

1 Q. Reference: CAN/CSA-C22.3 No. 60826-10, Design Criteria of Overhead Transmission  
2 Lines

3 The referenced standard CAN/CSA-C22.3 No. 60826-10 states in Section 6.4.5 on  
4 page 75:

5 *“Wherever possible, drag coefficients for ice covered conductors should be based on*  
6 *actual measured values. In the absence of this data, the effective drag coefficients*  
7 *and ice densities are given in Table 8.”*

8 Please indicate the drag coefficients used in each geographic zone for the Labrador  
9 Island Link and the planned 3<sup>rd</sup> 230kV transmission line from Bay D’Espoir to  
10 Western Avalon. If drag coefficients equal to 1.0 were used, please explain why.

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13 A. Section 6.4.5 is only applicable to combined wind and ice loading, and drag factors  
14 other than unity are only applicable to rime ice zones. The recommended drag  
15 coefficient of 1.0 was used for glaze ice zones for the Labrador-Island Transmission  
16 Link<sup>1</sup> (LITL) and also for the third 230 kV transmission line from Bay d’Espoir to  
17 Western Avalon, as it will be subject to glaze icing for its entire length.

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19 For the LITL rime zones<sup>2</sup>, the as-designed analyses also incorporated a drag  
20 coefficient of 1.0<sup>3</sup>; however, updated as-designed analyses using a density of 500  
21 kg/m<sup>3</sup> and a drag coefficient of 1.2 are presented on the following pages.

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23 The structure utilizations for all structures within the rime zones under these  
24 revised criteria remain less than 70%.

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<sup>1</sup> Zones 1, 3, 4, 6, 8, 10, and 11.

<sup>2</sup> Zones 2, 5, and 7.

<sup>3</sup> Extreme Wind + 150-year Ice (Rime) (p. 45), and Maximum Ice + 150-year Wind (Rime) (p. 48).



