



1. Transport Canada Publication No. <b>TP 15455E</b>		2. Project No. <b>B14W</b>		3. Recipient's Catalogue No.		
4. Title and Subtitle <b>Artificial Snow Research Activities for the 2018-19 and 2019-20 Winters</b>				5. Publication Date <b>July 2021</b>		
				6. Performing Organization Document No. <b>300293</b>		
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				11. PWGSC or Transport Canada Contract No. <b>T8156-170044/001/TOR</b>		
12. Sponsoring Agency Name and Address <b>Transport Canada Innovation Centre 330 Sparks St., 18<sup>th</sup> Floor Ottawa, Ontario, K1A 0N5</b>				13. Type of Publication and Period Covered <b>Draft</b>		
				14. Project Officer <b>Antoine Lacroix</b>		
15. Supplementary Notes (Funding programs, titles of related publications, etc.) <b>Several research reports for testing of de/anti-icing technologies were produced for previous winters on behalf of Transport Canada (TC). These are available from the TC Innovation Centre. Several reports 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.</b>						
16. Abstract <b>In the winter of 2018-19, Transport Canada (TC) and the Federal Aviation Administration (FAA) tasked APS Aviation Inc. (APS) to conduct natural snow characterization testing in order to investigate factors affecting variance in natural snow endurance time testing.</b> <b>APS conducted 139 natural snow characterization tests comprising 52 test runs during the 2018-19 and 2019-20 winters. The test runs consisted of standard endurance time tests with three reference fluids; additional environmental and fluid data was collected during each test to allow for investigation into factors that contribute to variance in natural snow endurance time testing. Data packages containing the full complement of environmental data were assembled for each of the test runs performed.</b> <b>Analysis of the data collected identified several environmental parameters that contribute to variance in the fluid endurance time performance. The specific effects of the identified environmental parameters differed for each of the three fluids tested. The primary environmental parameter affecting the variance in the propylene glycol (PG) Type II data set was identified as wind speed. The primary environmental parameters affecting the variance in the PG Type IV data set were identified as wind speed and particle size. The ethylene glycol (EG) Type III data set was found to not have been as significantly affected by the environmental parameters analysed. Many additional environmental parameters were examined, but were not found to be as significant.</b> <b>It is recommended that APS, National Center for Atmospheric Research, TC, and the FAA continue their joint efforts in developing artificial snow endurance time testing as a tool for holdover time development. It is also recommended that wind speed and particle size data be collected during future natural snow research efforts related to the artificial snow development program, in order to further validate the observed effects on endurance time variance.</b>						
17. Key Words <b>Anti-icing, deicing, deicing fluid, holdover times, precipitation, Type I, Type II, Type III, Type IV, aircraft, ground, test, winter, artificial snow</b>				18. Distribution Statement <b>Available from the Transport Canada Innovation Centre</b>		
19. Security Classification (of this publication) <b>Unclassified</b>		20. Security Classification (of this page) <b>Unclassified</b>		21. Declassification (date) <b>—</b>	22. No. of Pages <b>xvi, 52 apps</b>	23. Price <b>—</b>