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NEWS RELEASE

MOV LONG LIFE PASSES ENVIRONMENTAL QUALIFICATION TESTING FOR CANDU REACTORS

The Candu Owners Group has issued report COG-JP-01-009 'Qualification of MOV Long Life Grease for Limitorque Main Gearbox Application'. This report summarizes technical literature on lubrication requirements for the Limitorque main gearbox, discusses published test data and, based on the above, identifies the calcium sulfonate complex grease, MOV Long Life Grade 1, as the replacement for Nebula EP1 grease. To verify this recommendation for the CANDU stations, this report provides test results on samples of Nebula EP1 and MOV Long Life subjected to the following sequences of stresses in simulation of worst-case service conditions:

- oven aging at 130°C for 660 hours;
- gamma irradiation to 70 Mrad; and
- Loss of Coolant Accident (LOCA) steam exposure including 6 hours exposure to 171°C and 105kPa steam.

In addition, this report verifies compatibility between new MOV Long Life Grade 1 and aged Nebula EP1. This was done to assess the impact of MOV Long Life "top-up" of in-service Nebula EP1 lubricated gearboxes.

Chemical and physical testing on the greases included the following; ASTM D-1403 penetration, Brookfield R/S-CPS dynamic rheological tests, ASTM D-974 modified total base number, ASTM D-2266 four ball wear, appearance, evaporation loss, ASTM D-2265-94a dropping points, FTIR, and ASTM D-1831 roll stability. The report also includes a review of other test data but was limited to just utility sources.

In summary, MOV Long Life did very well. Nebula EP1 did not even last the five year aging before excessive hardening.

The full report is available from COG in exchange for "Buy-in Fees". Contact Henry Chan at 416 595-1888 x105 or e-mail: <mailto:henry.chan@candu.org>.
