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15. Supplementary Notes (Funding programs, titles of related publications, etc.) 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.						
16. Abstract As part of a larger research program examining de/anti-icing fluid flow-off during simulated aircraft takeoff, APS Aviation Inc. conducted a series of full-scale wing tests in National Research Council Canada 3 m x 6 m Icing Wind Tunnel to determine the flow-off characteristics of anti-icing fluid with and without mixed precipitation conditions with ice pellets. A wind tunnel testing program was developed for the winters of 2017-18 and 2018-19 with the primary objectives of conducting aerodynamic testing to substantiate the current Type IV fluid Ice Pellet Allowance Times with new fluids, possibly extend the current Type IV fluid Ice Pellet Allowance Times for ethylene glycol (EG), and evaluate the current Type III fluid Ice Pellet Allowance Times at 80 knots. Type IV testing conducted during the winters of 2017-18 and 2018-19 validated the current Type IV allowance times for use with the following fluids: CHEMCO Inc. ChemR EG IV, Clariant Produkte (Deutschland) GmbH Max Flight AVIA, Clariant Produkte (Deutschland) GmbH Max Flight SNEG, Oksayd Co. Ltd. Defrost ECO 4, and Oksayd Co. Ltd. Defrost EG 4. Planned testing could not be completed for two fluids, Clariant Produkte (Deutschland) GmbH Safewing EG IV NORTH and Inland Technologies ECO-SHIELD. EG fluid testing and an analysis of historical data indicated a potential for longer allowance times for EG fluids exists in most of the allowance time cells. Testing with the LS-0417 indicated a good potential to develop low speed allowance times for Type III fluids, and a potential to expand the allowance times to have longer times. It is expected that industry discussions about snow allowance times and the way forward will continue as part of the Aerodynamics Working Group in the SAE International Fluids Committee. The results of the validation, EG expansion, and low speed Type III testing did not require any changes to the current Ice Pellet Allowance Times or supporting guidance. As such, no changes were issued to the Ice Pellet Allowance Times published in the Holdover Time guidelines for the winter of 2018-19 and 2019-20.						
17. Key Words Ice Pellet, Allowance Time, High Speed Rotation, Low Speed Rotation, Type II, Type III, Type IV, Fluid Adherence, Fluid Flow-Off, Wind Tunnel, Icing Wind Tunnel, Wing Aerodynamics.				18. Distribution Statement Available from the Transport Canada Innovation Centre		
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