Several research reports for testing of de/anti-icing technologies were produced for previous winters on behalf of Transport Canada. These are available from the Transportation Development Centre (TDC). Nine reports (including this one) were produced as part of this winter’s research program. Their subject matter is outlined in the preface. This project was co-sponsored by the Federal Aviation Administration.

The primary objective of the 2004-05 holdover time test program was to evaluate the performance of new deicing and anti-icing fluids over the entire range of conditions encompassed by the holdover time guidelines. The objective was met by conducting endurance time tests. The procedure for these tests consisted of pouring fluids onto clean aluminum test surfaces inclined at 10º. The onset of failure was recorded as a function of time in natural snow and artificial conditions including simulated freezing fog, freezing drizzle, light freezing rain, and rain on a cold-soaked wing. APS conducted a total of 382 endurance time tests with one Type II fluid, one Type III fluid and two Type IV fluids. The Type III fluid was tested in dilutions (75/25 and 50/50) only. The Type II fluid and one of the Type IV fluids were not certified and therefore results are not discussed in detail.

Changes to the holdover time guidelines for the winter of 2005-06 include format changes to all of the tables, the introduction of a fluid-specific table for Octagon MaxFlo, the introduction of 75/25 and 50/50 rows in the Type III generic table and changes to the Type IV generic table. The values in the new rows in the Type III generic table were generally based on the holdover times of Clariant Safewing MP III 2031 ECO. The addition of Octagon MaxFlo caused reductions to the holdover times in two snow cells of the generic Type IV guidelines. In addition, Clariant Safewing MP IV 1957, was removed from the generic table analysis, as it is no longer commercially. Its removal resulted in increases in three cells in the generic HOT table: two changes in one freezing fog cell and three changes in two snow cells. All were in the “-3ºC and above” temperature range.

It is recommended that any new Type I, Type II, Type III or Type IV fluids be evaluated over the entire range of conditions in the holdover time tables.