Air Canada Polar Operations

- Air Canada Commenced Polar Operations in September 2004 on the YYZ-HKG route using the A340-500

- We had been working with our Regulator (Transport Canada) for over a year to allow these operations.

- As there were no Canadian Regulations covering Polar Operations it was a learning curve for us and Transport Canada.

- A lot of assistance was given by United and Continental Airlines both from the Dispatch and the Pilot side.

- This included Fam visits to the respective OCs and also a Fam flight on a UA ORD-HKG flight.
Some of the new challenges for us were:

- **Space Weather**
  - Of course this was all new, weird and wonderful to us!

- **Enroute and Emergency Airports**
  - Although, at this time, we were not operating ETOPS, Transport Canada required us to have a plan / options.

- **Communications**
  - Especially north of 82°N

- **Navigation**
  - Using GPS as the primary
Air Canada Polar Operations

- Emergency Recovery Plan
  - Including the requirement to carry 2 survival suits – initially had to be confirmed on board for each flight!

- Minimum Equipment List (MEL) Items for Consideration
  - Outside the normal operational restrictions, consideration was given to items like the IFE system, as this was the longest flight in Air Canada at the time.

- Fuel Freeze
  - For the start up we had to apply quite a conservative policy as we had no program to calculate the actual fuel freeze temperature – and the A340 could be quite susceptible to fuel freeze issues with its’ tank layout
Air Canada Polar Operations

- Routings:
  - Initially very “simple” just 4 basic options:
Air Canada Polar Operations

- Obviously, this has improved greatly over the years, in a big way thanks to the work of this group!

- Now our routings options through Russia are plentiful 😊😊 - Thanks Alexey!

- For the beginning the Polar Operations needed a lot of “stick-handling” by the Dispatchers; however with the arrival of the B777 things got quite a bit easier – mainly due to having more than 2 aircraft!
Air Canada Polar Operations

- Although the B777 introduced ETOPS to our Polar Operations, its introduction allowed us to implement a semi-automated fuel freeze program and this, plus the tank layout of the B777 realistically removed fuel freeze as a concern!

- Since the beginning Air Canada now operates flights from YYZ to HKG, PEK, PVG, ICN and DEL as well as YUL to PVG and YVR to DEL all of which use Polar routings most of the time.

- As well the returns from DEL and PEK are nearly always Polar along with some HKG and PVG flights and even the occasional ICN – YYZ flight will be planned Polar.
Challenges:

- **ETOPS / Enroute Airports**
  - One of our major challenges has been enroute airports. Since 2004 a number of airports are no longer available for our use, due to a combination of internal Company Policy and also some Airports being “removed” from availability, for example Tiksi was removed from the Russian International AIP, luckily, we now have Norlisk back, so that has helped!

- Apart from this and the occasional Space Weather / Poor HF conditions our Polar Operations have become very stable.
Air Canada Polar Operations

ANSP Issues:

- Luckily, we encounter very few issues with the various ANSP’s aside from the various route restrictions through PAZA and, of course the lack of flexibility within / through China 😊

Moving Forwards:

- It looks like our Polar Operations will be quite stable over the next 2-3 years with no major additions or deletions on the cards as we speak.
Thank You 😊😊