

NEWS RELEASE

ONTARIO POWER GENERATION HAS SUCCESS WITH VSG - A 'READILY*' BIODEGRADABLE GREASE

The right biodegradable grease can work and can work well. This is VSG that is a Canadian developed and manufactured grease specifically designed for Ontario Hydro and other operators of hydroelectric power stations. A better product was required because hydroelectric turbines have wicket gates that are located just upstream of the turbine. The bearings are usually grease lubricated and most of this goes directly into the waterways. This is not desirable. Alternatives are to stop lubricating which will mean failure, to go to the expense of putting in so called 'self lubricating' bearings that do not yet have a proven life as good as bronze bearings, or to use an environmentally better product. The latter is the case for this grease

The first use of VSG was with OPG Hydro at their Sir Adam Beck 2 GS. This was in February of 1995. It worked very well and now VSG is being used in 24 units at Ontario Hydro and in over 40 units located across North America. In Canada, it is also being used by BC Hydro and smaller operators such as Orillia Water, Power and Light, who are also getting the benefits of VSG.

The big advantage is that being mainly canola oil, VSG is 'readily biodegradable'. Mineral oil based greases are not. This grease has many other environmental advantages as well in that it does not contain any added lead or chlorine and has good water resistance without using barium or lithium based thickeners. An advantage for discharges into the Great Lakes watershed is that VSG does not have zinc based extreme pressure additives.

The zinc being of some concern. In addition, canola oil is a natural, renewable product so the use of VSG can complement corporate programs to reduce the environmental impact of power generation and to work towards more sustainable development.

Unlike some other so called 'environmentally friendly' greases, this Canadian made grease performs as well or better than many mineral oil based greases being used. This was confirmed in testing at the US Bureau of Reclamation where VSG did better than their current mineral oil based product. Also many vegetable oil based greases suffer from poor pumpability at low temperatures. This is not true for VSG which meets the cold weather apparent viscosity and pumpability requirements of Ontario Power Generation and Hydro-Québec. VSG remains the only approved readily biodegradable grease for this application.

In addition, VSG is compatible with most of the current greases and it being used being used in both automatic and manual greasing systems as well for lignum vitae main bearings on a Kaplan turbine.

*Based on >81% biodegradability according to the CEC test protocol.