, warranty and administrative functions. The highly trained and certified employees, technicians and mechanics at the 400,000-square-foot facility are responsible for keeping the fleet of Metro buses operating in all of the agency's 11 operating divisions in top roadworthy condition.

Efficiency of solar panels lowers cost of utilities

Using the power of the sun to enhance efficiency and minimize cost is nothing new for Metro.

Over the past several years, the agency has firmly established itself as a world-class leader in adopting new solar technologies that generate energy without harming the region's air quality.

In 2005, Metro made national headlines when it completed the largest solar energy project to date in the transportation industry – the installation of 1,648 solar energy panels at its Metro Bus Divisions 8 and 15 in the San Fernando Valley.

The panels there produce about 425 kilowatts of clean, renewable electricity – more than enough to provide up to 20 percent of each bus division's total energy requirements or enough to provide power to more than 100 homes annually for 25 years.

The panel array, completed at a cost of \$3.3 million, has saved Metro an average of \$300,000 annually in electrical costs since they became operational.

Two years later, Metro Bus Division 18 in Carson was outfitted with 1,632 solar panels as the agency committed to even greater levels of operational energy efficiency and sustainability. The 498-kilowatt system, comprising 1,632 individual solar panels, was installed on the roof of the Carson bus division's maintenance facility and six parking lot carport structures.

Metro estimates that the Carson solar panel system – designed and installed, like the MSSC project, by Chevron Energy Systems – generates 600,000 kilowatt-hours of electricity per year.

"Combining the three arrays installed at Divisions 8, 15 and 18, Metro has firmly established itself as a world-class leader in adopting new solar technologies that generate energy without harming the region's air quality," said Lindstrom.

More recently, Metro's new San Gabriel Valley Sector office is "ecologically

green,” built to the specifications of a silver rating by the Leadership in Energy and Environmental Design (LEED).

The San Gabriel structure consumes 33% less electricity than a conventional structure and surpasses the State of California’s already strict standards for building energy use by 25% and water consumption standards by 50%.

The upshot? An additional saving for Metro of more than \$75,000 in annual utility costs.

Metro’s FY09 budget takes the agency’s green goals one step further with the inclusion of funding for the installation of 750 solar-power enhanced lighting fixtures at selected Metro bus stops. The light fixtures provide illumination for dark bus stops and flashing beacons to notify bus operators of waiting passengers.

“The Board saw the need to make sustainability a critical part of Metro’s overall growth plan and a key part of that is the utilization of solar power,” said Lindholm, “It’s clean and it’s efficient and I can see Metro doing a lot more with it in the future.”