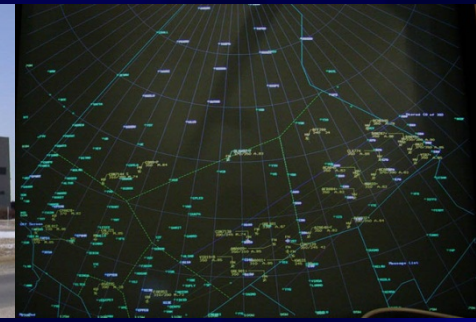
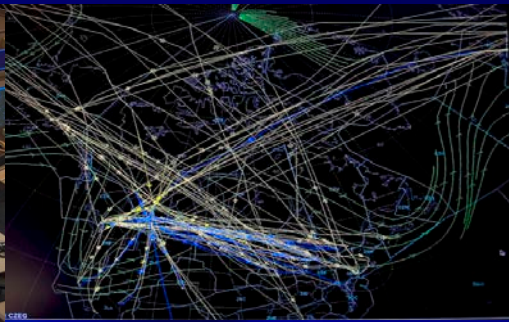




Edmonton Area Control Centre presentation to the CROSS POLAR WORKING GROUP & PACIFIC PROJECT “Flight Planning”

東京, 日本
May 11-15, 2015

Presented by:
Bryon Carlson
Edmonton ACC Arctic High Supervisor



Items for discussion

- 1) Flight Planning Rules for Polar & PAC flights.
- 2) Cold Lake Military Airspace overview.
- 3) Polar Operations with a focus on Solar radiation.



Flight Planning Rules – Polar & PAC

- Very few limitations.
- Rules and associated procedures have been simplified over the last several years.
- For Polar & PAC traffic, most rules can be found in TC AIM (Transport Canada Aeronautical Information Manual) sections RAC 12.6 and RAC 12.7.

12.6.5 Northern Control Area Random Routes

- Flights operating on predominately north or south tracks (315°T clockwise through 045°T or the reciprocals) shall report every 5° of latitude.
- South of 75°N latitude, flights operating on predominately east or west tracks (046°T clockwise through 134°T or the reciprocals) shall report every 10° of longitude.
- As requested by ATS.

12.6.6 Arctic Control Area Random Routes

- At the reporting lines coincident with 141°W, 115°W, and 60°W meridians.
- Northbound or southbound flights which do not cross significant reporting lines shall report at the entry and exit points of the ACA.
- As requested by ATS.

12.6.7.2 Flight Planning and Position Reporting

Polar routes can be flight planned by aircraft with CMNPS certification.

Flight plan routing should be filed with a fix every 5° of latitude. Random points should be expressed in whole degrees of latitude, and either whole degrees or whole and half degrees of longitude.

12.7.2.5

- PAC traffic includes flights operating from North America to Alaska, the Orient and the Russian Far East.
- No special conditions apply as flight planning on NCA tracks is completely optional for PAC traffic.

12.6.7.3 Altitude Assignment

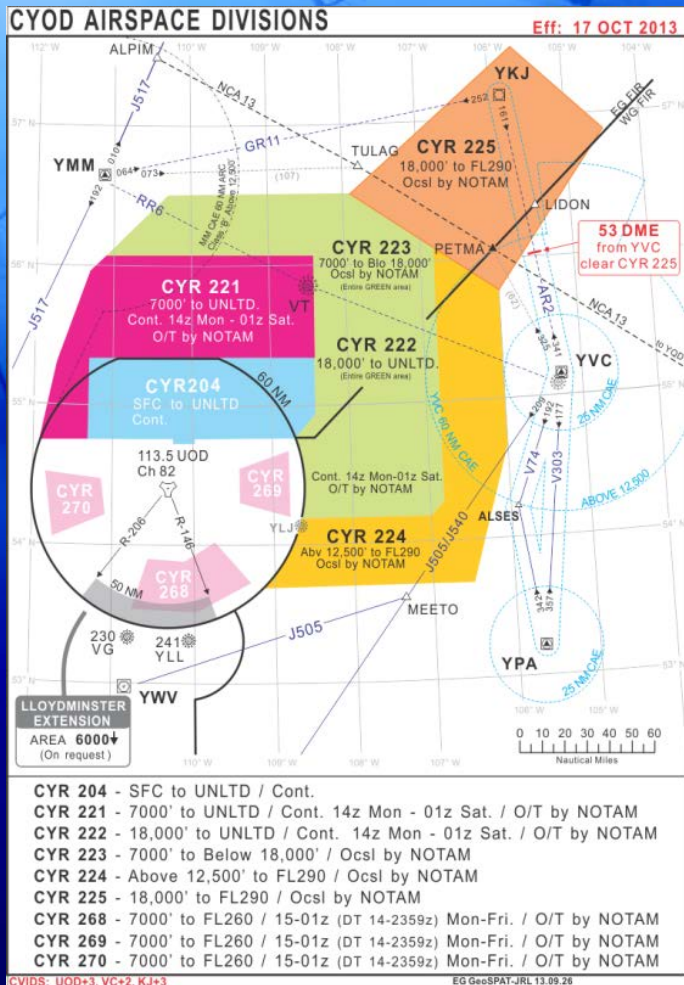
- Current cruising altitude for direction of flight requirements are based on east-west traffic flows. A shift in flight track (from east to west or vice versa) requires the assignment of a new flight level. Flights on north-south routes may shift track, from easterly to westerly or vice versa, depending on route segment. This shifting makes altitude assignment based on current regulations less than optimal.
- In order to accommodate polar route flights, aircraft operating on polar routes within the Edmonton, Winnipeg and Montréal FIRs may be assigned altitudes inappropriate to the direction of flight. Altitude assignment is based on traffic management requirements for the movement of aircraft in a safe, orderly and expeditious manner.



Cold Lake Military Airspace

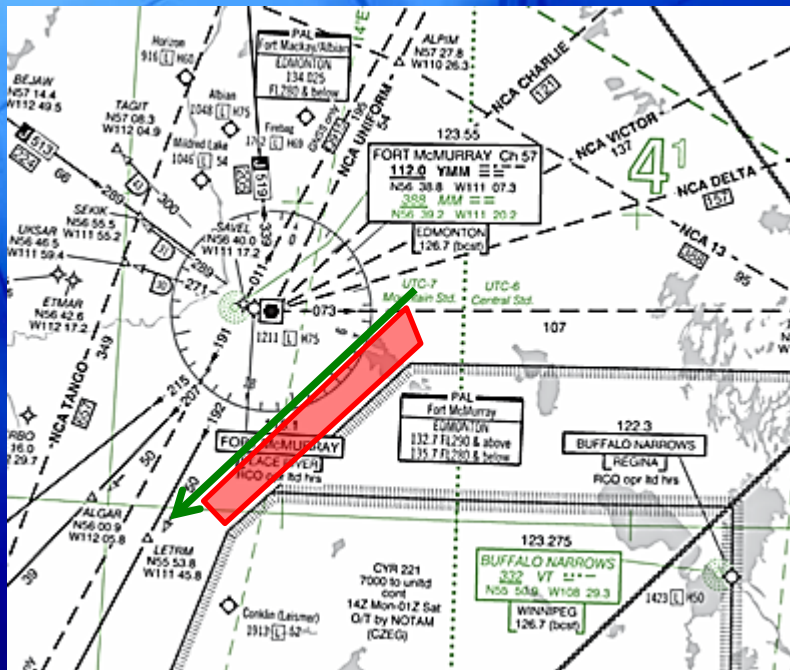


Cold Lake Military Airspace

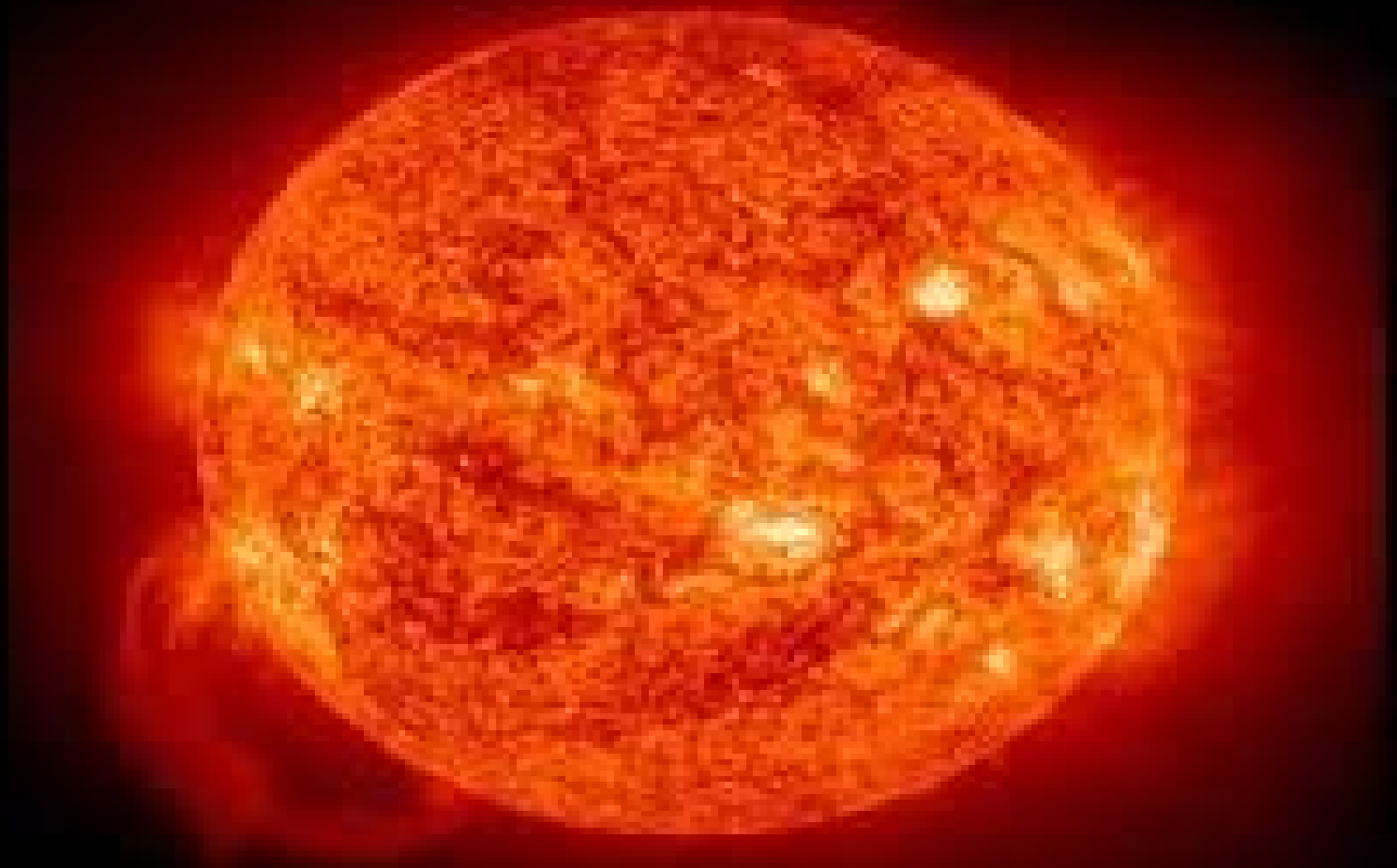


- Most airlines flight plan around this airspace.
- Some airlines, take advantage of areas that periodically go inactive (especially CYR 221, 222, & 223)
- Military airspace size to remain unchanged.

Cold Lake Airspace Shortcut



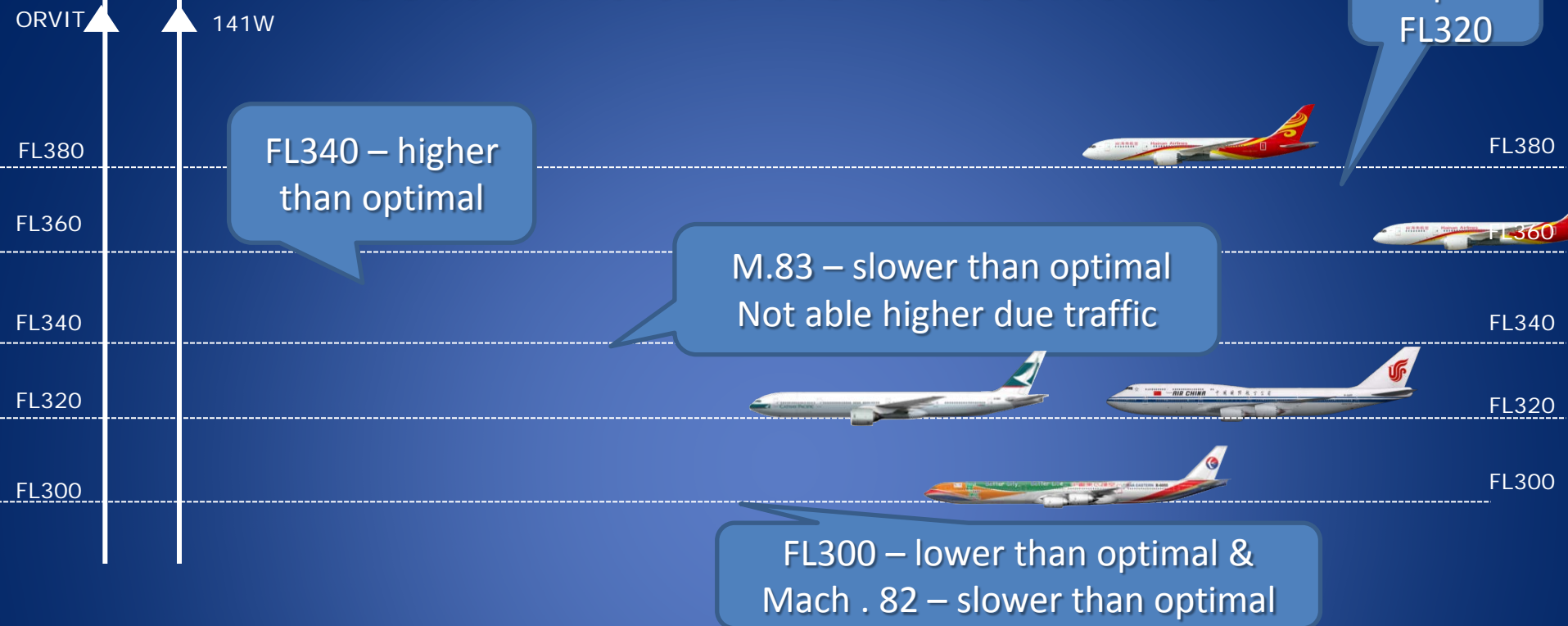
- Was the result of consultation with KLM in late 2014.
- Is in "LIDO."
- Filing 5635N/11025W direct LETRM is approved.
 - This measures 6.3 miles from the edge of the military airspace.
- Aircraft must never be to the east of the 5635/11025 - LETRM line while the military airspace is active.
- These routes are approved for CYYC & CYEG arrivals & departures, as well as for all overflights to/from other airports.



Solar Radiation

- Greater overall industry attention to the effects of Solar radiation.
- Polar flights are particularly sensitive.
- Has changed how ATC handles some flights. Some issues have been noted.
- NAV CANADA/Edmonton ACC have consulted with many airlines on how to better handle these flights.

Solar Radiation Scenario



- Flights at high altitude request lower altitude due to solar radiation...
- Multiple flights going to the same Russian entry point (usually ORVIT) within minutes of one another.
- ...resulting in inefficient altitudes for some, and inefficient speeds for others.
- Departure from past scenarios re: flights conflicting for higher altitudes!

- How can ATC better handle such situations?
 - Better education of ATC staff through consultation.
 - More visits by airlines to ATC units.

- How can airlines better handle such situations?
 - More consultations.
 - Better use of available tools such as GRL/DPO etc..
 - Better communication of intentions by pilots & dispatchers “day of.”



Hainan Airlines: Consultation & direction to ATC Staff

- Hainan Airlines (CHH) flights were requesting unexpected descents during Polar operations.
- Consultation with Hainan Airline's Flight Operations and Chief Pilot revealed company direction for Polar flights to fly at a maximum altitude of FL340, and an optimal altitude of FL320, while north of 75N due to Solar Radiation concerns.
- Expect B788 aircraft to enter CZEG at normal altitudes (FL360 & FL380), then expect descent to FL320 north of 75N.

Airline Consultation

- The Hainan Airlines example is an excellent example of ATC-Airline coordination.
- Allows Controllers to plan & anticipate rather than react.
- We invite all airlines to address any concerns directly with us.
- Request feedback/discussion with other ANSP's on how they handle solar radiation situations.



Questions & Discussion

Questions ?



ご清聴ありがとうございました。

Большое спасибо

Takk fyrir

Tusen takk

정말 감사합니다

非常感謝

Thank you very much!