

OCTOBER 2016

# TRANSMISSION & DISTRIBUTION TM WORLD

[www.tdworld.com](http://www.tdworld.com)  
Powered by Penton®

## Avalanche Mitigation



# Oakville Enterprises Modernizes the Fleet

Now the field workforce can power mobile devices, stay warm and operate emergency lighting without idling.

By **Ernie Liersch**, *Oakville Enterprises Corp.*

In Ontario, Canada, where outside line workers work in frigid winter weather, the field workforce had to shut off its vehicles while working — until now. To reduce its carbon footprint and curb fleet maintenance and fuel costs, Oakville Enterprises Corp. (OEC) outfitted the majority of its fleet with a dedicated battery system, power inverter, charger and Webasto gas-fired heater. In turn, the line workers can keep their truck cabs warm, plug in their mobile devices and laptops, and run the emergency lighting for eight hours — all without idling.

Over the last 18 months, OEC has outfitted about 400 of its vehicles with the new equipment from Xantrex — a PROwatt SW 2000W true sine wave inverter and a 20-A TRUECharge2

multistage battery charger. As a result, OEC has been able to reduce the fuel economy on the vehicles to less than a liter per eight hours of operating time.

## Reducing Idling

One of the key reasons OEC invested in the hybrid system is because of the idling regulations in Canada. Like other distribution companies, Oakville Hydro, a subsidiary of OEC, is often required to dispatch its field workforce to work curbside in industrial and school areas. However, anti-idling laws prohibit power line workers to idle for an extended period of time.

As a result, they had to shut off their vehicles unless they were running their 360-degree emergency lighting. To allow

the line workers to power their truck cabs without idling, OEC equipped the fleet with a portable hybrid system. This enables the workers to operate their warning and signal lights as well as their computers inside the vehicles.

Because the system runs independently of the vehicle, there is no need to turn the key to get it up and running. Even if the battery system goes down, they can turn on the vehicle and drive it away to charge it back up again. In the evening, by using the Xantrex TRUECharge2 battery charger, they can plug into their home's electrical socket to recharge the auxiliary batteries and top off the starting batteries so the truck will be ready to go the next morning.

## Powering Mobile Devices

Because field workers often need a power source on a job site, OEC equipped the vehicles with an exter-



An El-con crew can power laptops and run emergency lighting without idling its vehicle on a work site.

nal plug. Now, if the technicians need 120 V of power, they can simply plug an extension cord into the side of the truck. For the next six to eight hours, they can rely on the power supplied by the truck — all without running the engine. With this approach, OEC can virtually eliminate the need for a generator for short-duration use.

The work trucks also have a 120-V outlet inside the cab, so the technicians and operators can plug in their laptops, cell phones or cordless tools. The PROwatt SW inverter provides utility-grade AC power, protecting power-sensitive electronics.

In the past, they had to plug their electronic or mobile devices into a cigarette lighter, which was connected to a mobile inverter. The mobile inverter required regular replacement for blowing fuses. Now, instead of carrying pockets full of fuses, the field workforce can operate everything from new printers — which run on 1.4 A instead of the old printers that ran on 40 A — to laptops without losing power. In fact, out of the 400 vehicles that are outfitted with the new system, only one failure has been reported.

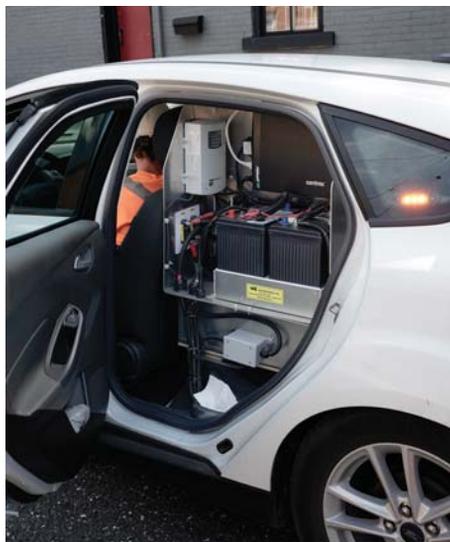
Within the vehicles, the new system is permanently mounted to protect the driver and passenger. The heater is located in the rear of the truck and duct work brings the heat to the front cab. Also, the printer is mounted in the back of the truck behind the barrier, so if the driver stops suddenly, it will not fly forward.

### Integrating the System

OEC owns a variety of energy and infrastructure companies, so its diverse fleet includes everything from compact passenger cars to heavy trucks, backhoes, dump trucks and aerial devices.

So far, OEC also has implemented the inverter program into dump trucks and aerial equipment, which must run emergency lights when used on a project. In addition, OEC has equipped its four manhole trucks with the hybrid system. By installing a portable generator that is permanently mounted, the crew can access 230 V of power if they need it.

OEC is just starting to install the



The Xantrex TrueCharge2 battery charger charges the supplementary batteries in a Oakville Hydro vehicle.

system within its bucket trucks. With the new system, the line workers will be able to shut down their trucks, switch on the power take-off mode and toggle the switch to move the bucket into position. In this mode, the crew will be able to keep the cab warm, supply power for any electronics, run the emergency warning lights and work in the aerial bucket.

Over the last two years, OEC has integrated the hybrid system into parts of its replacement program. OEC purchases the base platforms from Ford Canada, which then drop-ships those to specialized contractors like W.E. Enterprises of Mississauga, Ontario, Canada, which outfits the vehicles with the new power system.

For its existing fleet, portable inverters are used to provide some fuel savings. Instead of heating the truck cab, the portable inverters are able to supply power for laptops or the operations within the cab.

### Training the Workers

With every new vehicle build out, OEC trains each member of the crew who is driving and using the vehicle. To lessen the learning curve, the integrated system is kept the same — the heater, the control system, the time release switch and the LED lighting controls. This ensures a technician can go from



The new battery system can keep the vehicle cab warm while the meter technicians verify the accuracy of wholesale monitoring.



A line crew operates a bucket truck to work on overhead lines. OEC is installing the new battery systems in these vehicles.

a passenger car to a heavy truck and know exactly how to use the hybrid system.

To use the truck, they would unplug the vehicle in the morning and then drive it to the job site. Once they arrive, the battery is already fully charged and functional, so they can plug in their devices. They can also secure the vehicle, put the key in their pocket and leave the heater on. The heater pulls fuel from the tank and keeps the cab warm, which is a significant advantage in chilly northern Ontario in the winter.

OEC's vehicle users have embraced the new system and new technology, have adapted to the change and can see the advantages.

### Considering Future Applications

BSM Technologies' telematics systems provide the system monitoring, which supplies important information. OEC's fleet services department can easily retrieve data such as when a driver turned on the inverter, how much power is left on the batteries and when the driver turned on the warning lights.

Ontario companies get a fuel tax credit for PTO time and equipment. Therefore, OEC can use these reports to submit back to Revenue Canada for a rebate on the fuel tax. As a result, it helps to pay for the entire system and provides a solid return on investment, especially when considering the maintenance and fuel savings. Fuel tax credits are available for such systems, which help offset the cost on the initial investment.

OEC continues to modernize its fleet and look for ways to reduce vehicle maintenance and fuel cost. In addition, OEC is also working with a vendor to build a new utility truck with a dual bucket, full hybrid system and docking stations for the portable tools. That way, the field workforce can leave all of their equipment inside the truck so it is ready to go the next morning.

By making its fleet more organized and efficient, OEC is not only improving the productivity of its field workforce, but also reducing emissions, saving fuel and eliminating the loud noise of trucks idling in the middle of the night. **TDW**

**Ernie Liersch** (eliersch@oecorp.ca) is the asset service manager for Oakville Enterprises Corp. in Oakville, Ontario, Canada. He is responsible for purchase, service and management of a fleet of more than 800 vehicles. Prior to working for OEC, he managed a fleet in the Canadian Oil Sands.

## INCREASE YOUR BOTTOM LINE!



### SAVE TIME AND DOLLARS!

FROM 5-45 TON, FECON HAS THE RIGHT SIZE BULL HOG® MULCHER FOR YOUR EXCAVATOR



800.528.3113



fecon.com

#### For more information:

- BSM Technologies | [www.bsmwireless.com](http://www.bsmwireless.com)
- Ford Canada | [www.ford.ca](http://www.ford.ca)
- Oakville Enterprises Corp. | [www.oecorp.ca](http://www.oecorp.ca)
- Xantrex | [www.xantrex.com](http://www.xantrex.com)
- W.E. Enterprises Ltd. | [www.wenterprises.com](http://www.wenterprises.com)
- Webasto | [www.webasto.com](http://www.webasto.com)