

CUSTOM RAILROAD SOLUTIONS

WITH POWERBLANKET

POWERBLANKET CUSTOM HEATERS KEEP OPERATIONS RUNNING SMOOTHLY ALL WINTER, EVEN FOR MAJOR RAILROAD COMPANIES.

WINTER ON THE RAILROAD

Snow and ice are significant issues that create delays in the rail industry. Ice coats electrical equipment, preventing power from reaching the trains. Snow drifts and falling icicles also cause obstructions. When steel gets cold, tracks can freeze together. Very cold and wintry conditions can also affect the trains themselves, with ice build-up jamming doors.

When faced with cold, icy, winter conditions railways treat the situation in the same way local road crews prepare snow-covered roads for driving. There are plows, deicers, snow blowers, heaters and teams of workers that keep the tracks clear and safe.

MAINTAINING PROPANE PRESSURE

BNSF, a major US railway company experienced mid-winter propane problems along their railways in eastern Wyoming. The company operates a number of propane powered generators. Unfortunately, with incredibly low



wintertime temperatures, it was hard for the propane to vaporize and effectively power the generators. The problem tanks controlled a switch on the line and with decreased pressure, the switch was not operating properly.

Powerblanket and BNSF worked together to test the blankets on the initial order. During the preliminary uses they found:

- Pressure maintained in 15+ mph winds with -2°F temperatures
- Generators ran to significantly greater capacity
- 57% pressure loss in tanks without Powerblanket heaters

BOTH COMPANIES RECOGNIZED THAT THEY NEEDED A SOLUTION CUSTOM DESIGNED TO THEIR SYSTEM THAT WOULD ENSURE CONSISTENT OPERATIONS EVEN IN THE COLDEST CONDITIONS.



USE 1

WITHOUT POWERBLANKET WARMER

Generator ran signal building and one snow blower before it stalled and went into alarm. The maximum load it could run was 30 amps.

WITH POWERBLANKET WARMER

Generator ran the whole location, eight snow blowers and both buildings without problems. The total load was 113 amps, 22 kW.

Conditions: mid-January -20F/-190C with 5 MPH/8 KPH winds

Equipment: 100 kW, 6.8L V10 generator



Phillip Schmidt with BNSF said, "Only four out of the 11 tanks with Powerblanket warmers have pressure gauges. Every time I have checked the pressure on these tanks, the pressure with Powrblanket heaters has been at least 70 lbs., but I have seen as low as 40 lbs. on the tank without the Powerblanket heaters."

USE 2

WITHOUT POWERBLANKET WARMER

The pressure at the LP tank was 50 lbs. The generator would not run all the snow blowers and only generated 140 amps. (Note: when the snow blowers tried to start, the pressure at the vaporizer dropped down to 5 lbs.)

WITH POWERBLANKET WARMER

The pressure at the LP tank was 75 lbs. The generator ran 10 snow blowers with a total load of 173 amps. (Note: when the snow blowers started the pressure held at 75 lbs. at the vaporizer.)

Conditions: early-January Between 12°F/-11°C to 18°F/-8°C and 5-15 MPH/8-24 KPH winds

Equipment: 100 kW, 6.8L V10 generator



After using Powerblanket custom gas cylinder heaters to heat their propane tanks, they were able to keep propane powered generators working in extra-cold winter conditions.

THE HIGHER THE TEMPERATURE,
THE LOWER A SUBSTANCE'S
VISCOSITY IS AND THE BETTER
THE FLOW.

IMPROVING VISCOSITY

The Union Pacific Railroad is a freight hauling railroad that operates 8,500 locomotives over 32,100 route-miles in 23 states west of Chicago and New Orleans. As part of their operation, Union Pacific runs a large fleet of maintenance trucks that carry essential lubricant required to reduce wear and friction along curved sections of track.

To extend the life of equipment and reduce costs, Union Pacific applies lubricants to the rails. Effective lubrication can increase the life of rails by 5-10 times. Lubricants reduce friction and wear between wheel and rail flanges, help avoid costly track replacements, and reduce downtime for passengers.

THE PROBLEM

Union Pacific found that the lubricants on their maintenance trucks were freezing up. As temperatures dropped, the lubricant became highly viscous and too cold to pump out of the tank. The maintenance trucks could not get their job done in the extreme cold.

THE SOLUTION

Powerblanket designed two custom blankets to alleviate the stress: one blanket that wrapped the tank to maintain ideal viscosity of the lubricant, another sized perfectly for the pump to ensure smooth equipment operation even in sub zero temperatures.

With both custom blankets in place the maintenance trucks could ensure proper track lubrication regardless of external conditions. Union Pacific maintenance trucks are in place to reduce downtime and save on costs, and with Powerblanket they will continue to do their job no matter how cold it gets.



Powerblanket custom lubricant tank warmer for Union Pacific



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