

KETTLE FOODS 114 KW PV SYSTEM SALEM, OREGON

On September 26th 2003 a big switch was thrown on the largest grid-tied solar PV array in the Pacific Northwest – a 114 KW 3 phase system capable of generating more than 120,000 kilowatt hours annually. This industrial system was installed on the roof of Kettle Foods headquarters in Salem, Oregon. 616 Sharp 185 watt solar panels span the 190 foot building from east to west, five rows deep, and a 100 KW commercial inverter with isolation transformer processes the power from DC to AC. Operating voltage of the array is 400 VDC, which the Xantrex units invert to 480/277 VAC 3 phase power. The system has its own utility grade meter to record the power fed into the building or the grid, as the case may be. PGE is applauded for allowing net metering of the power, so that Kettle Foods receives retail pricing for the power it generates, an important component in Kettle Food's decision to go solar. Russ Read, their Facilities Manager, was the creative force behind this project and his energy was crucial in making it happen.

This was a joint effort with an all Oregon solar team assembled by David Parker of Advanced Energy Systems (AES). Newt Loken's crews at Solar Assist provided a leak-free curbed roof mount, by replacing the roof above the warehouse's beams with solid wood and installing 154 racks to these sealed raised curbs. This was a well-coordinated, well-executed effort -a tribute to the team work at Solar Assist -and was completed in just 2 weeks. Dell's Electric, meanwhile, had already installed the inverter and isolation transformer, a combined 3000 lb load, on a custom steel rack in the warehouse. They now moved to the roof to attach panels to the racks and wire the DC junction boxes, combiners and disconnects. They also handled the high voltage hook-ups and interface with the local utility, Portland General Electric. Del Koskovich, the supervising electrician, at 73 years young, is Oregon's senior renewable energy installer. He was an inspiration to the whole crew. The entire operation was coordinated by AES-the designer, material supplier and project manager-and took 4 weeks from start to finish. This is a new record in solar electric installations in Oregon, both in size and speed of installation.

The idea for this project was germinated by an existing commercial PV installation in Eugene on the Pacific Cooperative building downtown. This 25 KW system is the largest in Eugene and is installed on a National Historic Register building, which required state and local approval for the solar panel installation. Russ Read, who lives close by in Coburg, saw the 144 solar panels on the roof while shopping at Down to Earth across the parking lot and called the contractor, Advanced Energy Systems, to see what could be possible for his company. That was in February of this year. AES visited the Kettle Foods Headquarters site and prepared an estimate of the costs and tax benefits available for such a project. AES also applied to the Energy Trust of Oregon (ETO) for a grant of \$112,000 to help defray the total project costs. AES's proposal was accepted by ETO in June and approved by the board in July.

In addition to the ETO incentive, there are also state and federal tax credits and deductions that help reduce the cost of the system by over 80%. "Once more businesses become aware that they can go solar for less than 20 cents on the dollar, we will see demand for commercial renewable energy systems grow", says David Parker of AES. "The Kettle Foods project proves that installing solar electric panels on the roof of your commercial or industrial facility is not only environmentally sound but also financially rewarding." The Oregon Department of Energy (ODOE) provides detailed

business energy tax credit (BETC) information and downloadable forms on their website www.energy.state.or.us. Persons interested in more information about solar electric systems and commercial/industrial incentives can contact David Parker at AES, Peter West at ETO or Christopher Dymond at ODOE.

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