

RE: Descent Profiles and Speed Brake Noise

From: Bishop, Michelle [<mailto:Michelle.Bishop@navcanada.ca>]
Sent: January-23-14 11:34 AM
To: Renee.Jacoby@Sympatico.ca
Cc: John.Carmichael.C1@parl.gc.ca; margaretevans@bell.net
Subject: FW: NOVEMBER 27, 2013

Renee,

After implementation in February 2012, we received feedback from our customers suggesting that some aircraft were having difficulty with the descent profile on the STAR and therefore were having to use speed brakes more than had been indicated in the simulator testing. This can create a noisier flight profile on descent.

We therefore did some more work in flight simulators and solicited data from customers to understand the issues and identify a solution. In March 2013 the location of the waypoints along the downwind were adjusted slightly. In effect, we moved the waypoints themselves further down the flight path. I should have caught that in the May 2013 letter – sorry for the confusion.

The picture below shows the flight path and the old waypoint locations (dark blue) and the new ones (light blue). The change seems to have addressed the speed brakes issue. The change did not move the downwind, nor did it affect where aircraft on the downwind turn base leg. That happens along that line but not specifically at the waypoints.

With respect to the waypoints, you can put the GPS coordinates I provided into Google Earth and it will show you the location, or alternatively I've put what look like the nearest intersections below:

There are actually 3 waypoints on the downwind east of Yonge.

1. MAROD would be near Leslie Street and Lawrence Ave.
2. DEKNI would be near Midland Ave and the 401
3. DAVNO would be near Morningside Ave and Finch Ave. (note only aircraft on an extended downwind would usually go out this far).

Re: GHG Emissions

From: Renee Jacoby [<mailto:Renee.Jacoby@Sympatico.ca>]
Sent: December-20-13 11:13 AM
To: Bishop, Michelle
Cc: Marg Evans; John.Carmichael.C1@parl.gc.ca
Subject: NOVEMBER 27, 2013

Good morning Michelle,

As you know I was in attendance at the November 27, 2013 CENAC meeting held at the GTAA administrative offices. The air design presentation by Kurtis shared information and statistics that I missed and I asked the noise complaint department to make inquiries on my behalf to Kurtis for clarification. CENAC has since advised me to make those information inquiries to you.

In the presentation, and now on the CENAC website it indicates an emission savings by an unidentified airline (10-15 percent of Pearson operations) of 12,800 tons GHG. My question is **Does this statistic represent the savings year over year of the airlines TOTAL flight savings (all routes) or just those flight routes in the WTM corridor? Could you also indicate what "percentage" of savings this represents of their operations?**

From: Bishop, Michelle [<mailto:Michelle.Bishop@navcanada.ca>]
Sent: January-13-14 2:34 PM
To: Renee Jacoby
Cc: Marg Evans; John.Carmichael.C1@parl.gc.ca
Subject: RE: NOVEMBER 27, 2013

Renee,

The fuel savings figures referenced in the presentation at the November CENAC meeting are for that airline's flights to and from Toronto, not for the airline's entire flight schedule. As I understand it, what they did was compare their flights in one year to the other in order to normalize the schedule (i.e. if one year they flew 5 times daily between Ottawa and Toronto and the next year they only flew that route 4 time daily then they deleted one flight from the data in order to make sure they were comparing apples to apples to the extent possible). I do not have the percentage savings figure as I would have to have their entire airline annual fuel bill in order to calculate.

From: Renee Jacoby [<mailto:Renee.Jacoby@Sympatico.ca>]
Sent: January-16-14 4:20 PM
To: Bishop, Michelle

Cc: 'Marg Evans'; John.Carmichael.C1@parl.gc.ca
Subject: RE: NOVEMBER 27, 2013

Michelle,

I apologize for my delayed reply, a result of the considerable damage to my home (ice storm) and the subsequent claims, repairs etc.

Thank you for your response. I appreciate hearing from you Michelle.

Yes please, to the offer for further clarification!

First, the reduced GHG emissions and the reported savings. The number was surprising to me. In the newspaper articles you sent to TANG (May, 2013) describing reasons for implementation by NAV CANADA, spokesman Ron Singer is reported as saying that extensive analysis indicates that **total** emission savings for the entire Toronto-Ottawa-Montreal corridor (140 square kilometres) would be 14,300 metric tonnes **annually**. The number you and Kurtis displayed at the CENAC meeting represented one airline (10 percent of the traffic at Pearson) and the number was 12,800 tons. Would you agree there appears to be a huge discrepancy? What am I missing?

From: Bishop, Michelle [<mailto:Michelle.Bishop@navcanada.ca>]
Sent: January-23-14 11:34 AM
To: Renee.Jacoby@Sympatico.ca
Cc: John.Carmichael.C1@parl.gc.ca; margaretevans@bell.net
Subject: FW: NOVEMBER 27, 2013

Renee,

Sorry to hear you suffered ice storm damage. I hope it wasn't too bad and that everything works out.

I've addressed each of your questions below.

Firstly, you are not missing anything. Indications are that the GHG savings number realized is larger than forecast, and by a wide margin. [emphasis added]

We knew the number we issued prior to implementation was very conservative. Firstly, it was based on simulation modelling, not actual flying and we wanted to make sure in our analysis that we considered everything that could prevent savings from being achieved, not all of which were likely to occur. Secondly, while our analysis was thorough, we don't attempt to maximize the numbers. Sometimes we assess these business cases to the point where we can definitively state that there will be savings, rather than assessing every possible savings in order to come up with a larger number. For example while we knew there would be some departure savings as the changes

would allow us to offer better climbs, we didn't try to come up for a figure to quantify that. The airline figures consider both arrival and departure savings.

We always expected the actual number would be materially larger than we had forecast but even we are pleased with the results our customers are indicating they have experienced.[emphasis added]