

NEWS RELEASE

BC HYDRO HAS SUCCESS WITH A 'VSG' - A READILY BIODEGRADABLE* GREASE

Application: Clowhom GS is in BC's lower mainland and is a 40 MW station on the Clowhom River. This river feeds into the Salmon Inlet and hence the Pacific Ocean. Clowhom GS is used as a peaking station and the head in Clowhom Lake ranges from 144 to 210 ft. They wanted to use a more environmentally friendly grease and chose VSG. This was in 1996 and BC personnel report that VSG continues to work "great".

In addition, the amount of grease being used has been reduced twice! First from once daily to twice weekly, to now once a week. For this head some recommendations are every 4 hours which is 42 times a week rather than just once with VSG! Not only is VSG 'readily biodegradable' but in some cases the regreasing has been significantly reduced without apparently affecting performance. Caution: Reducing the amount and/or frequency for regreasing should be done with care because the requirements can vary from unit to unit.

Background: VSG was developed specifically for the bearings on the wicket gates of hydroelectric power stations. This was so operators could continue to use the time tested bronze bearings. A big advantage of VSG is that being mainly canola oil VSG is 'readily biodegradable', while mineral oil based greases are not. Plus, VSG has other environmental advantages because there is no added lead or chlorine, it has good water resistance without barium or lithium based thickeners and it has extreme pressure (EP) performance without needing zinc based additives. In addition, the canola oil in VSG is a natural, renewable product which can be part of sustainable development programs.

VSG is made in Canada and while many vegetable oil based greases suffer from poor pumpability at low temperatures, VSG does not. As proof, VSG meets the cold weather requirements of both the Ontario Power Generation and Hydro-Québec specifications and VSG remains the only "green" grease approved by these utilities.

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 CEC test protocol.

**VSG can be used in other applications. Contact FluidCenter at
Phone: 416 466-3144 or toll free at 888 442-5008 Fax: at 416 466-3807.**