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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. These are available from the Transportation Development Centre (TDC). Several reports were produced as part of this winter's research program. Their subject matter is outlined in the preface. The work described in this report was, in part, co-sponsored by the Federal Aviation Administration (FAA).					
16. Abstract As part of a larger research program, APS conducted a series of full-scale tests in the NRC 3 m x 6 m Open-Circuit Propulsion and Icing Wind Tunnel (PIWT) using a thin high performance wing model 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 winter of 2015-16 with the primary objectives of conducting aerodynamic testing with the airfoil to: substantiate the current Type III ice pellet allowance times with new fluids, to investigate lower rotation speeds (80 knots), and time permitting, application methods (hot vs. cold); substantiate the current Type IV ice pellet allowance times with new fluids, and weather permitting, at temperatures close to the lowest operational use temperature (LOUT); to expand the current Type IV ice pellet allowance times to include more conditions commonly reported by METAR and to further develop the current mixed ice pellet and snow guidance. Type III testing conducted during the winter of 2015-16 validated the current Type III allowance times for use with the new to market AllClear AeroClear MAX; this is applicable to aircraft with rotation speeds above 100 knots. Type IV testing conducted during the winter of 2015-16 validated the current Type IV allowance times for use with the new to market LNT E450 and FCY 9311 fluids. Testing was also conducted to support the expansion of the existing allowance times to include longer times and more conditions including Moderate Ice pellet mixed with Moderate Freezing Drizzle, Moderate Ice Pellets mixed with Moderate Rain, and Light Ice Pellets mixed with Light and Moderate Snow. In addition, and through consultation with TC and FAA, modifications to the ice pellet allowance times guidance material were proposed. Possible future areas of research may include: substantiation of ice pellet allowance times with new fluids; testing with the NASA LS-0417 wing section to support development of Type III low speed allowance times; lift losses at LOU; allowance time expansion; and analysis of METAR data to determine conditions requiring guidance.					
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, Propulsion Icing Wind Tunnel, Wing Aerodynamics			18. Distribution Statement Limited number of copies available from the Transportation Development Centre		
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