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**www.klickpud.com**

### Goldendale Office

1313 S. Columbus Ave.

Goldendale, WA 98620

(509) 773-5891

(800) 548-8357

### White Salmon Office

110 NE Estes Ave.

P.O. Box 187

White Salmon, WA 98672

(509) 493-2255

(800) 548-8358

WA-18

## Landfill Plant Project Nearly Done

Many of you have heard that we are expanding our H.W. Hill Landfill Gas Power Plant. We started construction late last fall and should be finished and running this month.

The expansion consists of two 10-megawatt (MW) combustion turbine (CTs) engines and a 6-MW steam turbine generator.

The CTs are basically small jet airplane engines that are designed to run equipment such as compressors, pumps or, in our case, generators.

There are several similar CTs already in Klickitat County that run gas compressor stations.

We also decided to add a steam generator to ensure we make as much "green" renewable energy as possible, given the methane fuel we have available. This process includes running the hot exhaust gases from the CTs through small-package boilers called heat recovery steam generators. The steam made by these boilers is routed through a single turbine that drives a generator.

The addition of the steam generator makes the facility more complicated, but it allows us to generate 30 percent more energy without burning any more fuel. That makes our landfill gas project even more environmentally friendly, and it fits well with our other existing renewable energy facilities.



The existing piston engine generation facility will remain in place. We expect that during the first two years of the expansion, we will run one of the new CTs and as many of the existing engines as we have methane for. As the methane gas production increases and we start using the second CT, we will use the existing generators during maintenance of the new facility.

The steam turbine is sized so we can run it with either one or two CTs.

Gas production at the landfill is predicted to increase about 1 MW each year. It likely will be close to five years after we start the second CT before we begin running the existing generators again continuously.

A decision was made at the onset of the expansion project to build the facility with more capacity than current gas availability. Although this increases our costs in the first years of operation because we are not operating all of our equipment, we are ensuring we have consistent equipment, processes and operational procedures for the future. This means lower long-term maintenance costs.

Because our crews are busy preparing for the startup of the new facilities, we have decided to delay an open house until spring 2011, when the weather should be better.

Watch for announcements of this event in local newspapers and Ruralite, as tours will be available at that time.

**Jim Smith, General Manager**