FAA Update

Dennis Addison

SM Oceanic Airspace and Procedures

March 5, 2014

Oakland ARTCC Webpage

Oakland Air Route Traffic Control Center (ZOA) - Windows Internet Explorer

http://www.faa.gov/about/office_org/headquarters_offices/ato/artcc/oakland/

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Air Traffic Organization

- ATO Organization
- **Air Route Traffic Control Centers (ARTCC)**
- Airport Traffic Control Towers (ATCT)
- Terminal Radar Approach Control Facilities (TRACON)

Oakland Air Route Traffic Control Center (ZOA)

Print

At the heart of Oakland ARTCC is a team of Air Traffic and Technical Operations Professionals. Oakland Center is unique in that two distinctly different air traffic control functions are handled here. There is the normal en route air traffic control as well as an oceanic air traffic operation that manages the largest volume of international airspace in the world at one facility.

- KZOA Domestic ATC Operations
- KZAK Oceanic ATC Operations
- NOTAMs, TFRs, SUAs

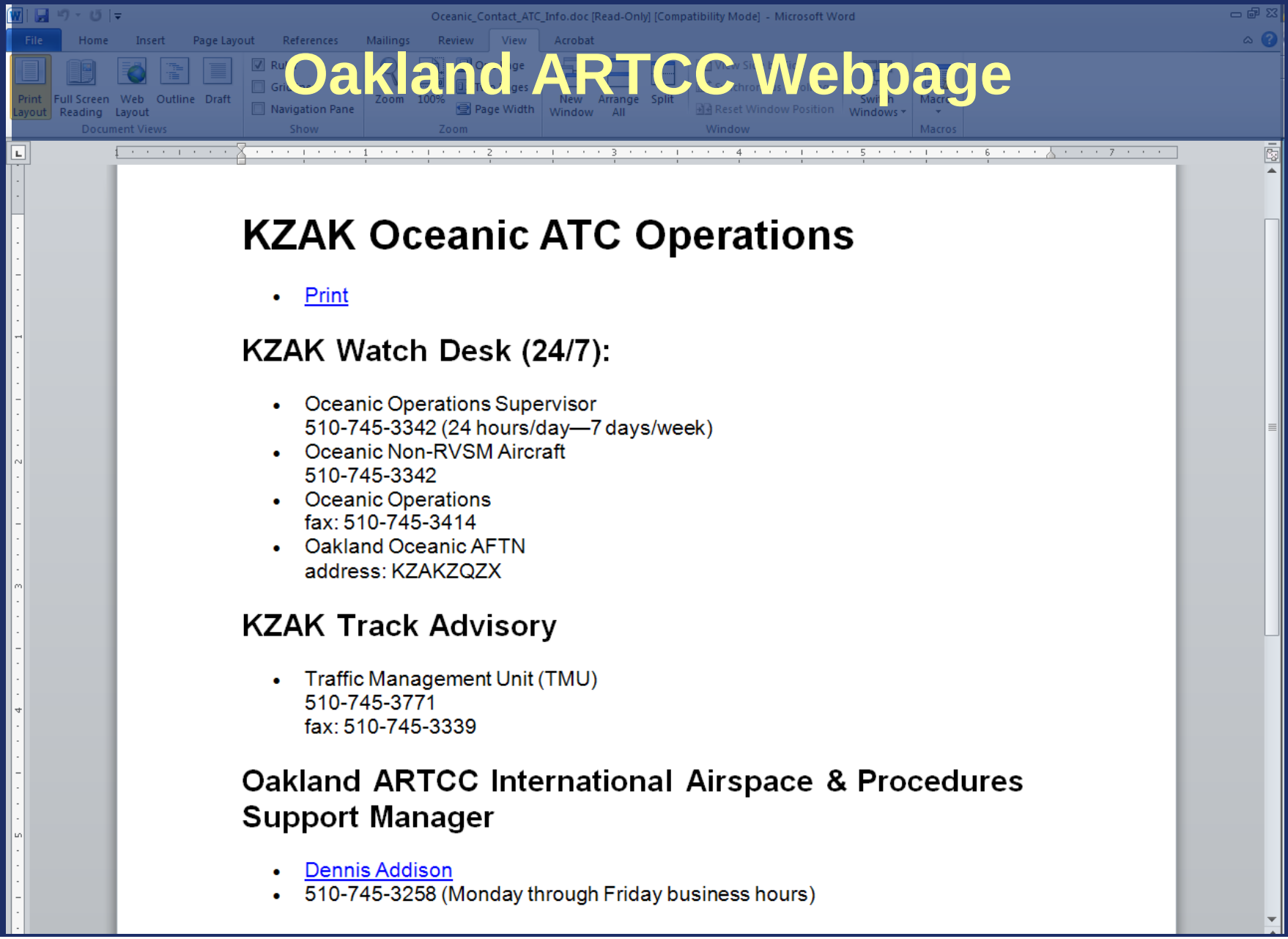
Oakland ARTCC

Oakland ARTCC
5125 Central Ave.
Fremont, CA. 94536
Phone: (510) 745-3000

Rohitkumar Desai,
Web POC
ZOA Web Site
Feedback

- http://www.faa.gov/about/office_org/headquarters_offices/ato/artcc/oakland/

Oakland ARTCC Webpage



KZAK Oceanic ATC Operations

- Print

KZAK Watch Desk (24/7):

- Oceanic Operations Supervisor
  510-745-3342 (24 hours/day—7 days/week)
- Oceanic Non-RVSM Aircraft
  510-745-3342
- Oceanic Operations
  fax: 510-745-3414
- Oakland Oceanic AFTN
  address: KZAKZQZX

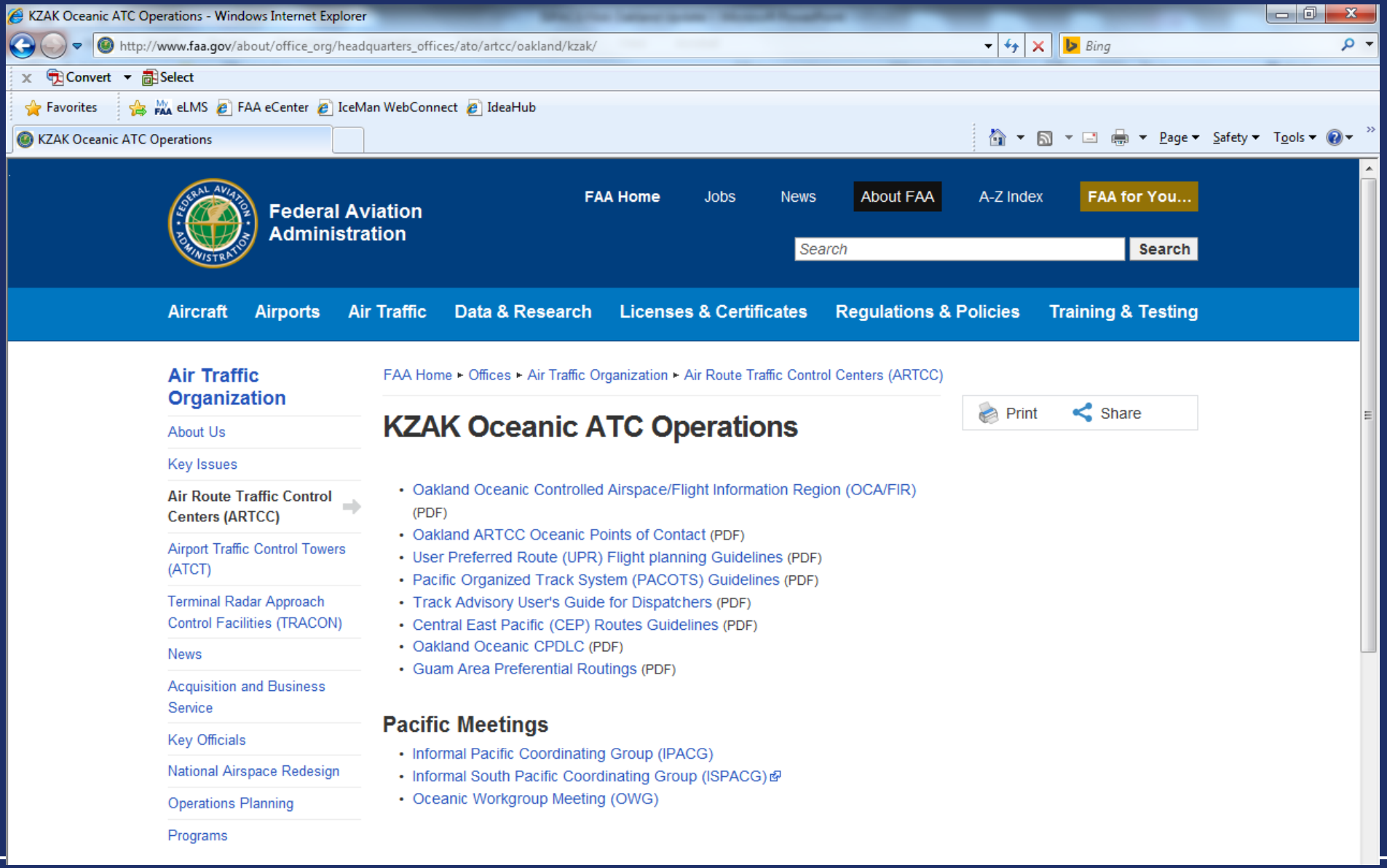
KZAK Track Advisory

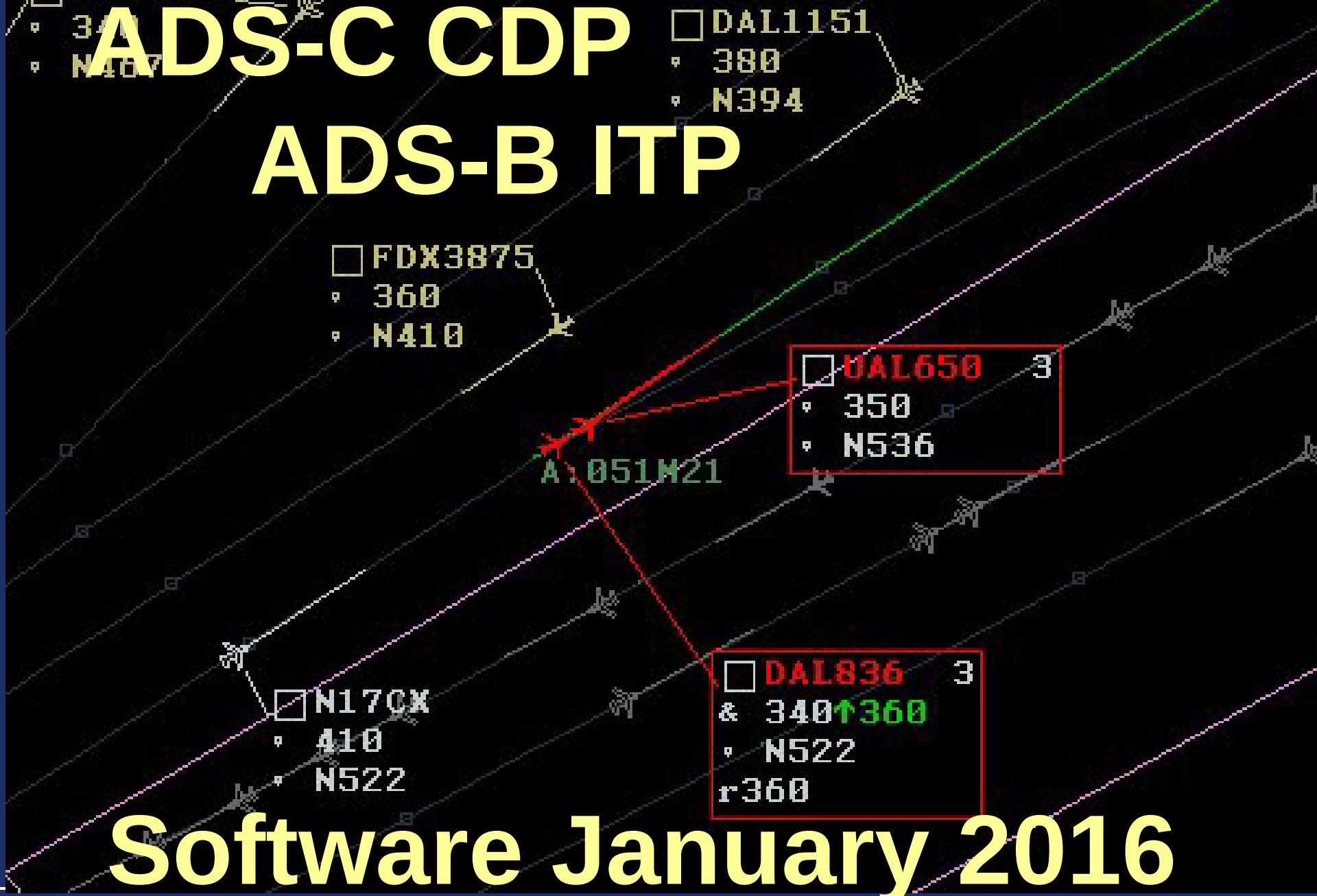
- Traffic Management Unit (TMU)
  510-745-3771
  fax: 510-745-3339

Oakland ARTCC International Airspace & Procedures Support Manager

- Dennis Addison
- 510-745-3258 (Monday through Friday business hours)

Oakland ARTCC Webpage



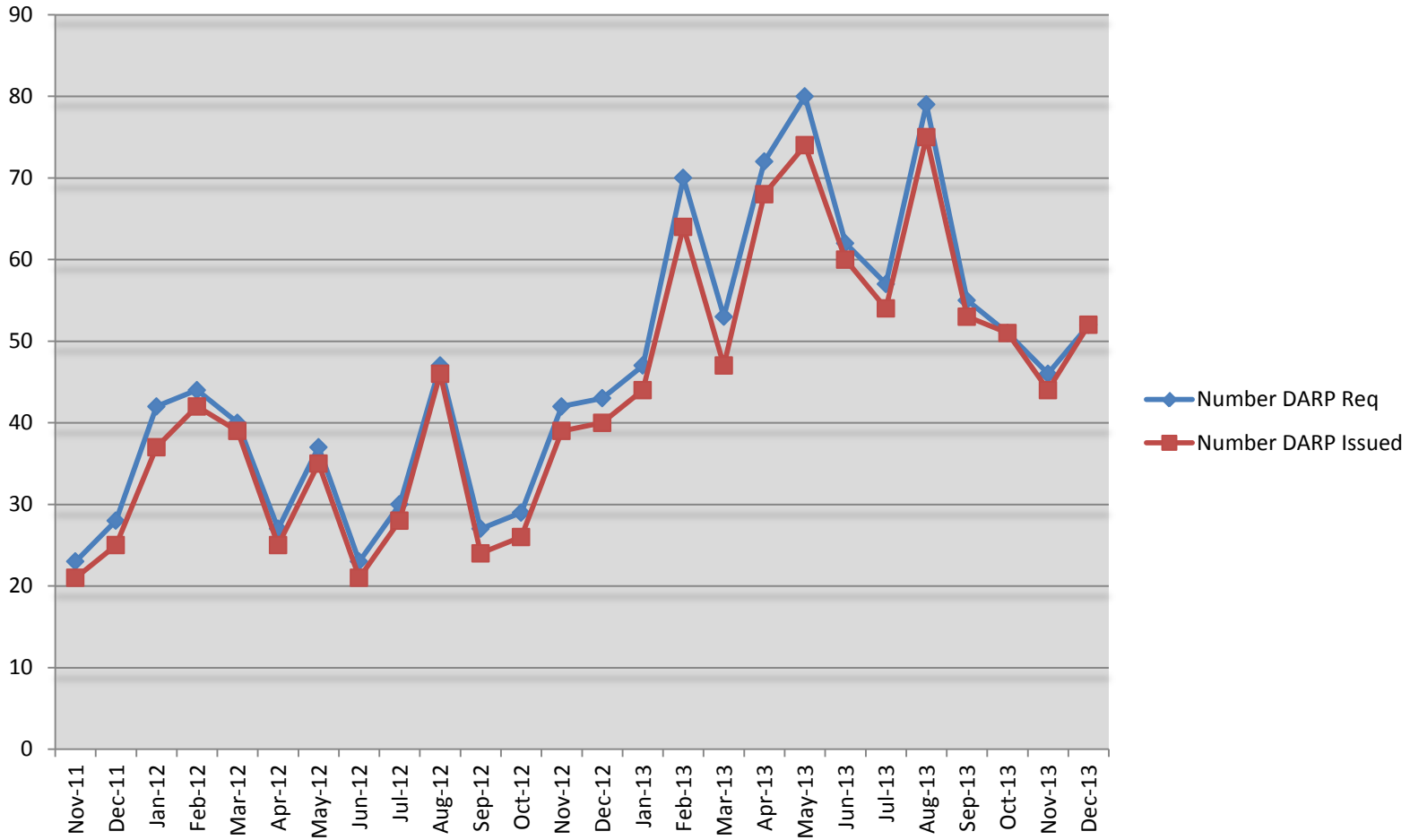


ADS-C CDP
ADS-B ITP
Software January 2016

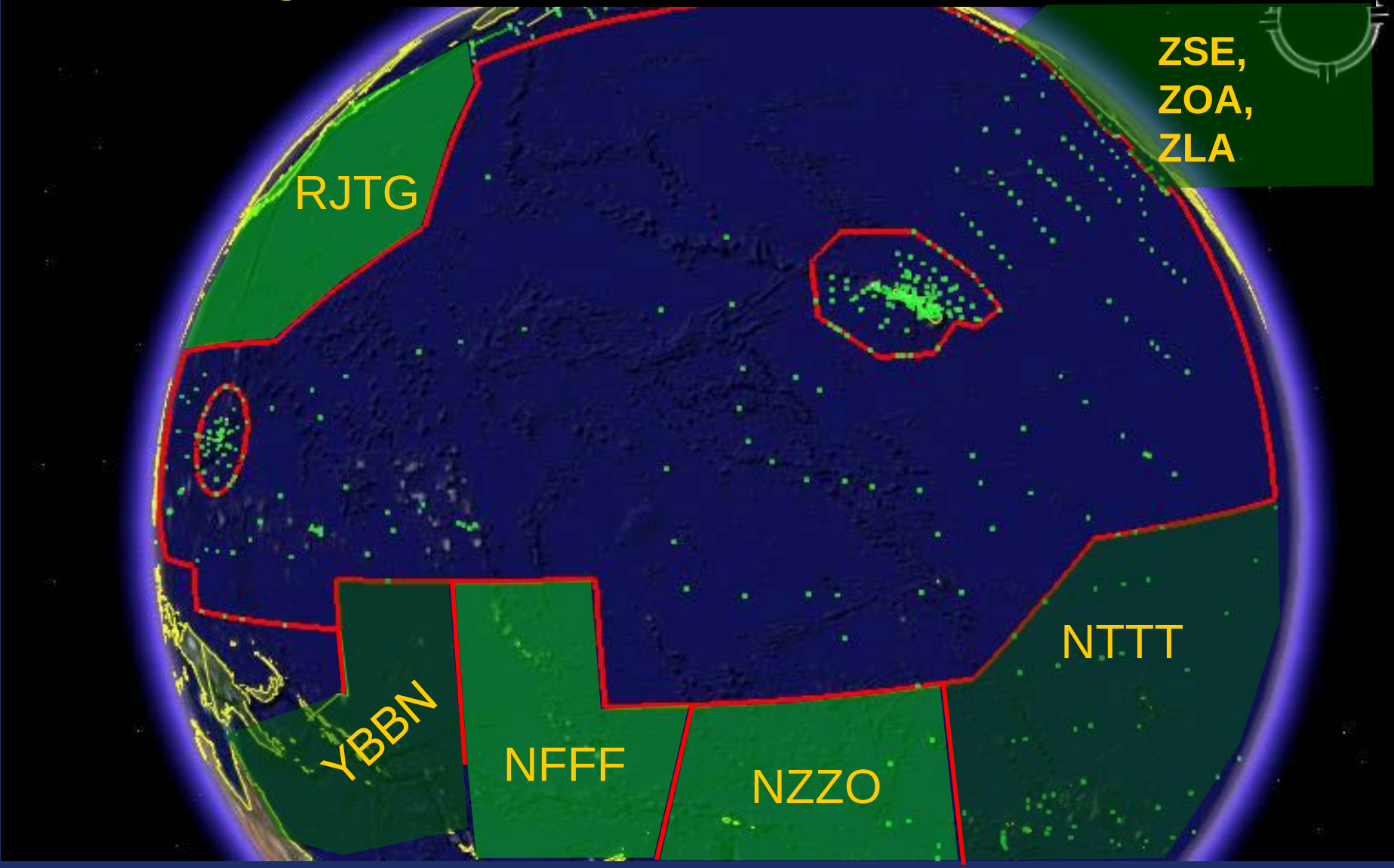

BOEING 777
ATC
FLIGHT INFORMATION
COMPANY
REVIEW
MANAGER
NEW MESSAGES
2319z
ATC UPLINK
AT N1400.0E17000.0 CLEARED
ROUTE CLEARANCE
ORIGIN:PGUM
DEST:PHNL
DEPARTURE:06
VIA
TO
DIRECT
N1330.0W18000.0
DIRECT
N1400.0W17400.0
DIRECT
N1800.0W16500.0
DIRECT
MCFLY
DIRECT
CHOKO
DIRECT
GECKO
DIRECT
HNL
ACCEPT
LOAD FMC
PRINT
DISPLAY REQUEST
REJECT REASONS
REJECT
RTE 2
2/3
VIA
TO
DIRECT
N14E170
DIRECT
N13W180
DIRECT
N14W174
DIRECT
N18W165
DIRECT
MCFLY
<RTE 1
ACTIVATE>
ACT RTE 1 LEGS
084°
237NM
N14E170
081°
583NM
N14W180
071°
355NM
N15W174
055°
570NM
N19W165
046°
117NM
AJINK
<RTE 2 LEGS
DISARM
OFF
MAX AUTO
RTO

DARPS

Oakland FIR DARP Usage



Dynamic Airborne Reroutes



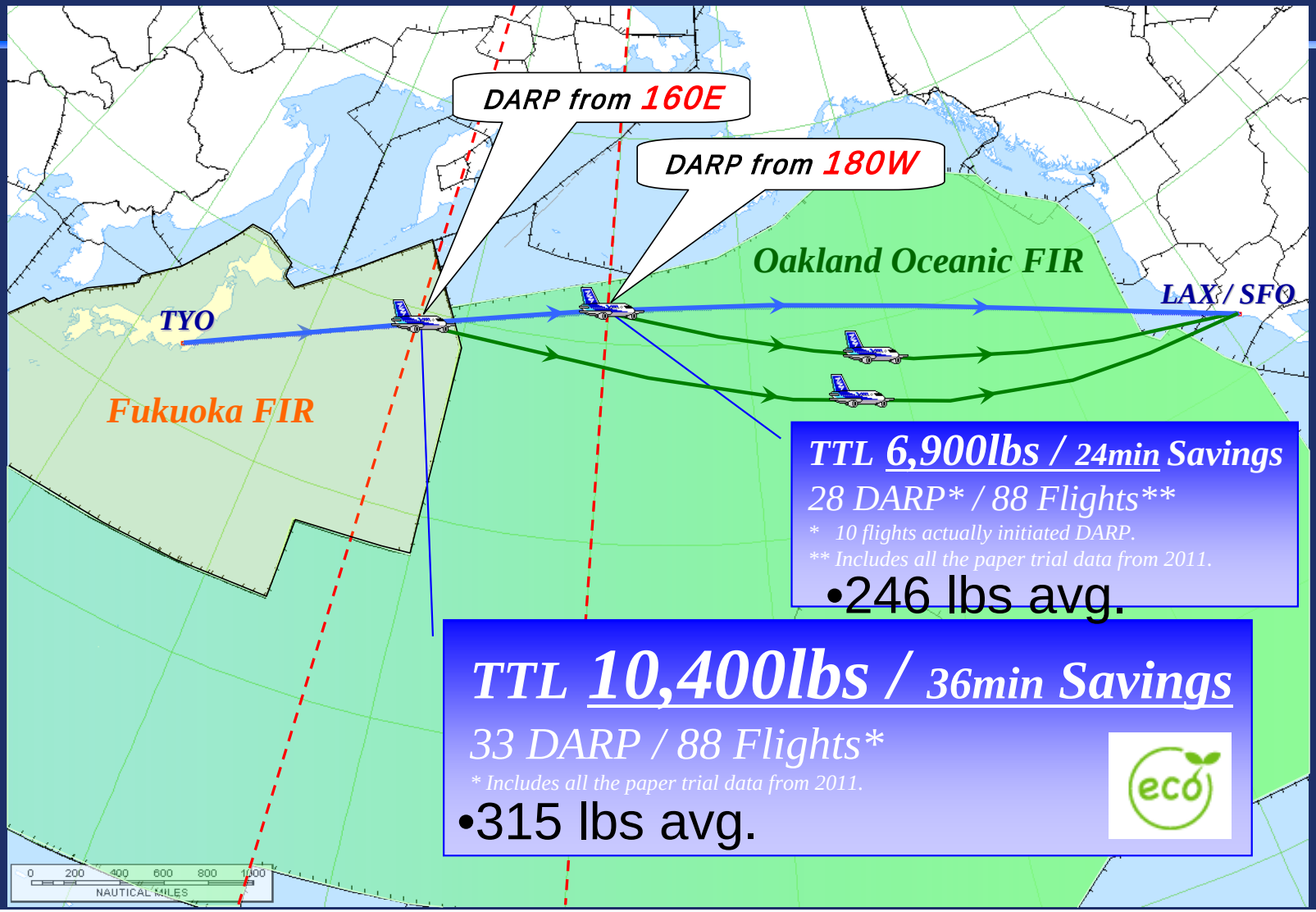
JCAB DARP Operations

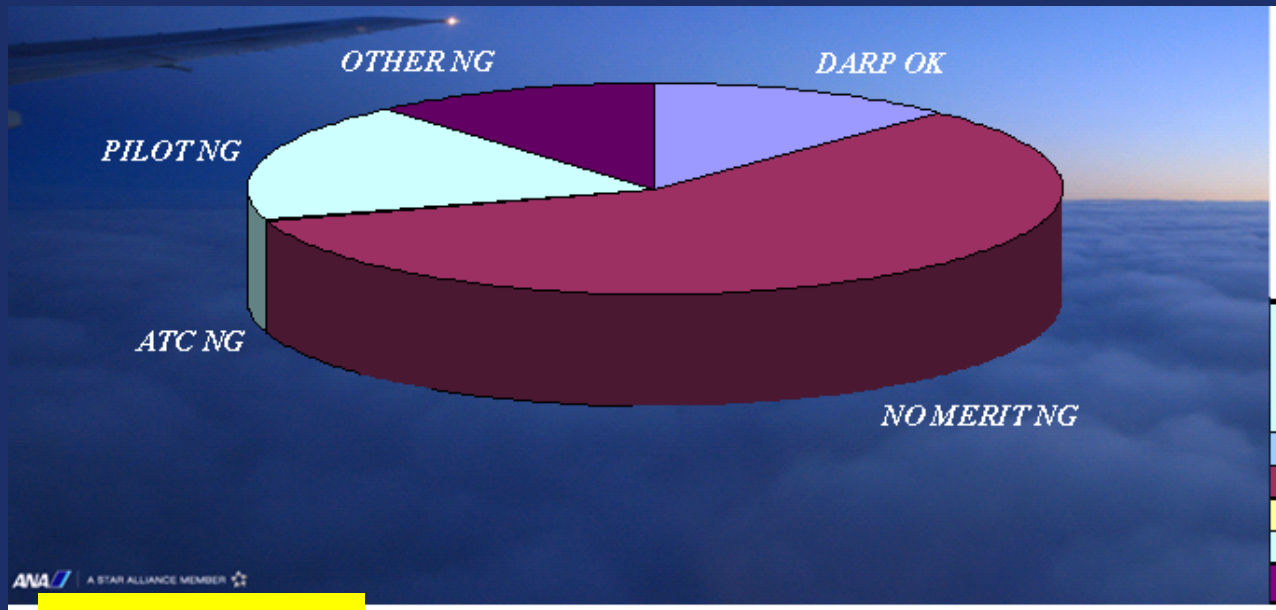
- **Requirements for DARP usage on flights to Hawaii.**

- **Pre-Coordinate DARP Flight Requests with ATMC:**
  - atmc_ocean@cab.mlit.go.jp

- **Operational CPDLC is required for aircraft requesting airborne DARP reroutes.**

•Actual & Potential Result *(TYO – LAX / SFO)*





•Detailed Results

NH1051, NH1061

25 DEC 2011 - 31 DEC 2013		
DARP OK	12%	182 Flts
NO MERIT NG	58%	849 Flts
ATC NG	0%	6 Flts
PILOT NG	18%	268 Flts
OTHER NG	12%	170 Flts

•HNL-TYO

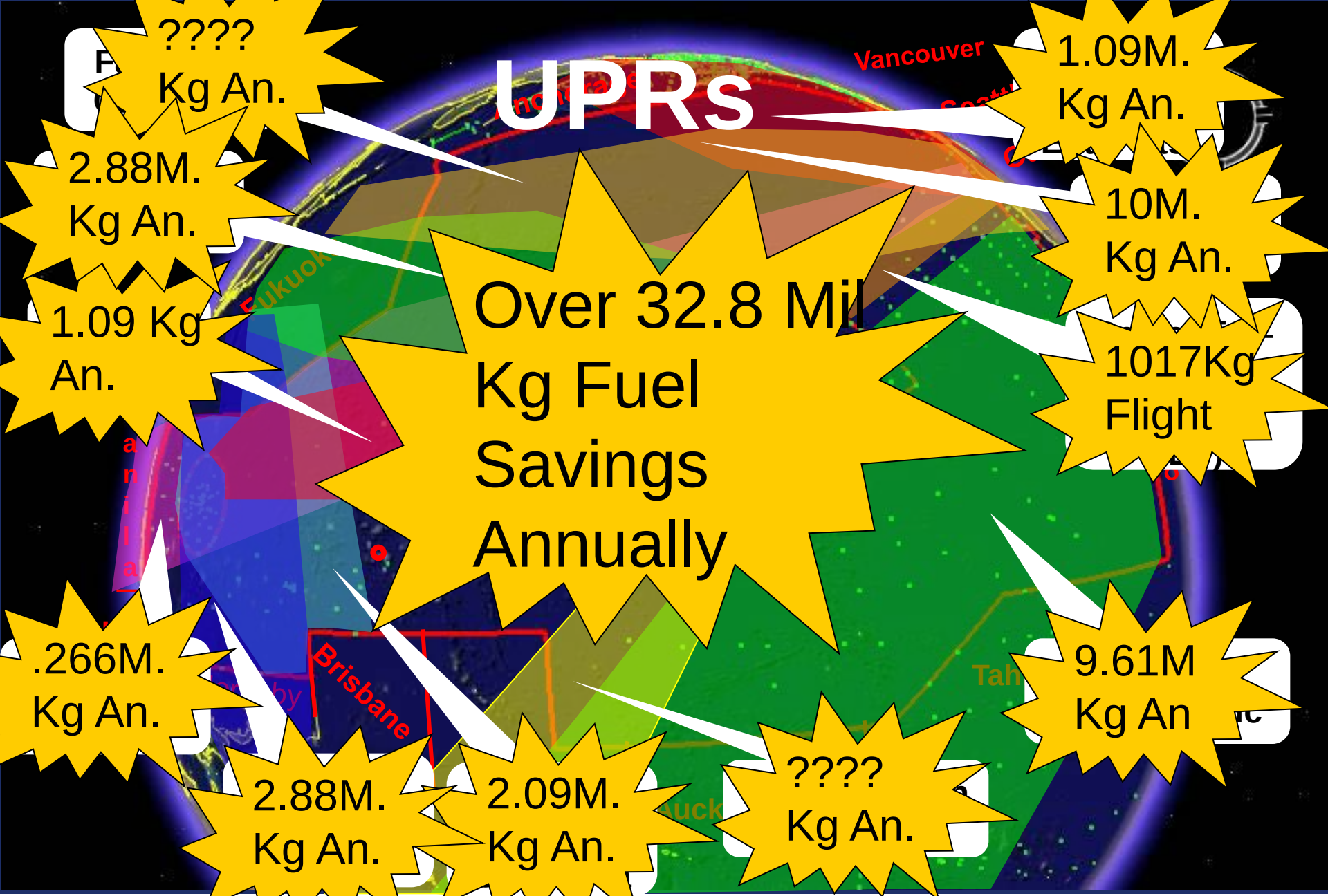
		Fuel	Time
Saving	Average	**662 lbs**	**0:03**
	Maximum	4200 lbs	0:21
	Total	120500 lbs	6:35

•TYO-HNL

		Fuel	Time
Saving	Average	**550 lbs**	**0:06**
	Maximum	2000 lbs	0:14
	Total	3300 lbs	0:36

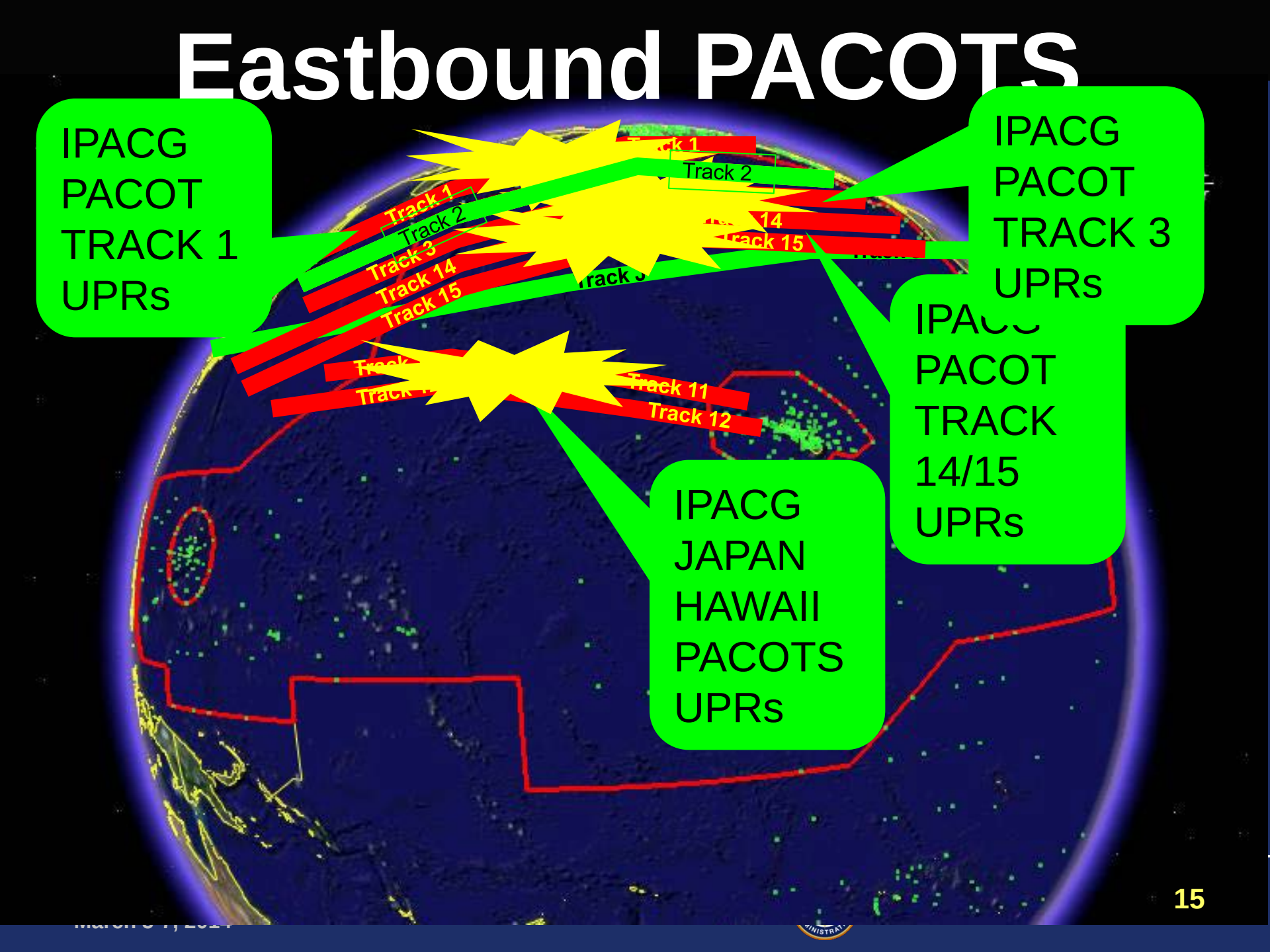
Dynamic Airborne Reroutes

- DARP Procedure requires AIDC.
- AIDC is required between all facilities to destination.
- Do not request a DARP Reroute into FIRs that do not support the procedure.


UPRs
???? Kg An.
1.09M. Kg An.
2.88M. Kg An.
10M. Kg An.
1.09 Kg An.
Over 32.8 Mil Kg Fuel Savings Annually
1017Kg Flight
.266M. Kg An.
9.61M Kg An
2.88M. Kg An.
2.09M. Kg An.
???? Kg An.
Vancouver
Brisbane

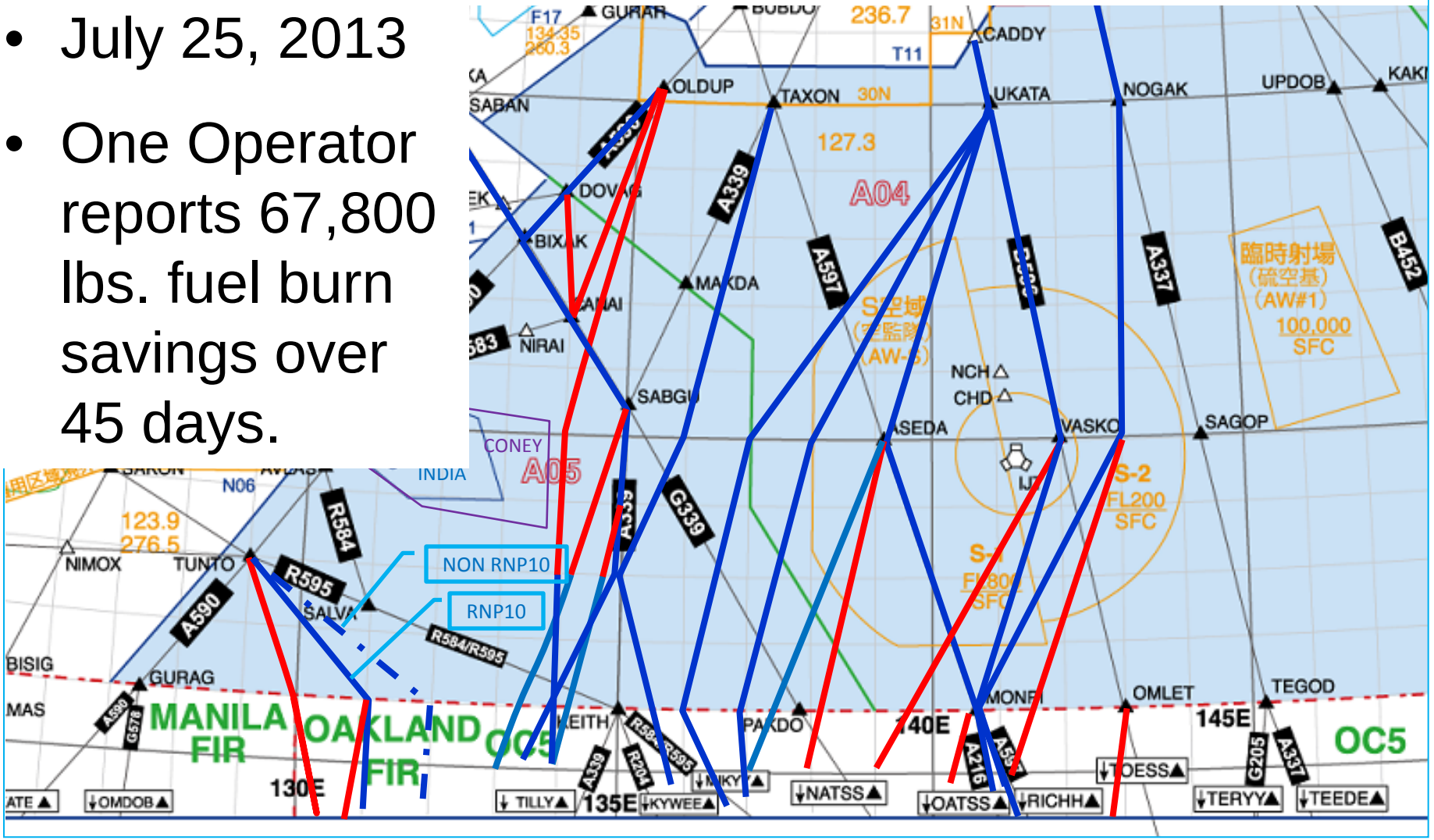
Westbound PACOTS

Eastbound PACOTS

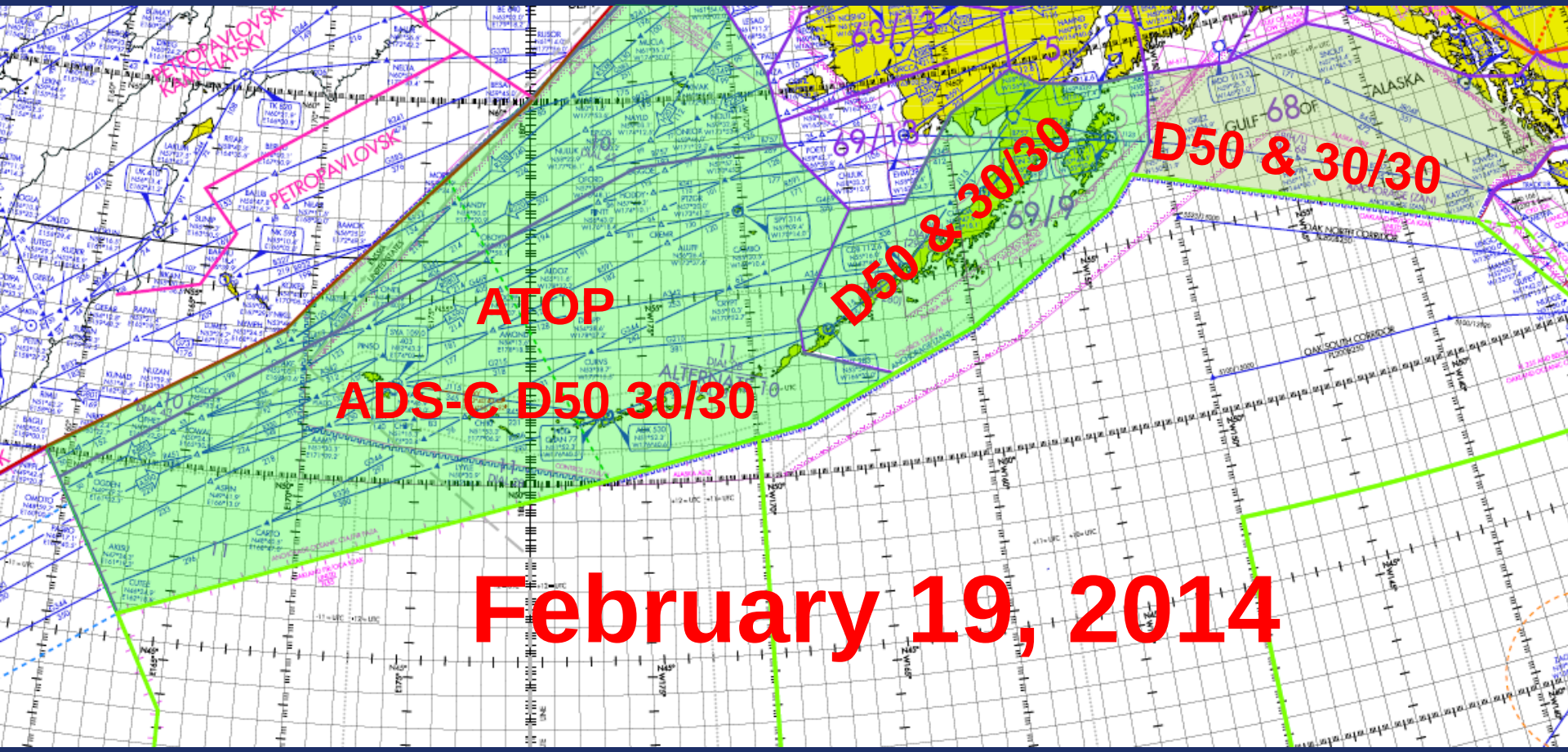


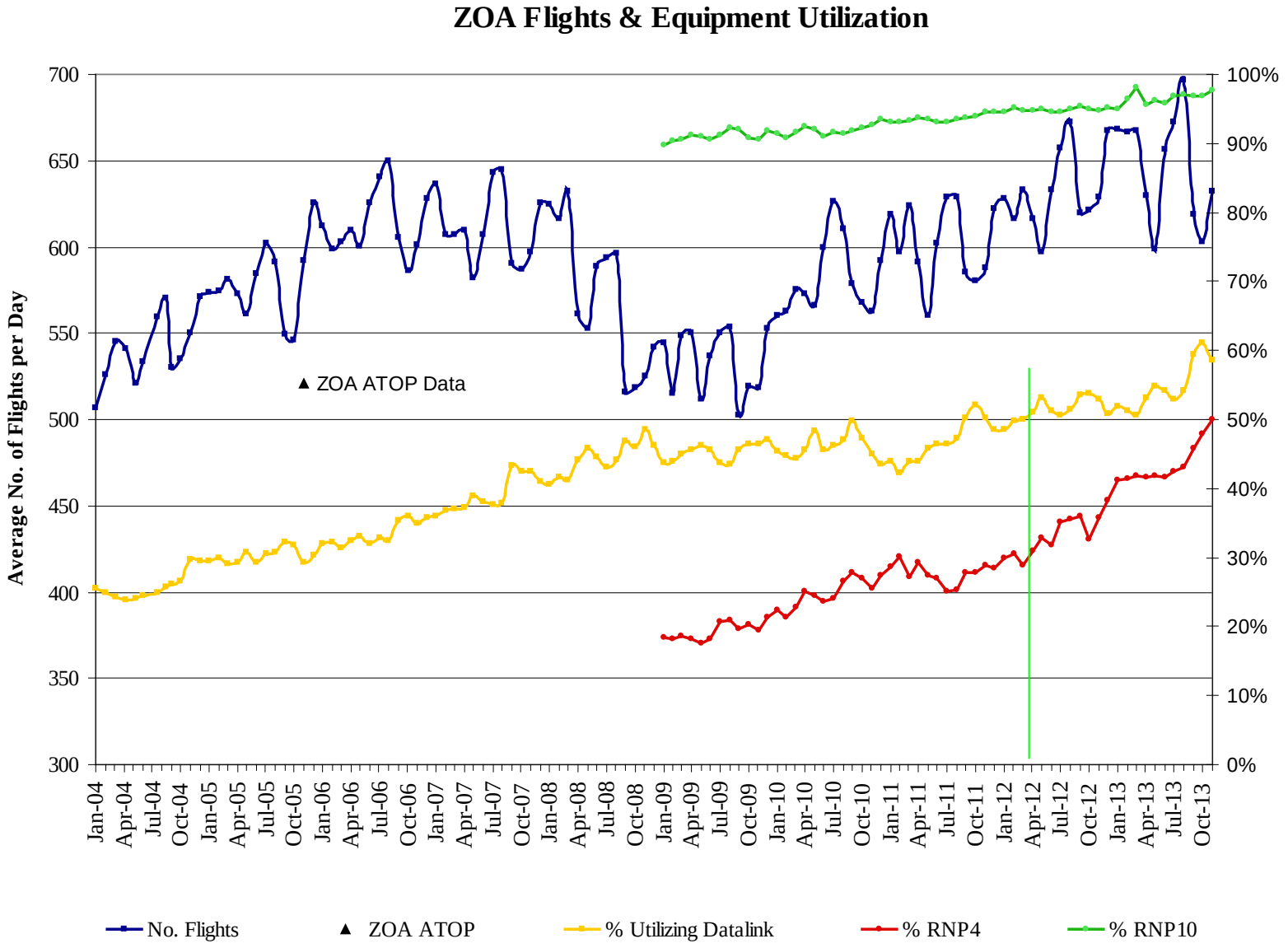
PTRO UPRS

- July 25, 2013
- One Operator reports 67,800 lbs. fuel burn savings over 45 days.



Anchorage ADS-C Distance Based Separation




ZOA Flights & Equipment Utilization
Average No. of Flights per Day
700
650
600
550
500
450
400
350
300
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
▲ ZOA ATOP Data
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
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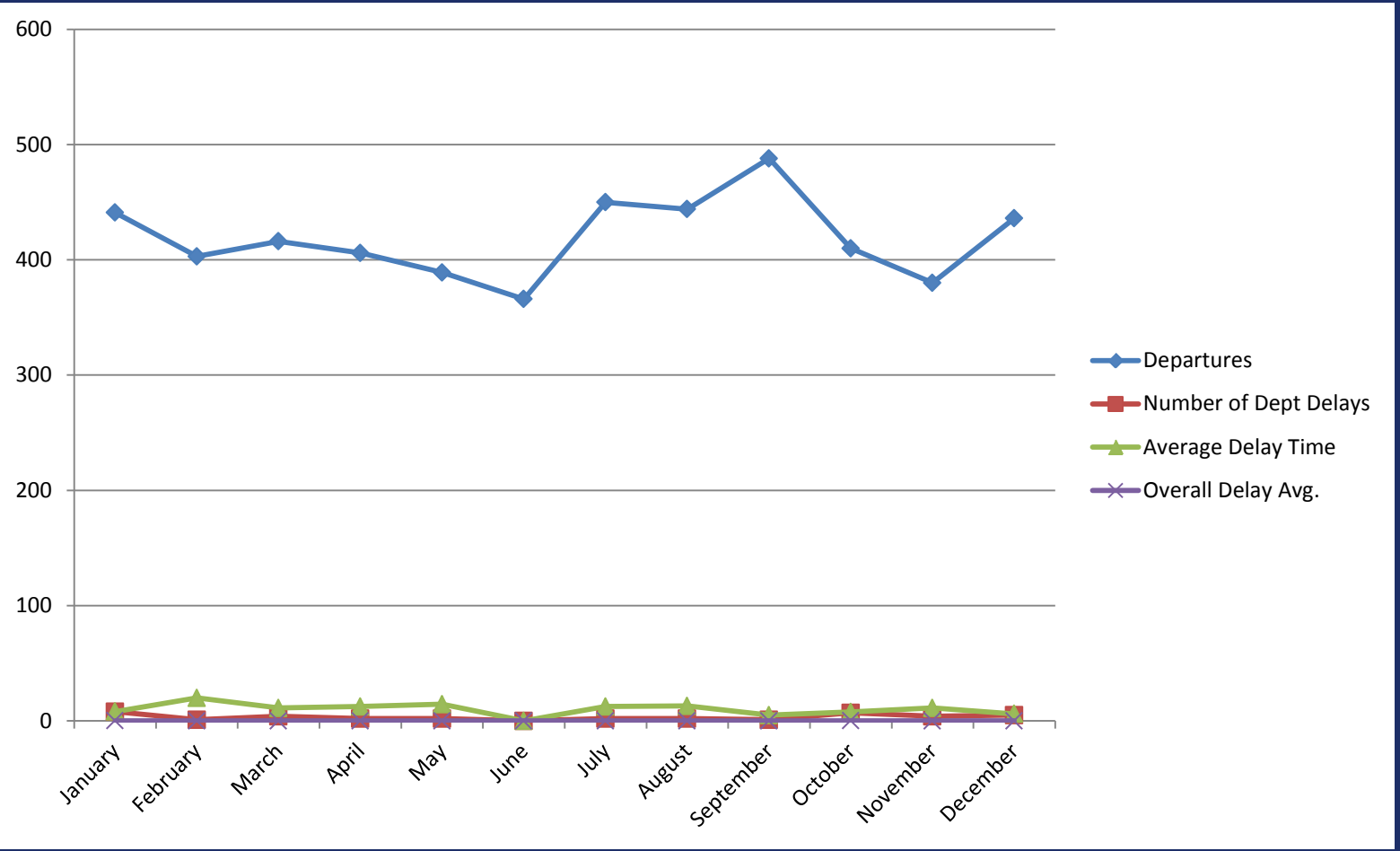
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13
No. Flights
▲ ZOA ATOP
% Utilizing Datalink
% RNP4
% RNP10

Island Departure Delays

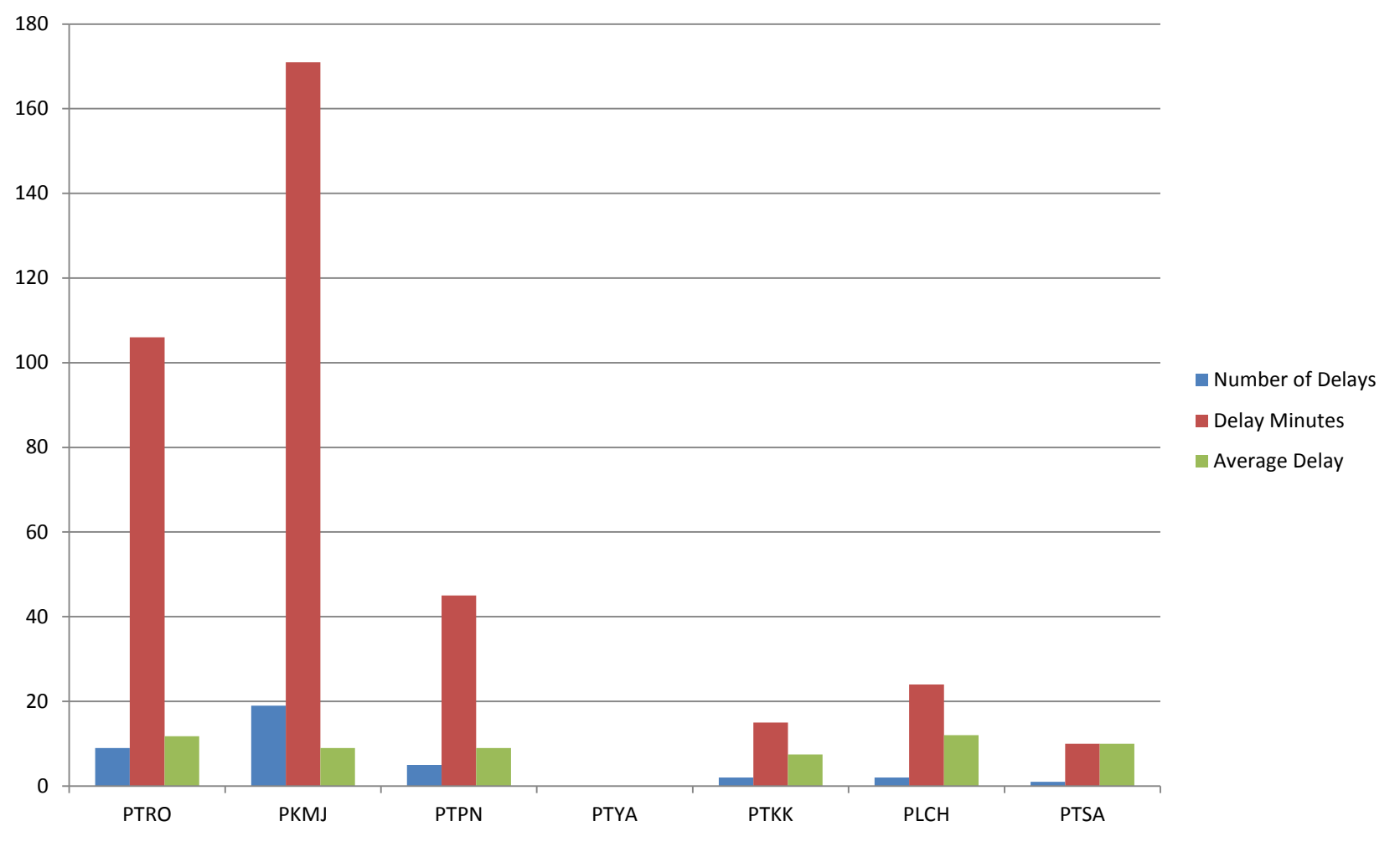
- **Departure Delays, October 2010 to March 9, 2011**
  - About 4% of departures are delayed.
  - Delayed flight average = 18 minutes
- **Departure Delays, 2013**
  - 0.007% of departures were delayed
  - Delayed flight average = 9.76 minutes

2013 Island Departure Delays

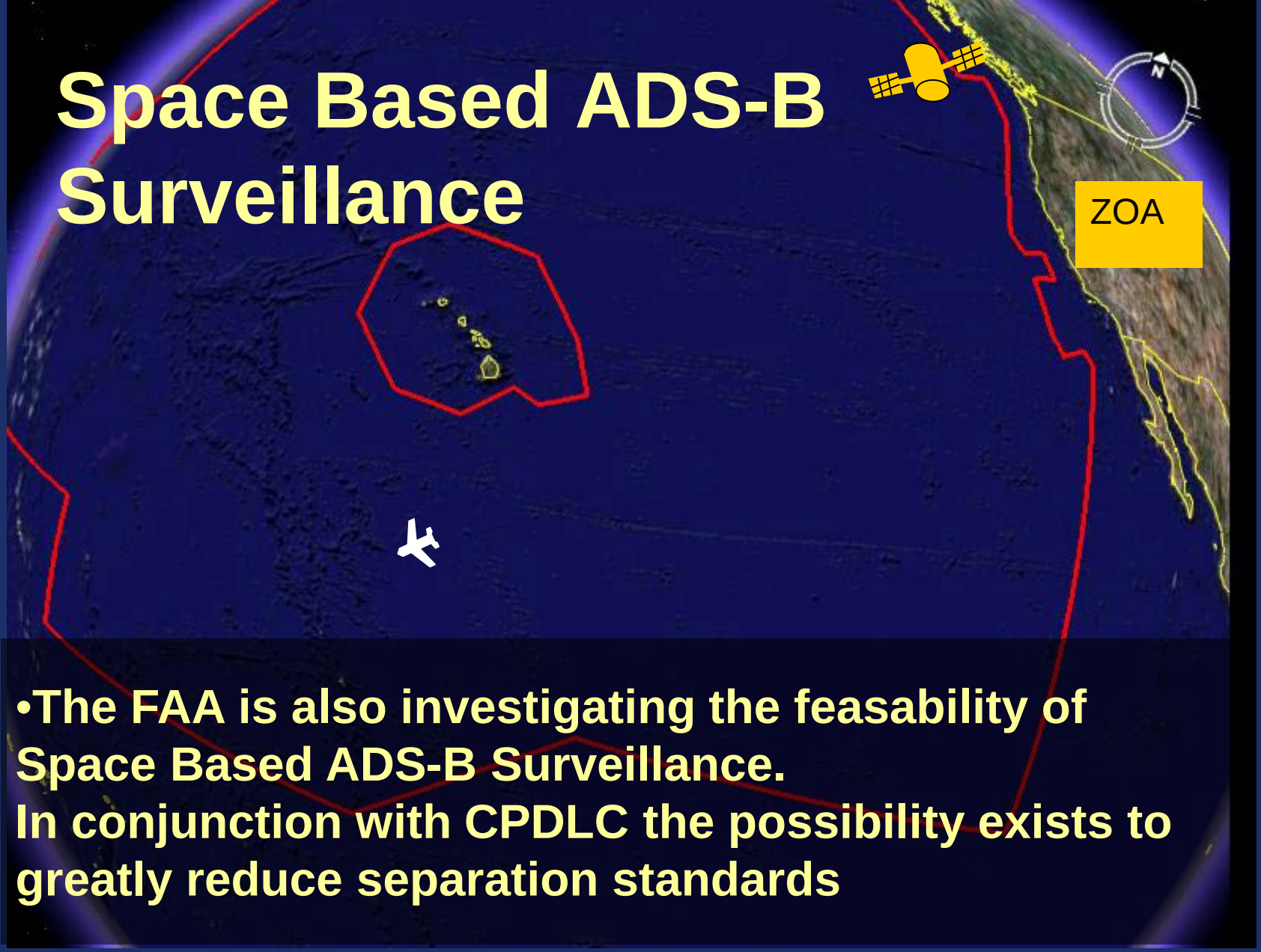


Overall average flight delay was less than a minute

2013 Island Departure Delays

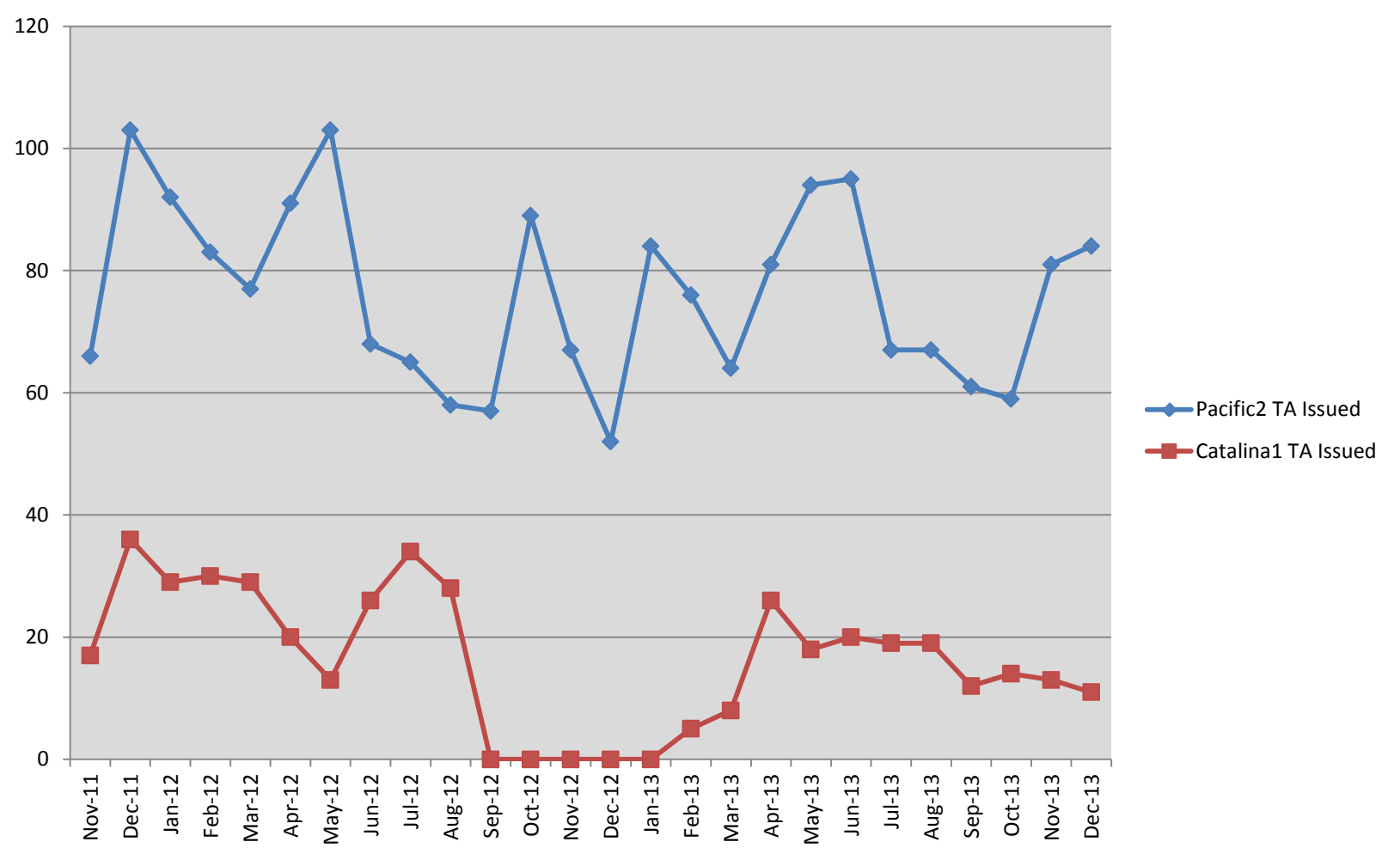


Space Based ADS-B Surveillance



- The FAA is also investigating the feasability of Space Based ADS-B Surveillance.
In conjunction with CPDLC the possibility exists to greatly reduce separation standards

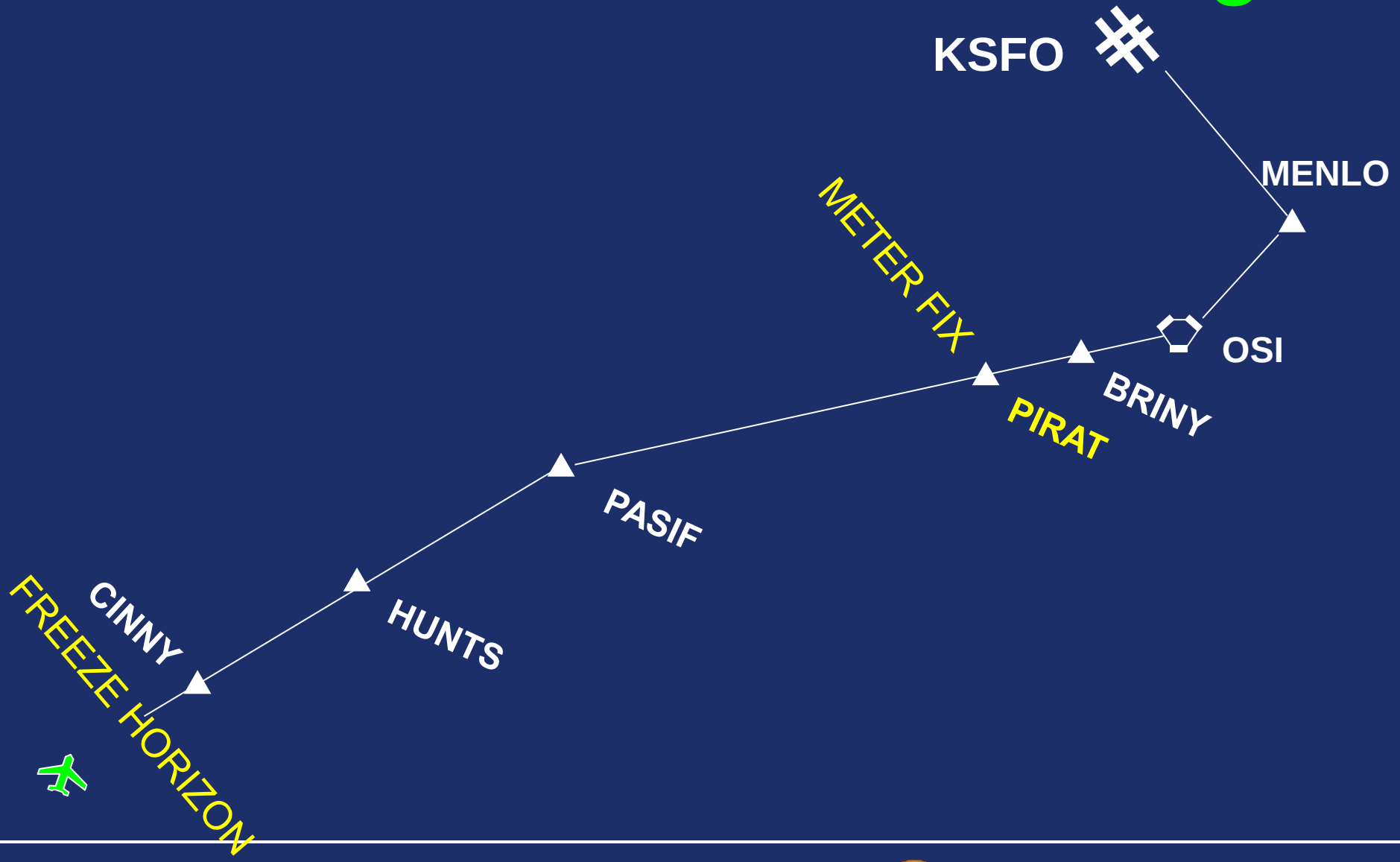
Tailored Arrival Clearances



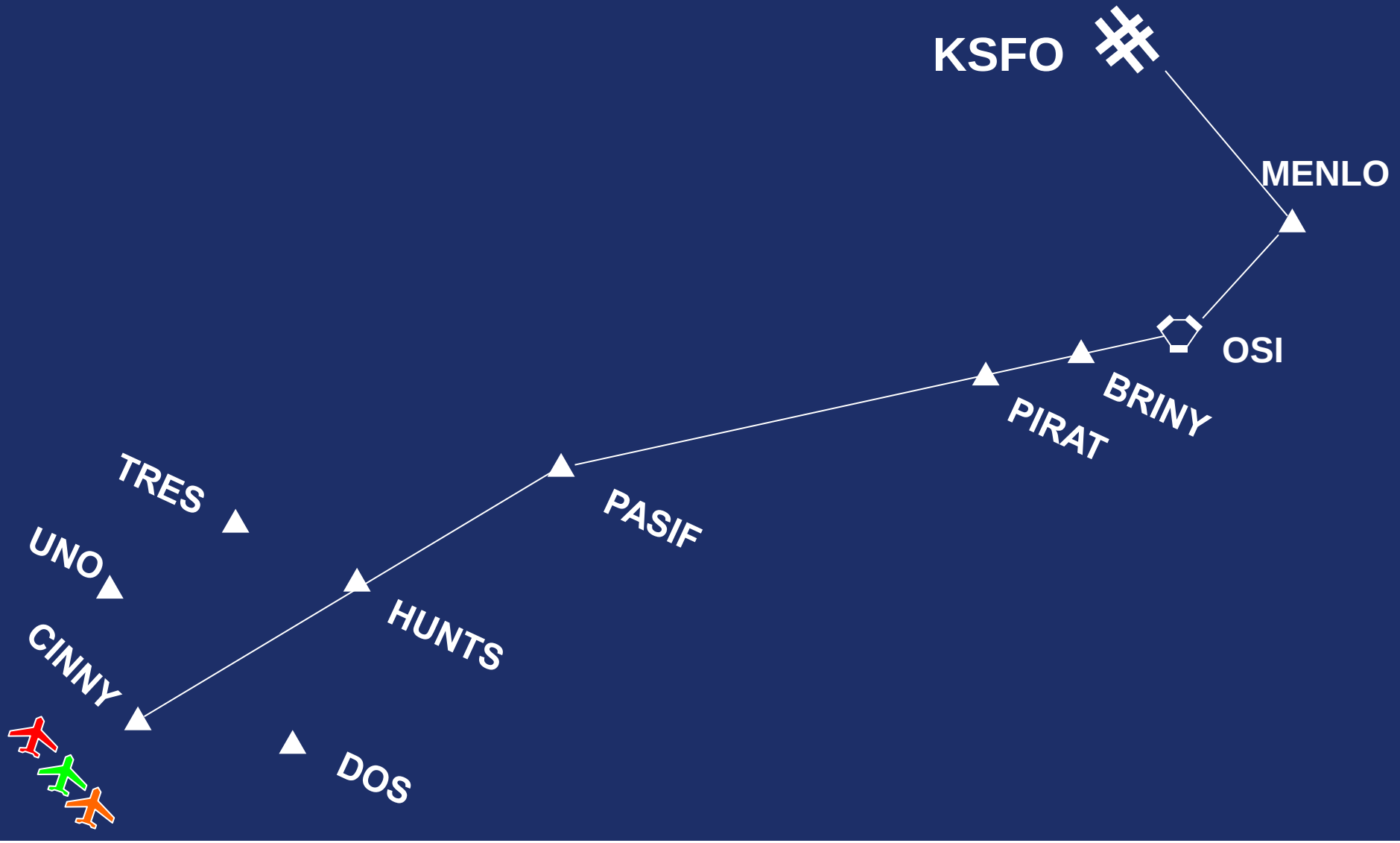
KSFO Tailored Arrivals

- A new RNAV PIRAT1 STAR is being developed to mirror the KSFO Pacific 2 TA.
- The PIRAT1 STAR would provide an OPD for non FANS aircraft.
- The Target Date for implementation is April, 2015

KSFO Time Based Metering

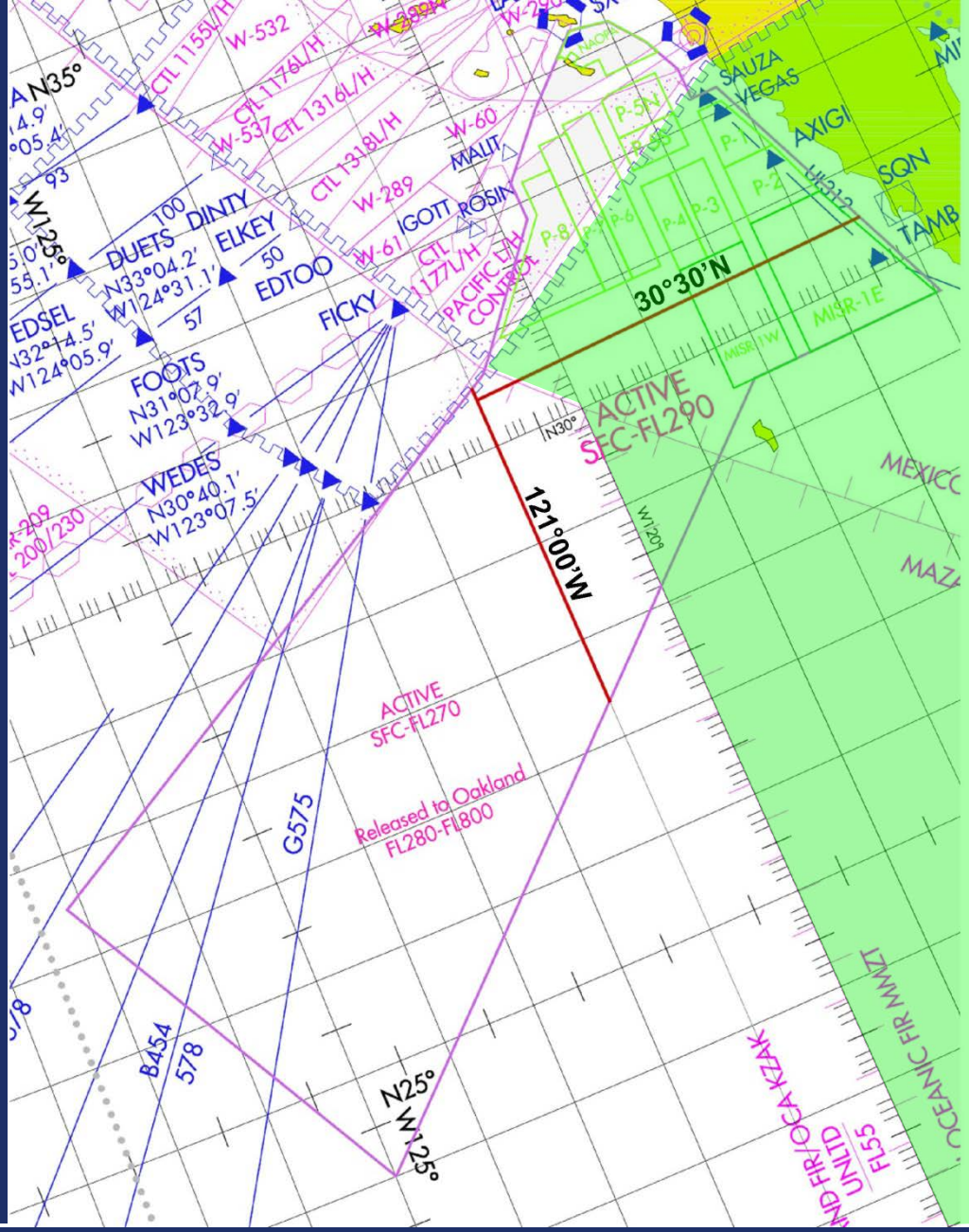


“Tailored” Arrivals

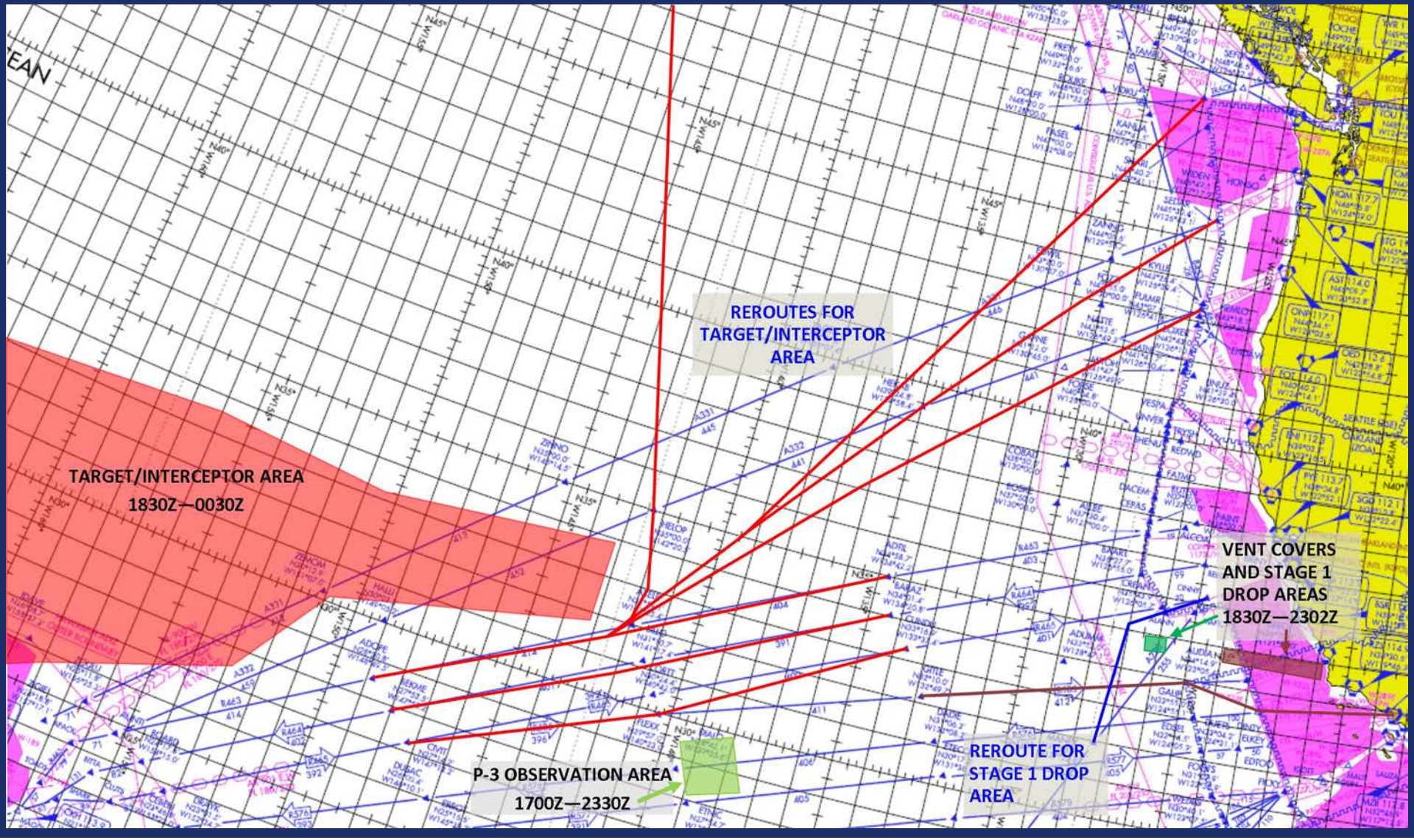


Mazatlan ACC

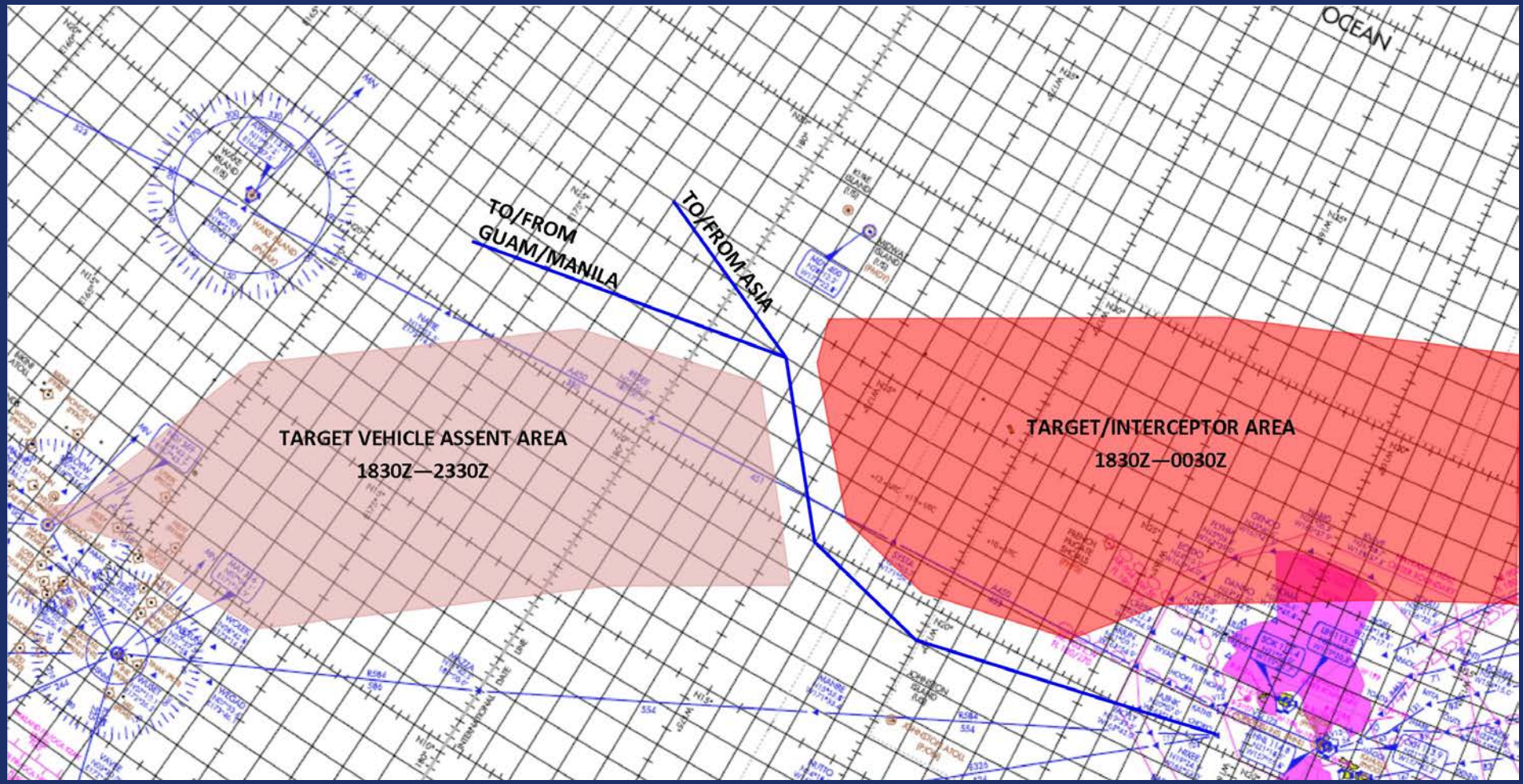
- FAA working to establish an AIDC connection between Oakland and Mazatlan.
- Mazatlan announced they are working to convert their Class G Airspace to Controlled Airspace.



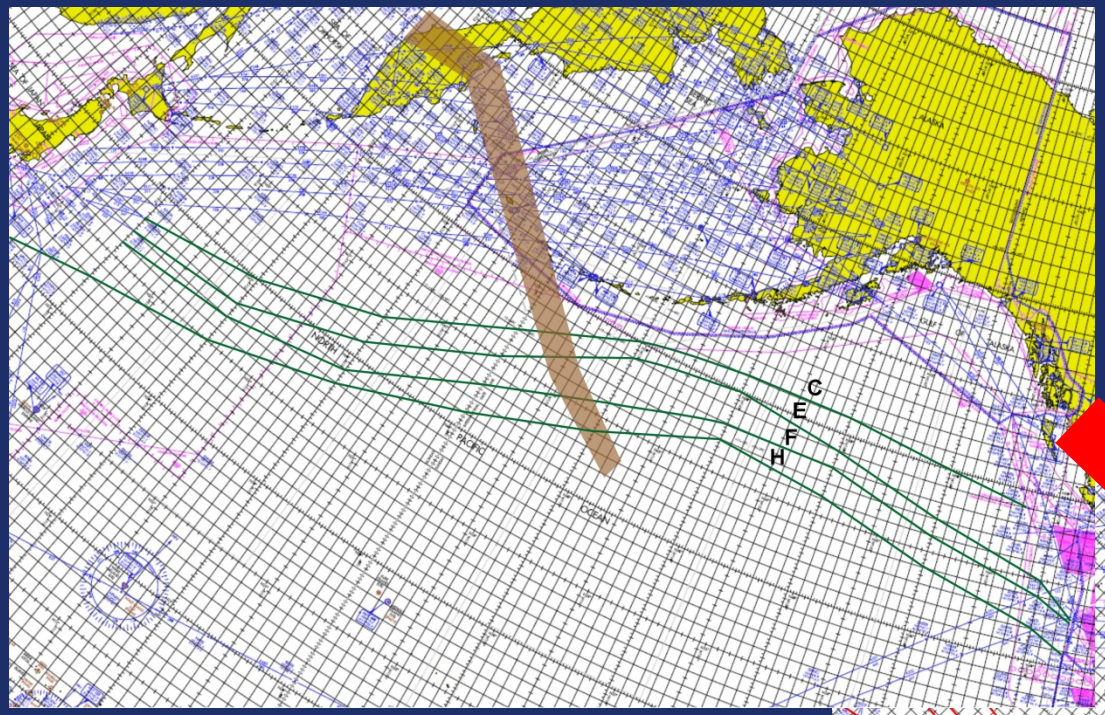
Impacts From Missile Defense Testing

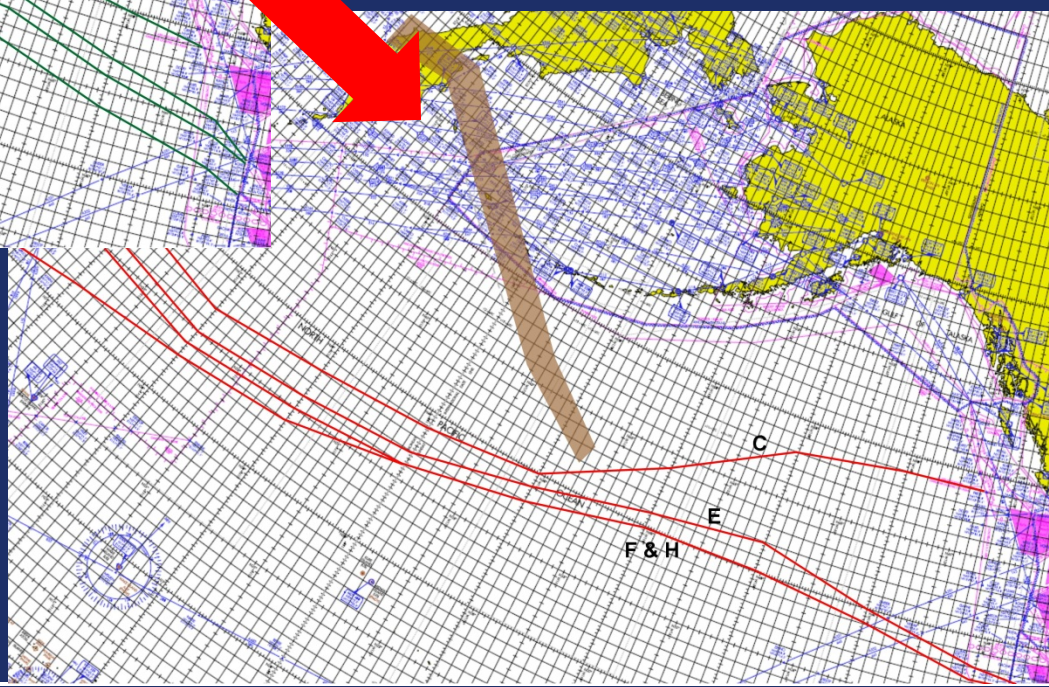


Impacts From Missile Defense Testing



Volcanic Ash & PACOTS Generation

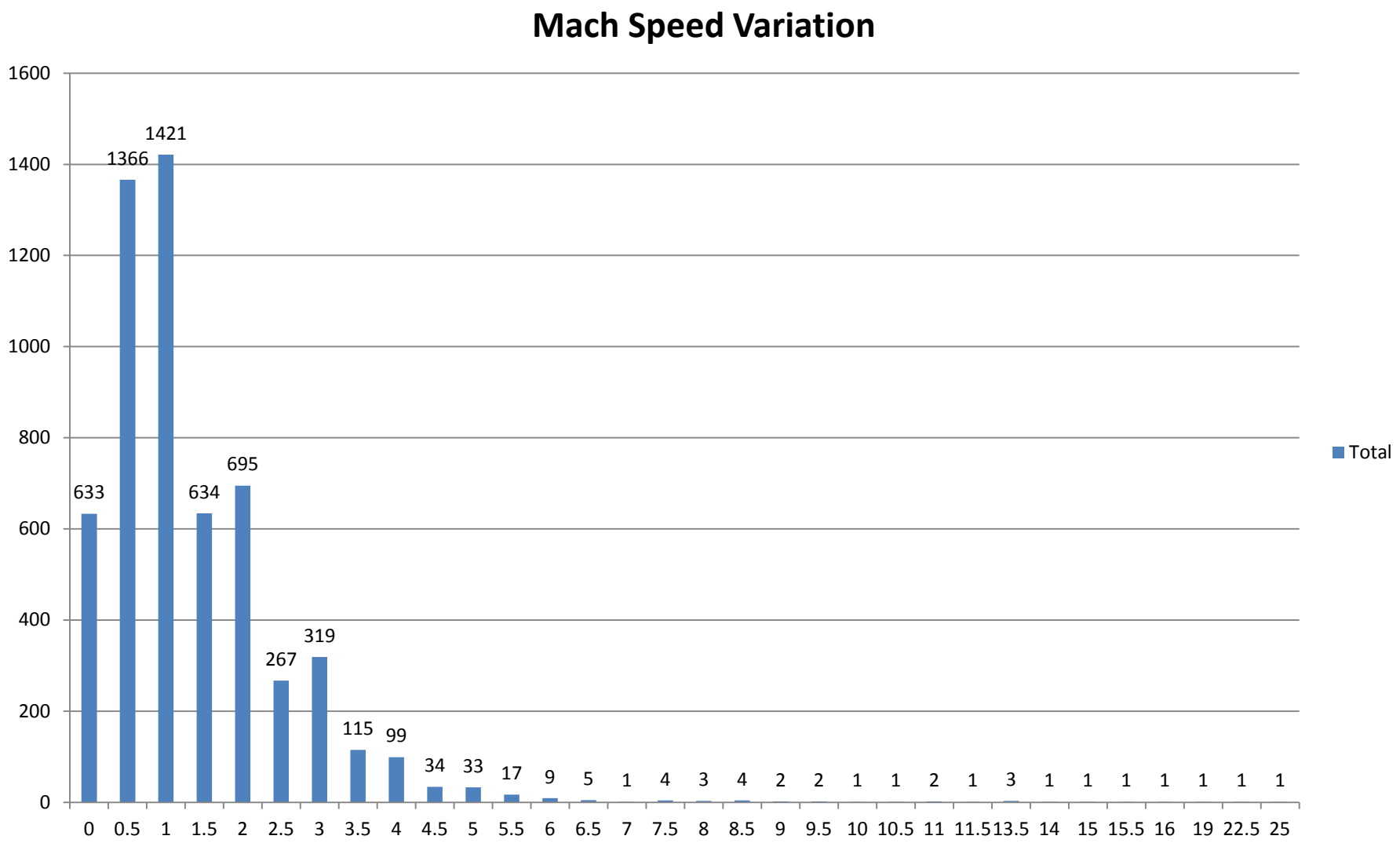




Volcanic Ash & PACOTS Generation

- In the event of an Ash Plume:
- Teleconference with International dispatchers
- Reach Agreement on the affected airspace
- When there is no agreement on affected airspace but credible evidence exists that the PACOTS will be affected by the Ash Plume, the PACOTS will be moved so that they are clear of the Ash Plume.
- This is a more conservative approach that keeps aircraft clear of volcanic ash.
- Operators that have completed their SMS analysis and determined that there is no risk could flight plan a route through the affected area.
- ATC would give advisories as required.

Mach Speed Variation



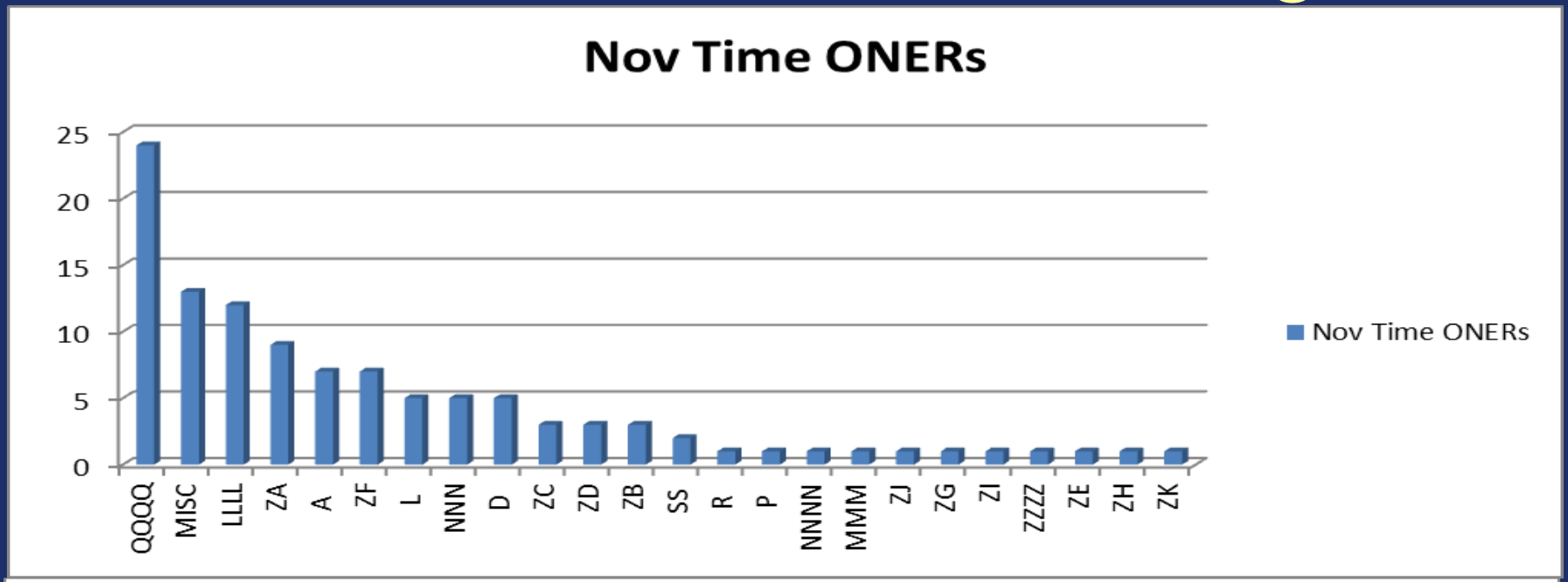
ICAO Annex 2 3.6.2.2 change

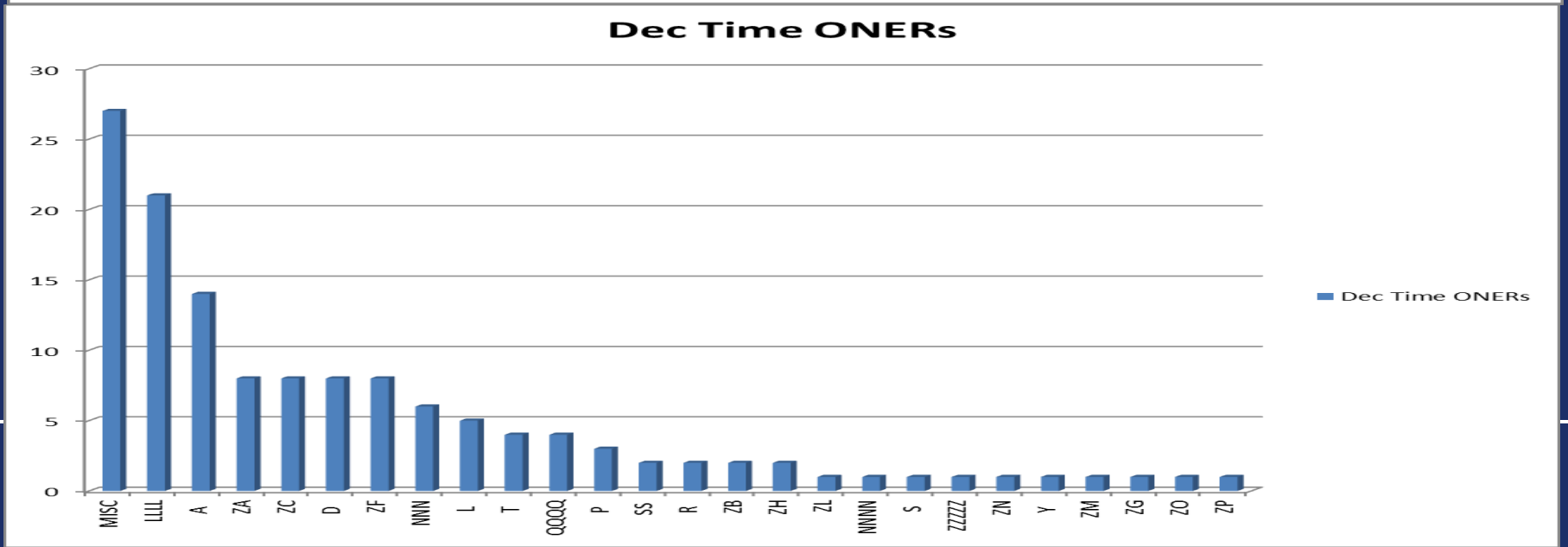
- *3.6.2.2 Inadvertent changes. In the event that a controlled flight inadvertently deviates from its current flight plan, the following action shall be taken:*
- *a) Deviation from track: if the aircraft is off track, action shall be taken forthwith to adjust the heading of the aircraft to regain track as soon as practicable.*
- *b) Variation in true airspeed: if the average true airspeed at cruising level between reporting points varies or is expected to vary by plus or minus 5 per cent of the true airspeed, from that given in the flight plan, the appropriate air traffic services unit shall be so informed.*
- *c) Change in time estimate: if the time estimate for the next applicable reporting point, flight information region boundary or destination aerodrome, whichever comes first, is found to be in error in excess of 2 minutes from that notified to air traffic services, or such other period of time as is prescribed by the appropriate ATS authority or on the basis of air navigation regional agreements, a revised estimated time shall be notified as soon as possible to the appropriate air traffic services unit.*
-
- *3.6.2.2.1 Additionally, when an ADS agreement is in place, the air traffic services unit shall be informed automatically via data link whenever changes occur beyond the threshold values stipulated by the ADS event contract.*

Oceanic Navigation Error Reporting

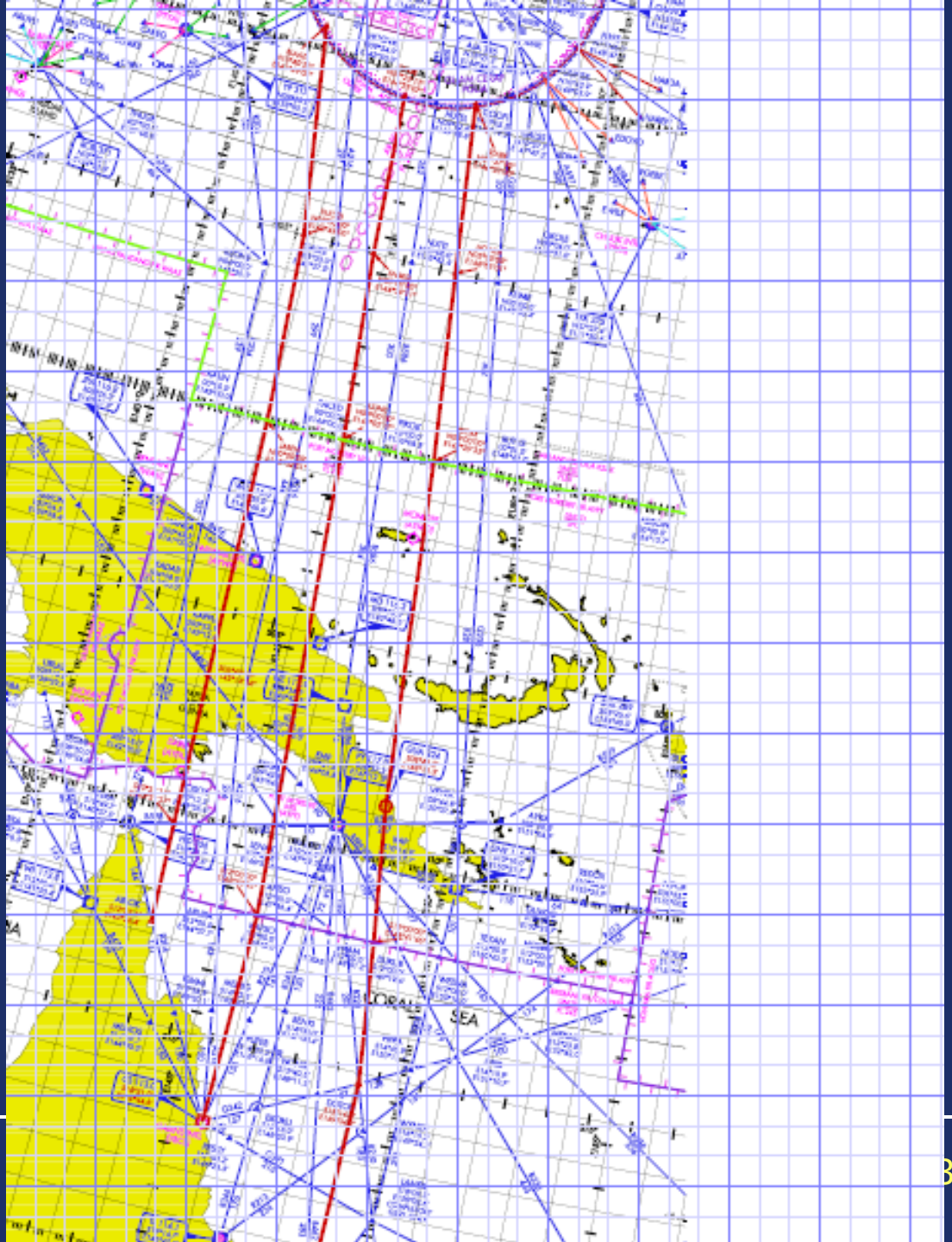
- **FAA requires reporting of Oceanic Navigation Errors:**
  - GNE (Gross Navigation Error) 25nm or more.
  - Intervention: Aircraft on different route than ATC.
  - Height Error: 300 feet or more.
  - Time Errors: Pacific = More than 3 minutes
- **ONER Reports are forwarded to:**
  - Flight Standards
  - Technical Center, Airspace Safety Calculations.
- **Oakland has automated Time Error tracking and reporting.**

ONER Time Errors Tracking





Proposed ATS Routes



•Volcanic Ash Exercise