

Reroutes and Coordination Issues Associated with Volcanic Events



Federal Aviation
Administration

Contingency Reroutes



- 2013 Eruption of Kliuchevskoi VA forecast is expanded after AAL175 departs.
- The aircraft experienced much difficulty in obtaining a revised routing clearance.
- CPWG has been working on this issue since 2013.

Contingency Reroutes

- **AA175 Challenges**

- Obtaining a long international revised routing clearance in a voice communications environment.
 - Difficulty communicating long route request over voice.
 - Domestic Controllers lack of knowledge of International routings
 - Difficulty for Domestic Controllers to enter a long revised routing into the ANSP computer.
- Forwarding the revised Flight Plan routing to downstream ANSPs.
 - Different ANSP rules for accepting revised FPL/CHG messages.
 - Lack of procedures on when/how to forward FPL/CHG messages

Dynamic Airborne Reroute Procedure (DARP)

- DARP is intended for revising an airborne aircraft's route of flight.
- DARP is the ideal solution for obtaining a revised route of flight when required.
 - DARP requires CPDLC and
 - AIDC connectivity to the destination airport.
- **Difficulty is that not all FIRs support DARP.**
 - CPDLC may not be available in the Polar region.
- **This paper defines procedures that can be used when DARP is not available.**

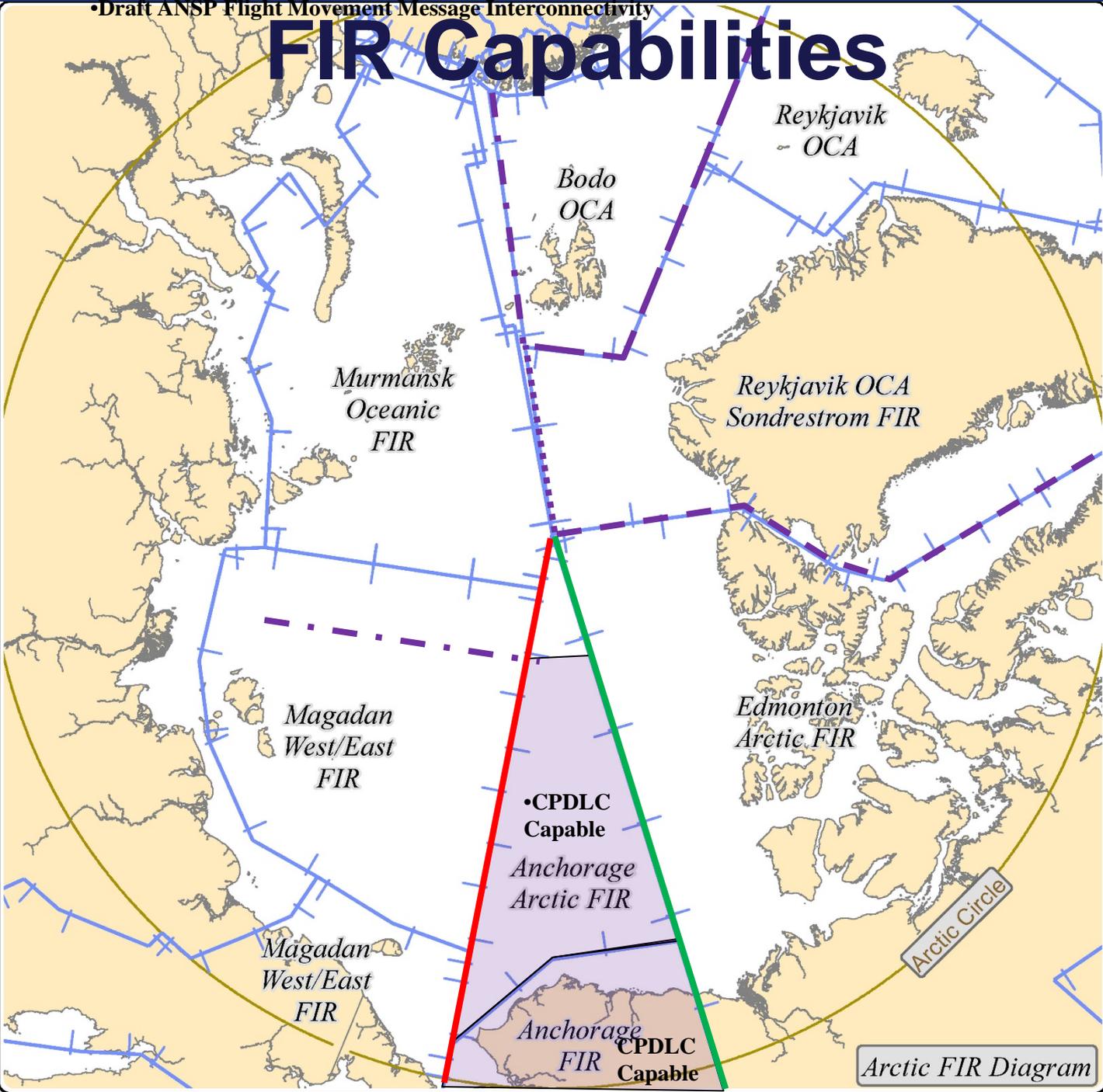
Reroutes without CPDLC

- **Keep the reroute request as simple as possible.**
 - Use route names where possible.
 - Limit the number of waypoints as much as possible.
 - It may be possible to get a partial route clearance on voice and get the remainder of the route clearance when in a CPDLC FIR
- **Coordinate with the ANSP Supervisor/Manager on duty to determine the best way to achieve the reroute.**
- **Do not file a revised flight plan and follow the new route without obtaining an ATC Clearance**

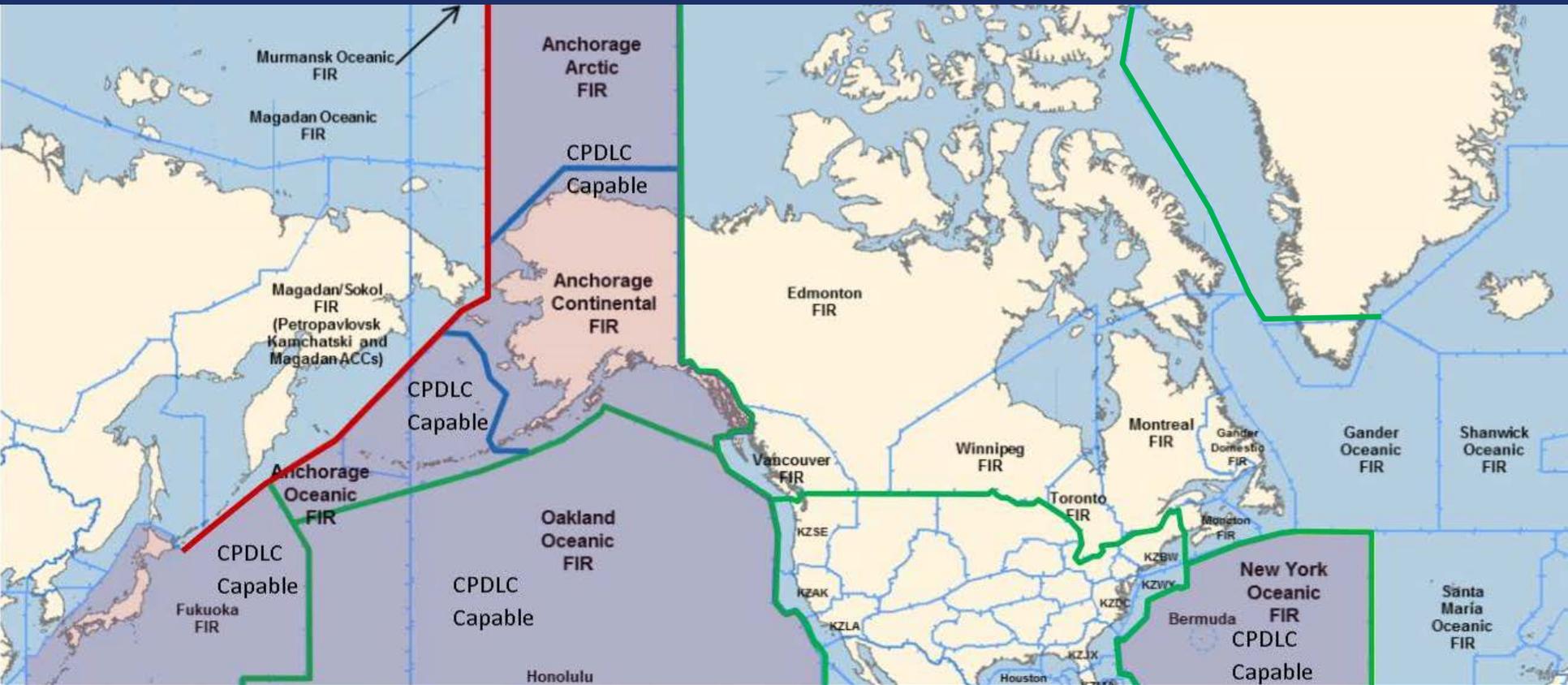
Forwarding a revised Flight Plan

- Analyze where the aircraft is on the Chart from Attachment 1 in CPWG WP/??
- CPDLC Capable FIRs are shaded in Purple.
- FIR Boundaries with an Automated Flight Plan Interface have a green line between the FIRs
 - FIRs with an Automated Flight Plan Interface on the point where a flight will enter their FIR, will receive the revised Flight Plan via the interface.

FIR Capabilities



FIR Capabilities

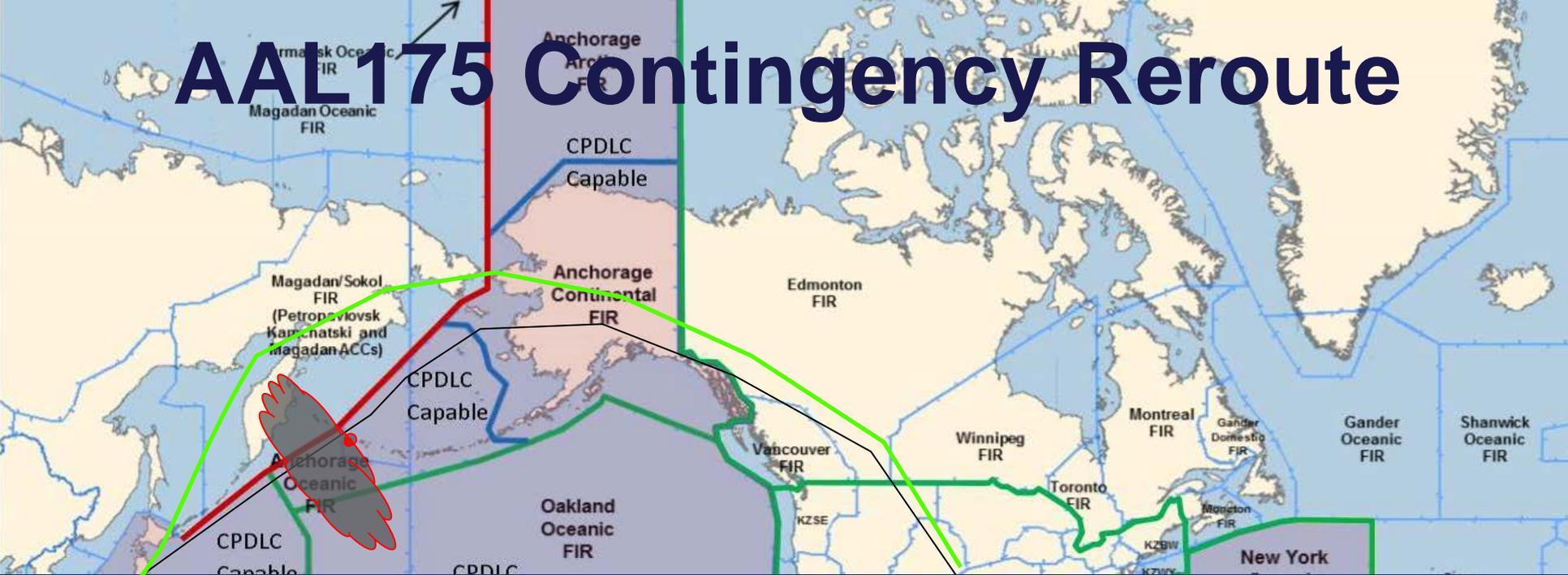


Forwarding Flight Plans to Non Automated Interface FIRs

ANSP	AIDC or a similar connectivity exists between two facilities and is a revised flight plan information required with the ANSP.	AIDC does not exist between two ANSPs, the original route of flight entered the ANSP's airspace and the new route of flight will still enter the FIR but on a different route.	AIDC does not exist between two ANSPs, the original route of flight did not enter the ANSP's airspace and the new route of flight will now enter the FIR.
State ATM	N/A	CHG message Required	FPL message required
JCAB	TBD	TBD	FPL message required
US FAA	FPL or CHG message required	CHG message Required	FPL message required
Norway	TBD	CHG message Required	FPL message required
Canada-Vancouver	TBD	CHG message Required	FPL message required
Canada- Edmonton	TBD	CHG message Required	FPL message required
ISAVIA Reykjavik	TBD	CHG message Required	FPL message required



AAL175 Contingency Reroute



- **AAL175 Aircraft Scenario**
- **Flight is initially routed via the Black Line through NOPAC.**
- **AAL175 obtains a revised routing through RTE (Lt Green Route)**
- **The revised route will be forwarded via automated interfaces to Anchorage (Green FIR lines)**
- **The revised route will not be forwarded to State ATM or Japan (Red FIR lines)**

AA175 Contingency Reroute cont.

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JCAB	TBD	TBD	FPL message required
US FAA	FPL or CHG message required	CHG message Required	FPL message required
Norway	TBD	CHG message Required	FPL message required
Canada-Vancouver	TBD	CHG message Required	FPL message required
Canada- Edmonton	TBD	CHG message Required	FPL message required
ISAVIA Reykjavik	TBD	CHG message Required	FPL message required

- From the Chart in Appendix 2, we can see:
 - that State ATM requires a new FPL be filed with them.
 - JCAB requires TBD

