Welcome to

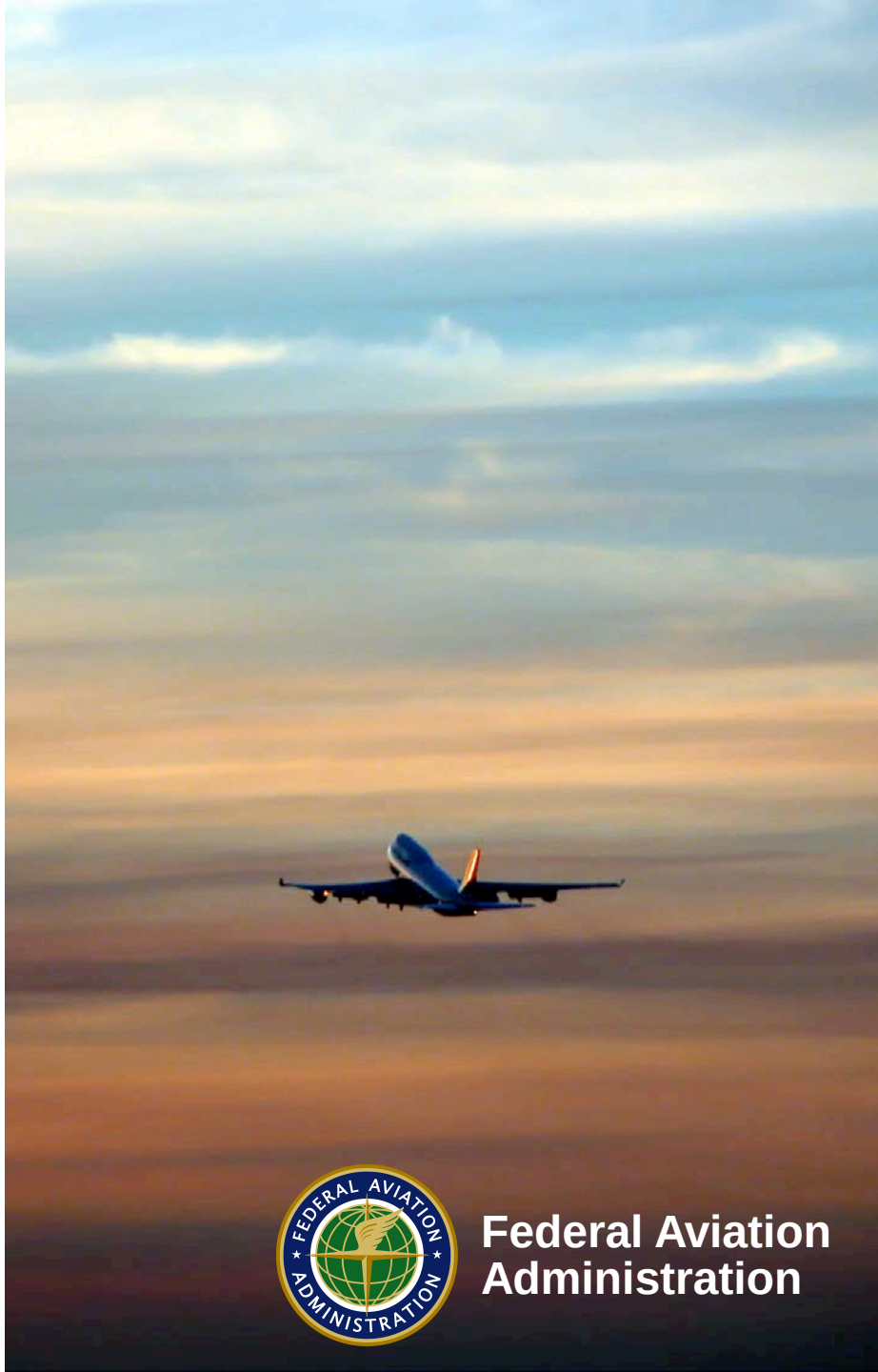
New York Air Route Traffic Control Center

Federal Aviation Administration

•October 13, 2016

•New York Center Oceanic Work Group

Updates in the New York Center Oceanic FIR (KZWY)



Presented to: **New York Oceanic Work Group**

Date: **October 13, 2016**

Agenda topics

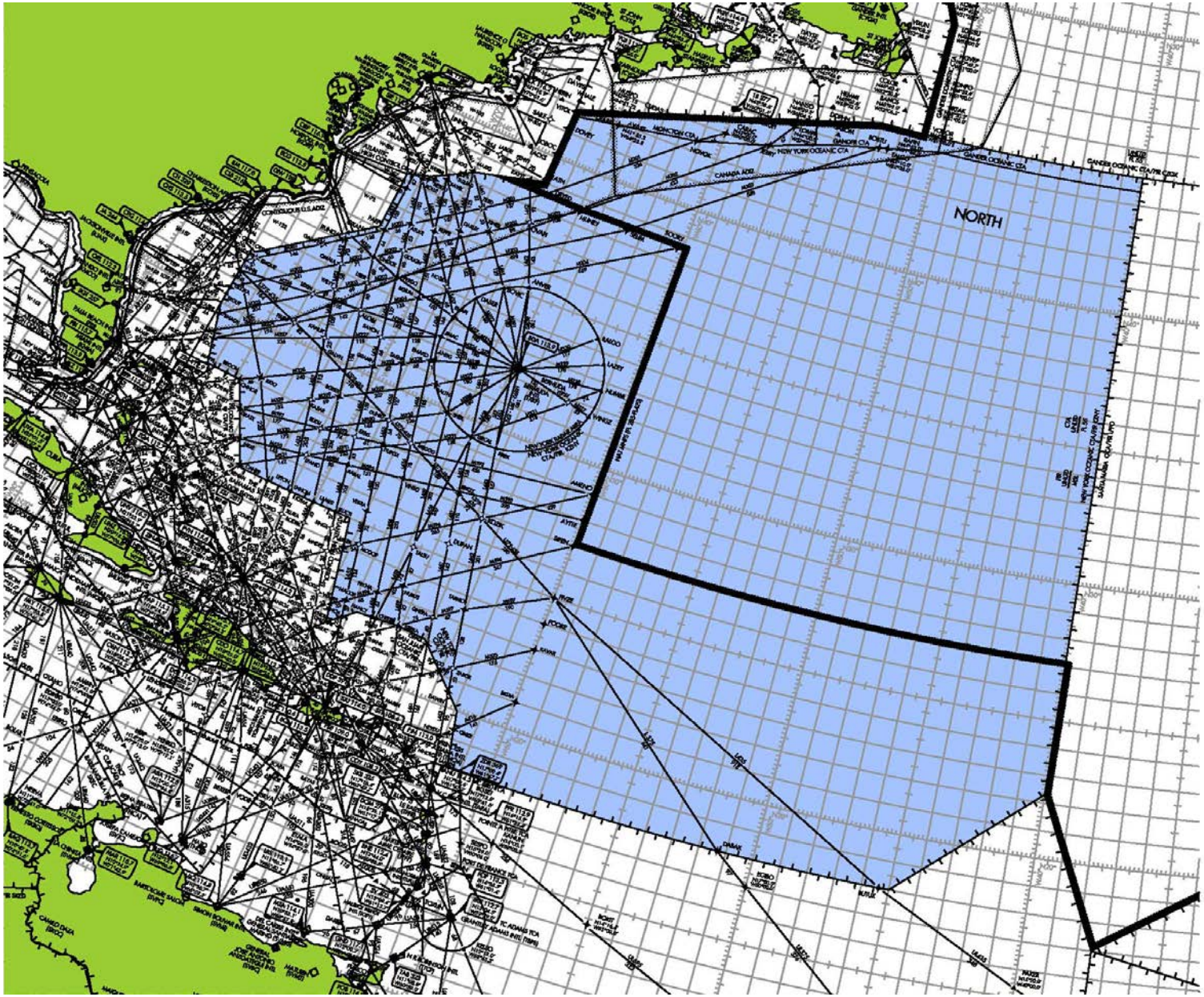
1. New York Center Oceanic Airspace Review
   a) New York OCA East vs OCA West
   b) ICAO Region Affiliation
2. New York Center Oceanic Operating System Review
   a) How control personnel use the ATOP System to communicate with aircraft
   b) How control personnel use the ATOP System to coordinate with other facilities
3. Planned ATOP System Implementations
   a) ADS-C Climb/Descend Procedure
   b) ADS-B In Trail Procedure
   c) Level Range Deviation Event ADS-C Contracts
4. Current Aircraft Equipage Statistics and Performance Metrics
5. Updates on Requirements for Monitoring RCP and RSP for ANSP's, and new PBCS filing requirements for Aircraft Operators

Agenda Topics

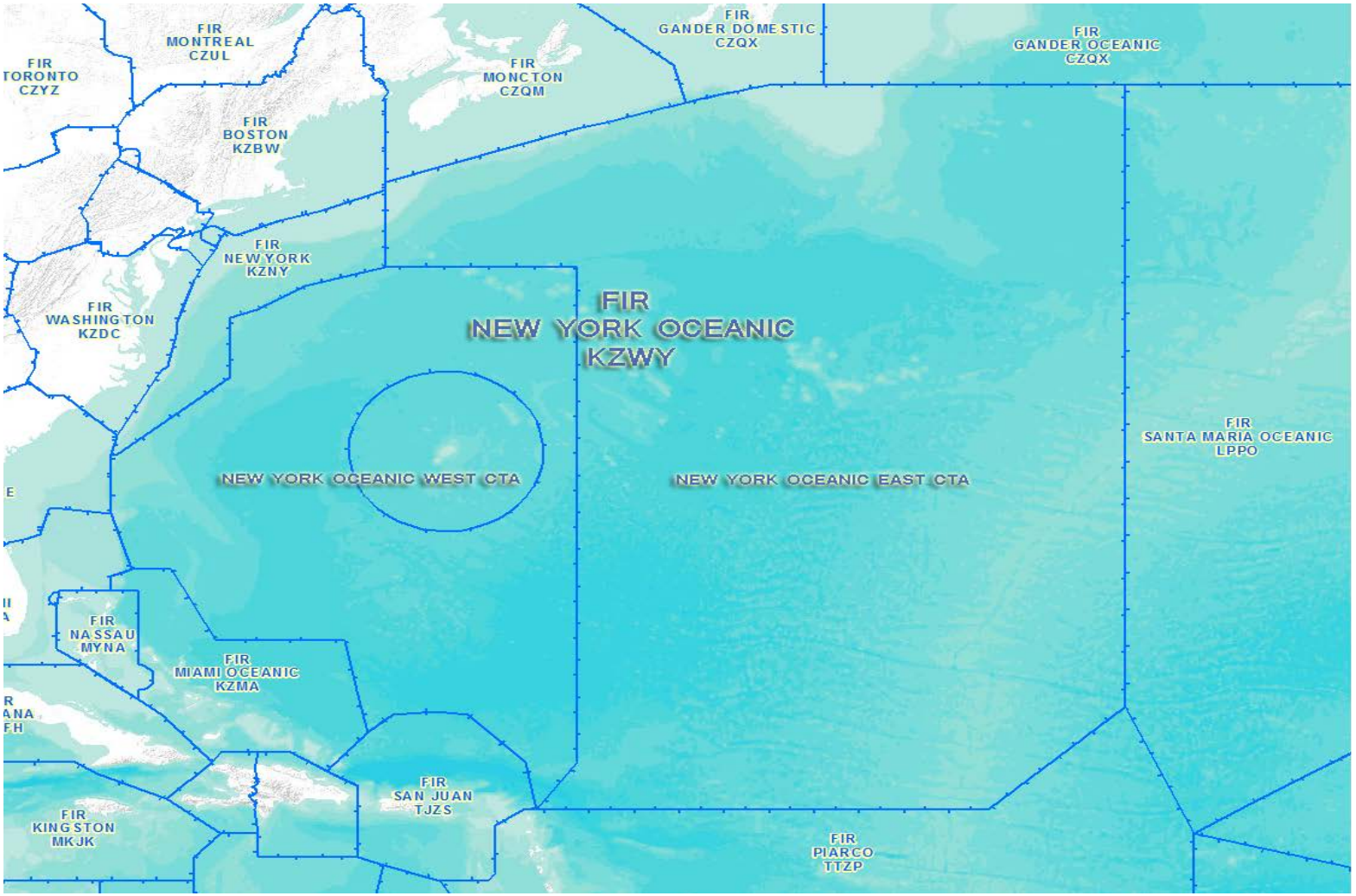
6. New York Oceanic Safety Concerns
   a) Weather Deviations and inaccurate position estimates
   b) Datalink Issues: Both SATCOM and VHF Datalink (VDL)
7. Piarco/New York Center Procedural Changes
   a) Updates from previous meeting
8. Results of Recent ECON Speed and Emergency CPDLC Test
   a) Other Potential Operational Trials
9. Update on planned PBN route to Brazil
10. ICAO NAT Region Updates
11. ICAO NACC Region Updates
12. Updates on New York Airspace Initiatives
    a) Domestic Offshore Redesign Plan
    b) New Holiday Route Plans
    c) TXKF Approach Control Project
       - New PBN SIDS/STARS planned implementation

Agenda Topics

13. New Operator Flight Planning Issue Transitioning to Gander ACC
    - BOBTU not available as an entry fix into Gander ACC Domestic airspace
14. New Russian Space Agency Launch Danger Area
15. New Business Items


NORTH

New York Oceanic FIR - KZWY



New York Oceanic FIR - KZWY

The New York Oceanic FIR is divided into two Oceanic Control Areas:

- OCA East – Part of the ICAO North Atlantic Region (NAT)
- OCA West – Part of the ICAO North American/Central American/Caribbean Region (NACC) and formerly called WATRS+ airspace.

Note: The acronym WATRS is still maintained to describe the ATS route structure of the OCA West.

Since one operating system controls all of the airspace, the singular KZWY FIR aligns with the New York Oceanic CPDLC/ADS-C logon address, as well as the Oceanic flight plan filing address, KZWYZOZX.

New York Oceanic NOTAMS/SIGMETS

- All NOTAM's and SIGMET's that affect Oceanic Airspace are now issued under the KZWY banner.

Note: NOTAMS affecting both the domestic and oceanic operation will be issued under both KZNY *and* KZWY.

The ATOP System

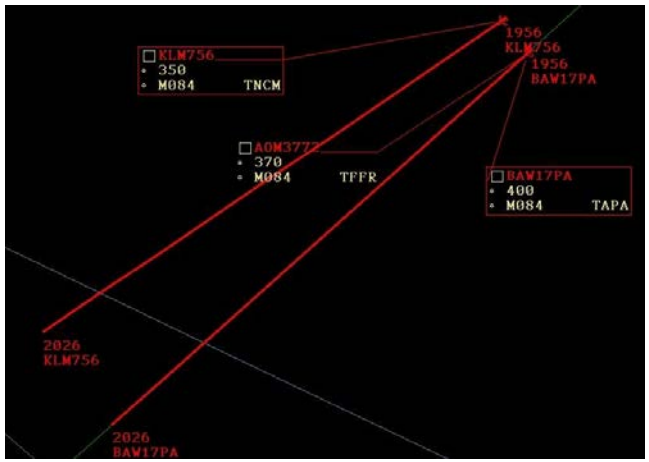
The New York Center Oceanic operating platform is called the Advanced Technologies and Oceanic Procedures (ATOP) System

- Similar systems are currently in use by Portugal (Santa Maria ACC), Iceland (Reykjavik ACC), and Norway (Bodo ACC)
- New York Center has been operational on this system since June 5, 2005, and we are currently on the 24th baseline version of the hardware/software**.** The 25th version will come in 1st quarter CY2017.
- The following slides are provided for review of how the ATOP system is used to provide air traffic services.

Conflict Prediction and Resolution

Conflict Probe

- Ocean21 Detects All Conflicts - Controller Resolves Conflicts
- Aircraft/Aircraft and Aircraft/Airspace
- Probe Runs Automatically on All Trajectory Updates
- Applies Appropriate Separation Standard
- Conflict Probe is 4-dimensional and calculated down to the second.



2nd PROF CONFLICTS FOR BAW17PA

Override Help

Intruder	Att	Active	Att	Ovrd	Type	StartTime	EndTime
*BAW17PA	D	AOM3772	-		>>	1956	2122
*BAW17PA	D	KLM756	-		>>	1956	2027

CONFLICT REPORT

same direction REQUIRED 10 minutes (50 nm) 1000 ft

7.7 degrees LOS NOW ACTUAL 0 min 03 sec (17 nm) 0 ft

		PASSING POINT			CONFLICT SEGM	
B744	F400↓				2438N	2201N
*BAW17PA	F340				05151W	05513W
M084					1956	2026
B744					2452N	2242N
KLM756	F350				05203W	05545W
M084					1956	2026

Draw Close

Conflict Resolution

- Conflict Probe is 4-dimensional and calculated down to the second.
- As a result, almost all clearances are time based.
- Probed and accepted clearances are protected against other aircraft and airspace
- This provides us the capability to issue future altitude and route changes and “reserve” those altitudes and routes

Airspace Management

New York Oceanic control personnel and supervisors manage and control air traffic by interacting with the ATOP system via a series of message queues and operating windows. All aircraft profile data must be maintained and kept as accurate as possible in order for Conflict Prediction and Resolution (CPAR) functionality to operate properly. The four main ATOP message areas that control personnel utilize are:

- **Sector Queue**
- **Error Queue**
- **Clearance Window**
- **Coordination Window**

Supervisors have their own Air Traffic workstation position and interact with their own **Supervisor Queue.**

Sector Queue

The ATOP system was designed under the “monitor by control and exception” theory. Thus, all normal system messages, e.g. aircraft position reports that are in conformance with its protected profile, are processed by the system automatically with no controller interaction.

Messages that *are* presented in the sector queue include:

- any aircraft messages received that are ***not in conformance*** with the profile
- aircraft requests for a profile change (altitude/speed/route)
- messages that indicate the receipt of an inbound automated coordination message
- Messages that prompt outbound coordination, or when a revision to previous coordinated data becomes necessary
- emergency messages, including potential losses of separation

Messages in the sector queue are prioritized at three levels: emergency, urgent, and normal.

Supervisor Queue

The supervisor queue is always active at the Supervisor workstation, which are located in each Oceanic Area, as well as another station at the watch desk for midnight operations. Certain control personnel also have Sup Queue permissions as well.

The supervisor queue receives various system messages that need to be addressed at that level. Most important among those is the receipt of all oceanic SIGMET information. Because the National Weather Service does not format those messages in a way that can be automatically processed by ATOP, Supervisors must manually re-format each one and input into the system. Once input, the ATOP system will automatically disseminate the SIGMET to any aircraft affected at a specified distance prior to the area.

Error Queue

The Error Queue is a window that is shared by all operational personnel, and can be assigned to multiple positions simultaneously.

Many messages are received by the system that cannot be processed automatically, mostly due to errors in the message format.

Operational personnel are trained to examine these messages, process them, and:

- repair those which are pertinent to the operation and re-input into the system
- delete those which have no impact
- forward messages to the attention of the supervisor that might need further examination.

Note: Since processing messages from this queue creates workload, it is imperative that we prevent as many messages from reaching this queue as possible.

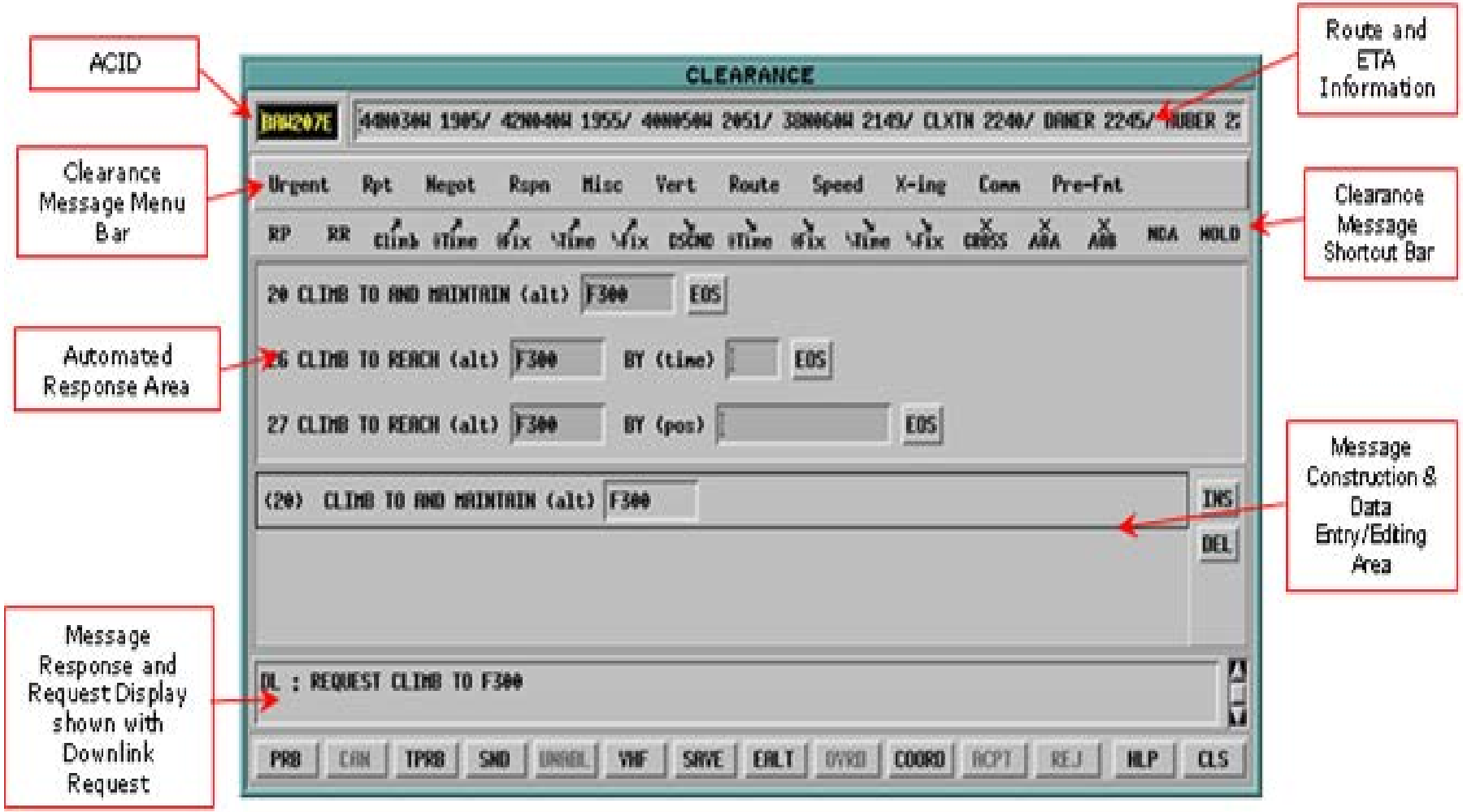
Communications with Aircraft

Using the ATOP system, control personnel perform ALL communications with aircraft through one source – the clearance window.

The clearance window recognizes the system capabilities of each aircraft based on the filed flight plan, and either routes the message directly to the flight deck via CPDLC, or through New York Radio (ARINC) for delivery via HF.

If a controller issues a clearance verbally either via then phone to ARINC, or directly to an aircraft, they must still update the aircraft's profile vis the clearance window.

Issuing clearances

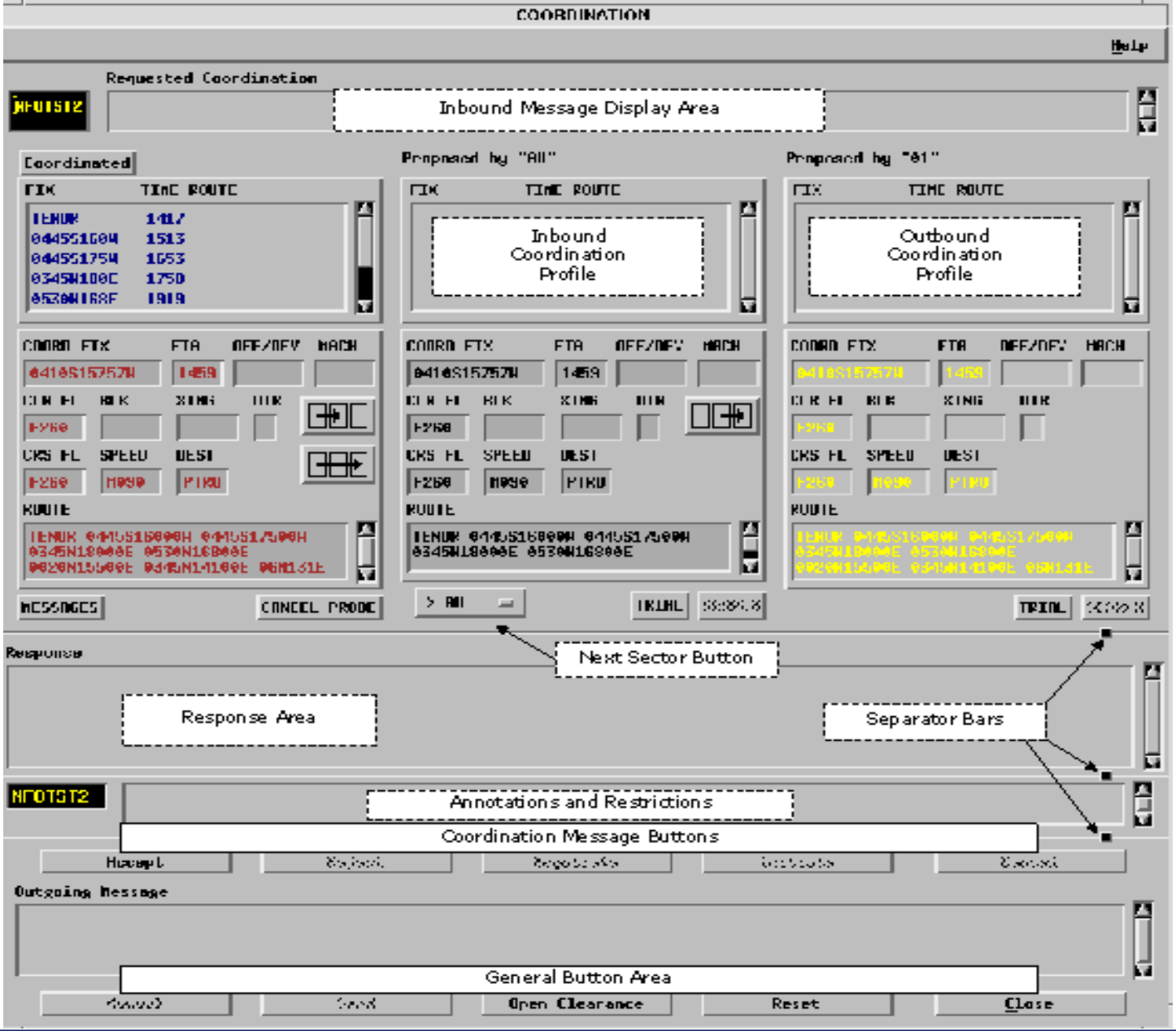


The Coordination Process

All Aircraft are coordinated into and out of New York Oceanic via the ATOP system coordination window. The coordination window can handle all areas of manual or automated data transfer. The coordination window also has functionality to probe all inbound aircraft for conflicts, and any that are identified by the system must be examined by the controller prior to accepting the aircraft into the airspace. Currently, depending on the facility, we have four ways to coordinate flight plan data:

1) Fully functional Inter-facility Data Communications (AIDC) 2.0 - Santa Maria
2) Partially functional AIDC - Gander
3) No AIDC, but with current active flight plan data transfer - FAA NAS facilities
4) No AIDC, and no active flight plan data transfer – Moncton/Piarco ACC's

New York Center Oceanic controllers interact with all adjacent facilities, using the coordination window, with varying degrees of automated capability identified by Letter of Agreement (LOA).


COORDINATION
Help
Requested Coordination
Inbound Message Display Area
Coordinated
Prepared by "All"
Prepared by "01"
FIX
TIME ROUTE
Inbound Coordination Profile
Outbound Coordination Profile
COMRN FIX
ETA
OFF/DEV
MACH
CRS HL
SPEED
ROUTE
MESSAGES
CANCEL PROBE
Next Sector Button
Response
Response Area
Separator Bars
Annotations and Restrictions
Coordination Message Buttons
Outgoing Message
General Button Area
Open Clearance
Reset
Close

Planned ATOP System Enhancements

There are three main new technologies that will be introduced into the ATOP system within the next 6 months, These are:

1. **ADS-C Climb/Descent Procedure (CDP)**
2. **ADS-B In Trail Procedure (ITP)**
3. **Level Range Deviation Event ADS-C Contracts**

The following provides details about each function, which will illustrate one main and important difference between the two.

ADS-C Climb/Descent Procedure (CDP)

- Climb/descent procedure when less than standard separation exists
- Minimum of 15 nautical miles (NM) longitudinal separation
  - 25 NM at initiation for faster aircraft in back (no more than 0.02M)
- Requires CPDLC and position report accuracy of 0.25 NM or better (Figure of Merit 6 or higher)
- **Controller-initiated procedure**
  - Climbing/descending and blocking aircraft may become aware of aircraft in proximity at less than standard separation
- ATOP designed to check for required minima
- ICAO State Letter authorizing use of ADS-C CDP issued 23 June, 2016
  - Document 4444 publication November 10, 2016
- Planned ZWY Implementation - by 01 December 2016
  - Already operational in Oakland and Anchorage Oceanic
- AIP and FAA JO 7110.65 procedures finalized

ADS-B In Trail Procedure (ITP)

- Climb/descent procedure when less than standard separation exists
  - Aircraft on same track
  - Difference between ITP and reference aircraft 2000ft. or less. No maximum climb constraint.
- Minimum of 15 nautical miles (NM) longitudinal separation at procedure initiation
  - PANS ATM/Doc. 4444 minimum is 10 NM.
    - 15 NM used to account for compression during climb/descent
- **Pilot requested/initiated procedure**
- Requesting aircraft equipped with ADS-B in/out and controller pilot datalink communication (CPDLC**)**
- ATOP verifies speeds to check for overtake situations
- Planned ZWY Implementation – February/March 2017.

  -- already implemented Oakland and Anchorage Centers
- AIP and FAA JO 7110.65 procedures developed
- Ref. PANS-ATM Doc. 4444 5.4.2.7; FAA AC 90-144A

Level Range Deviation Event ADS-C Contracts

In the next baseline software upgrade (T-25), FAA will introduce Level Range Deviation Event (LRDE) Contracts to the current list of event contracts for all FANS-1A aircraft who logon to KZWY.

This contract will trigger and send an immediate report to ATC whenever the FMS detects that an aircraft is more than **200 feet** vertically out of conformance than the altitude currently being held in the FMS and expected by ATC.

There will be separate contracts established for aircraft in level flight versus climbing/descending.

New York Center Datalink Procedures

Datalink Procedures

The logon for the entirety of New York Center CTA/FIR, both OCA East and West is: **KZWY**

Flight crews *must* logon to both CPDLC and ADS-C

ADS-C contracts are set for:

Event:

WPC – Waypoints

LDE – Lateral Deviation Events – set to 5NM or greater

LRDE – Level Range Deviation Event – set to trigger at greater than 200 ft

(will be implemented Jan-March/2017)

PER – **Periodic**: Reporting interval set to:

832 seconds for RNP-10 (14 minutes)

576 seconds for RNP-4 (10 minutes)

On Demand Contracts are also available at any time for control personnel

- The Global Task Force convened to examine establishing a standard to further reduce the time of the periodic reporting interval has completed its work and forwarded its conclusions to ICAO.

LOGON Procedures for Aircraft Entering/Exiting the KZWY Data-link Service Area From Adjacent Data-link Airspace.

- ADS-C and CPDLC services will transfer automatically between Santa Maria ACC, Gander Oceanic and New York Center.
- CPDLC will transfer automatically between Moncton ACC, Gander Oceanic and New York Center.
- Pilots should check the ACTIVE Center as they cross the FIR boundary inbound to New York to ensure that the KZWY is the ACTIVE Center. When exiting New York Oceanic airspace, check to ensure the connection is ACTIVE with correct next ANSP.
- If the active center is not correct within 5 minutes after the boundary is crossed, pilots shall ensure all open uplinks from the previous ATC unit have been responded to, then terminate the CPDLC connection and log on to KZWY.

Position Reporting- Data-Link

- After entering the New York Oceanic FIR (KZWY), normal waypoint position reports will be received via ADS.
- Due to the types of ADS contracts that are established, time revisions need not be passed via CPDLC or HF.
- Operators should ***NOT*** use CPDLC for position reports. If ADS is not available, revert to HF voice position reports.
- **DO** use CPDLC for clearance requests, or for communication not associated with waypoint position reports.
- The ATOP system cannot accept CPDLC position reports containing latitude and longitude (Lat/Long) in ARINC 424 format (e.g. 4050N). CPDLC position reports containing Lat/Long waypoints within the KZWY Data-link service area will be accepted in whole latitude and longitude format only (e.g. 40N050W).

New York Oceanic Datalink Issues -Discussion

There are five main areas regarding Datalink operations that has impact to operations. These are:

1. **Aircraft not confirming that New York is CDA upon entering KZWY airspace.**
2. **Aircraft logging on to KZWY when they are not entering the airspace, or when entering the airspace without an associated FPL.**
3. **Aircraft NOT logging off of previous facility**
4. **Mismatch between registration used in AFN logon as compared to the one filed in the FPL.**
5. **Issues with FMS message storage capacity**
6. **Impact of VHF Datalink implementation at major U.S. Terminals.**

Datalink Issues Reporting

For any issues relating to technical or operational aspects of the use of FANS-1A, there is a Central Monitoring Agency where those issues can and should be reported to. All reported issues are given a tracking number, and are examined by all facets of industry involved in datalink services. These include:

ANSP's, Aircraft manufacturers, FMS system manufacturers, Satellite service providers, etc.

The website to access data and to report new issues are:

- http://www.ispacg-cra.com/about.asp
- http://www.ispacg-cra.com/problem_reports.asp

DATACOMM/VHF Datalink (VDL) Issues

The FAA DATACOMM program has now installed VHF based Terminal Datalink at several major international airports. One unforeseen effect of the new technology was a noticeable spike in the number of aircraft equipped only with VDL logging to New York Oceanic (KZWY), which was developed as SATCOM only. However, because the logon attempts were made while still within VHF range, the ATOP system accepted the connection.

Shortly after entering Oceanic airspace, these flights would leave VHF coverage area, and lose the connection. This causes confusion both to control personnel and flight crew alike, as both parties now have to figure out why messages are not transmitting anymore. Operational impacts have ensued whereby clearances/position reports have been missed or delayed, SIGMETS not issued, and risk introduced caused by increased workload.

DATACOMM/VHF Datalink Issues

Remediation:

In June/July 2017 There will be an ATOP system upgrade that will block any logon attempt by any aircraft that has not *filed* the J5/J7 code that indicates SATCOM capability, and send a message to ATC that indicates as such.

Until that time, flight crews *must* be made aware that they must not logon on to Oceanic Datalink if only equipped with VDL.

New York Oceanic Current Traffic Count and Aircraft Equipage Statistics

Traffic Count Comparison

New York Oceanic has continued the trend of an increase of aircraft operations in the first half of the year as compared to last:

	2015	2016	Inc. or (Dec).
Jan	27,486	28,610	4.10%
Feb	24,491	27,919	14.0%
Mar	28,324	29,294	3.40%
Apr	26,270	26,877	2.30%
May	25,886	26,341	1.78%
Jun	25,841	27,210	5.30%
Total	158,298	166,251	5.02%

Data Link/Equipage Statistics

United States FAA Reporting on Equipage in New York FIR - EAST
Period: Jan 01, 2015 to Jun 30, 2016 (12 months)

Month	ALL FLIGHTS							
	Total Flights	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B
Jan-15	**9,540**	**83%**	**77%**	**84%**	**82%**	**49%**		**49%**
Feb-15	**8,490**	**85%**	**78%**	**85%**	**83%**	**51%**		**49%**
Mar-15	**9,909**	**85%**	**76%**	**85%**	**84%**	**52%**		**52%**
Apr-15	**9,124**	**84%**	**76%**	**85%**	**84%**	**52%**		**51%**
May-15	**9,950**	**86%**	**80%**	**86%**	**86%**	**53%**		**55%**
Jun-15	**10,399**	**86%**	**82%**	**87%**	**86%**	**52%**		**55%**
Jul-15	**9,761**	**86%**	**79%**	**87%**	**87%**	**49%**		**51%**
Aug-15	**9,875**	**87%**	**80%**	**87%**	**87%**	**49%**		**50%**
Sep-15	**8,979**	**87%**	**83%**	**88%**	**88%**	**50%**		**53%**
Oct-15	**8,914**	**89%**	**85%**	**89%**	**89%**	**52%**		**56%**
Nov-15	**9,219**	**90%**	**85%**	**90%**	**89%**	**64%**		**58%**
Dec-15	**9,876**	**89%**	**84%**	**90%**	**88%**	**61%**		**55%**
Jan-16	10,070	90%	84%	90%	88%	65%		55%
Feb-16	10,103	90%	85%	90%	89%	68%		56%
Mar-16	10,201	90%	84%	90%	89%	68%		54%
Apr-16	9,407	90%	84%	90%	89%	70%		53%
May-16	10,184	91%	86%	92%	90%	74%		58%
Jun-16	10,834	92%	85%	92%	90%	75%		60%

Data Link/Equipage Statistics

Month	OTS FLIGHTS							
	% of Total Flights	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B
Jan-15	11%	91%	91%	92%	92%	63%		62%
Feb-15	12%	94%	94%	94%	95%	68%		63%
Mar-15	14%	94%	93%	95%	95%	70%		64%
Apr-15	13%	95%	96%	96%	96%	67%		69%
May-15	21%	95%	96%	96%	96%	66%		70%
Jun-15	23%	94%	95%	95%	95%	64%		68%
Jul-15	13%	95%	96%	96%	95%	65%		67%
Aug-15	11%	96%	97%	96%	97%	66%		67%
Sep-15	14%	94%	96%	95%	95%	65%		70%
Oct-15	15%	95%	96%	95%	95%	62%		73%
Nov-15	16%	96%	97%	97%	96%	87%		77%
Dec-15	10%	95%	96%	96%	96%	82%		77%
Jan-16	15%	95%	96%	96%	96%	91%		76%
Feb-16	20%	94%	96%	95%	95%	92%		76%
Mar-16	13%	96%	97%	97%	97%	93%		79%
Apr-16	8%	97%	97%	97%	97%	93%		80%
May-16	18%	97%	97%	97%	97%	95%		78%
Jun-16	21%	96%	97%	97%	97%	95%		81%

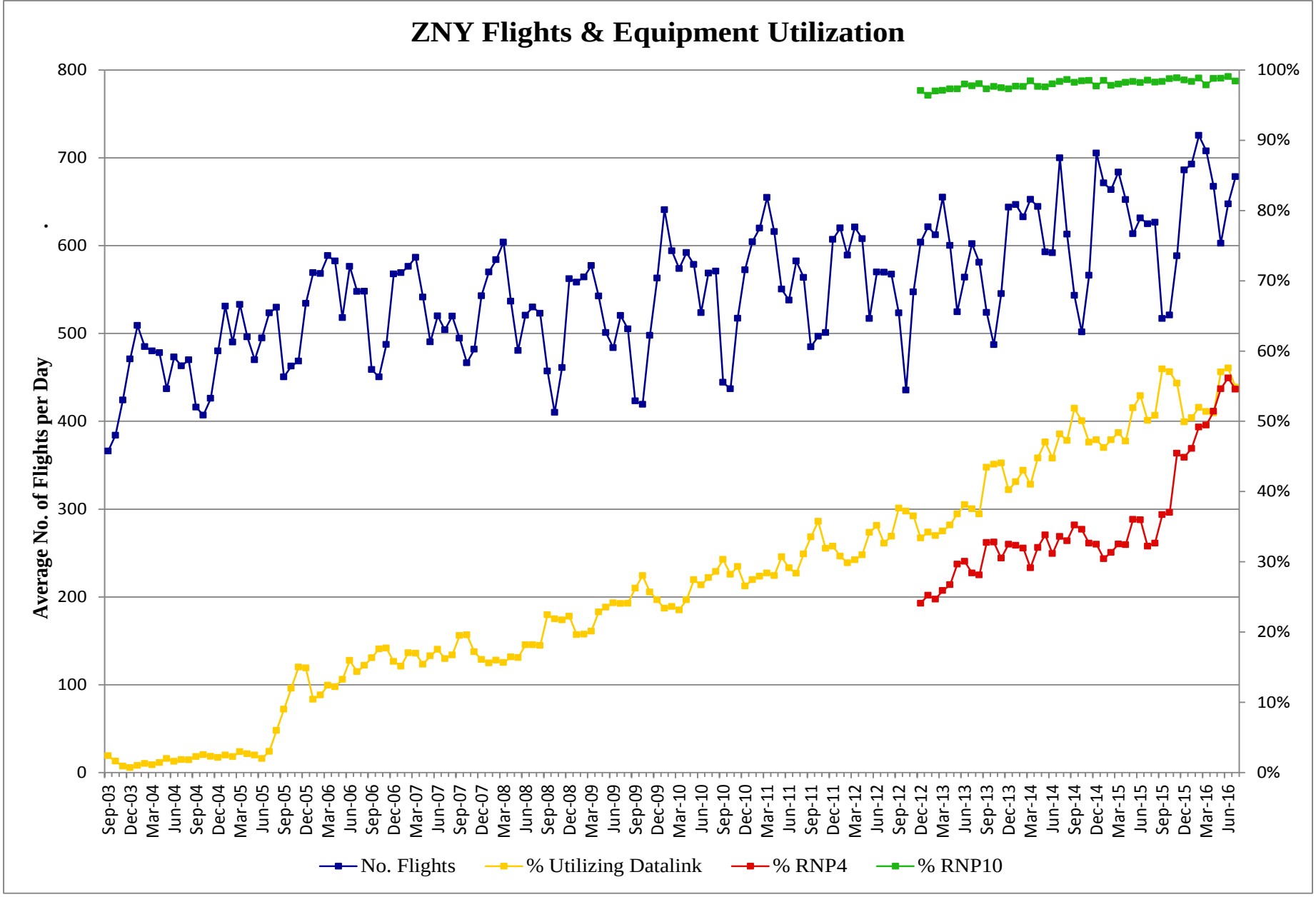
Data Link/Equipage Statistics

Month	NON-OTS FLIGHTS							
	% of Total Flights	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B
Jan-15	**89%**	**82%**	**75%**	**82%**	**81%**	**47%**		**47%**
Feb-15	**88%**	**83%**	**75%**	**84%**	**81%**	**49%**		**47%**
Mar-15	**86%**	**83%**	**73%**	**84%**	**82%**	**49%**		**50%**
Apr-15	**87%**	**82%**	**73%**	**83%**	**82%**	**50%**		**48%**
May-15	**79%**	**83%**	**76%**	**84%**	**83%**	**49%**		**51%**
Jun-15	**77%**	**84%**	**78%**	**85%**	**83%**	**49%**		**51%**
Jul-15	**87%**	**85%**	**77%**	**85%**	**85%**	**46%**		**49%**
Aug-15	**89%**	**85%**	**78%**	**86%**	**86%**	**47%**		**48%**
Sep-15	**86%**	**86%**	**81%**	**86%**	**87%**	**47%**		**50%**
Oct-15	**85%**	**88%**	**83%**	**88%**	**88%**	**50%**		**53%**
Nov-15	**84%**	**88%**	**82%**	**89%**	**88%**	**59%**		**54%**
Dec-15	**90%**	**88%**	**82%**	**89%**	**87%**	**58%**		**52%**
Jan-16	85%	89%	82%	89%	87%	61%		51%
Feb-16	80%	89%	83%	89%	88%	63%		51%
Mar-16	87%	89%	82%	89%	88%	64%		50%
Apr-16	92%	89%	83%	89%	88%	69%		50%
May-16	82%	90%	83%	90%	89%	70%		54%
Jun-16	79%	90%	82%	91%	89%	69%		54%

Data Link/Equipage Statistics

United States FAA Reporting on Equipage in New York FIR - WEST Period: Jan 01, 2015 to Dec 31, 2016 (12 months)								
Month	ALL FLIGHTS							
	Total Flights	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B
Jan-15	**17,978**	**43%**	**41%**	**43%**	**43%**	**30%**		**22%**
Feb-15	**16,021**	**43%**	**41%**	**43%**	**43%**	**31%**		**23%**
Mar-15	**18,441**	**45%**	**41%**	**45%**	**45%**	**32%**		**25%**
Apr-15	**17,161**	**44%**	**40%**	**45%**	**44%**	**31%**		**24%**
May-15	**15,943**	**48%**	**45%**	**48%**	**48%**	**34%**		**29%**
Jun-15	**15,446**	**49%**	**46%**	**50%**	**49%**	**34%**		**29%**
Jul-15	**16,634**	**47%**	**43%**	**48%**	**47%**	**32%**		**26%**
Aug-15	**16,172**	**46%**	**42%**	**47%**	**46%**	**30%**		**25%**
Sep-15	**12,677**	**54%**	**50%**	**54%**	**54%**	**35%**		**31%**
Oct-15	**13,167**	**52%**	**49%**	**53%**	**52%**	**35%**		**32%**
Nov-15	**15,220**	**52%**	**49%**	**52%**	**51%**	**45%**		**33%**
Dec-15	**18,517**	**46%**	**44%**	**46%**	**45%**	**45%**		**29%**
Jan-16	18,540	45%	44%	46%	45%	45%		28%
Feb-16	17,816	46%	45%	47%	46%	47%		29%
Mar-16	19,093	47%	46%	47%	47%	49%		29%
Apr-16	17,470	47%	45%	48%	47%	50%		29%
May-16	16,157	54%	50%	54%	53%	54%		35%
Jun-16	16,376	53%	49%	54%	53%	55%		36%

Current Performance Metrics


ZNY Flights & Equipment Utilization
Average No. of Flights per Day
800
700
600
500
400
300
200
100
0
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Sep-03
Dec-03
Mar-04
Jun-04
Sep-04
Dec-04
Mar-05
Jun-05
Sep-05
Dec-05
Mar-06
Jun-06
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Jun-12
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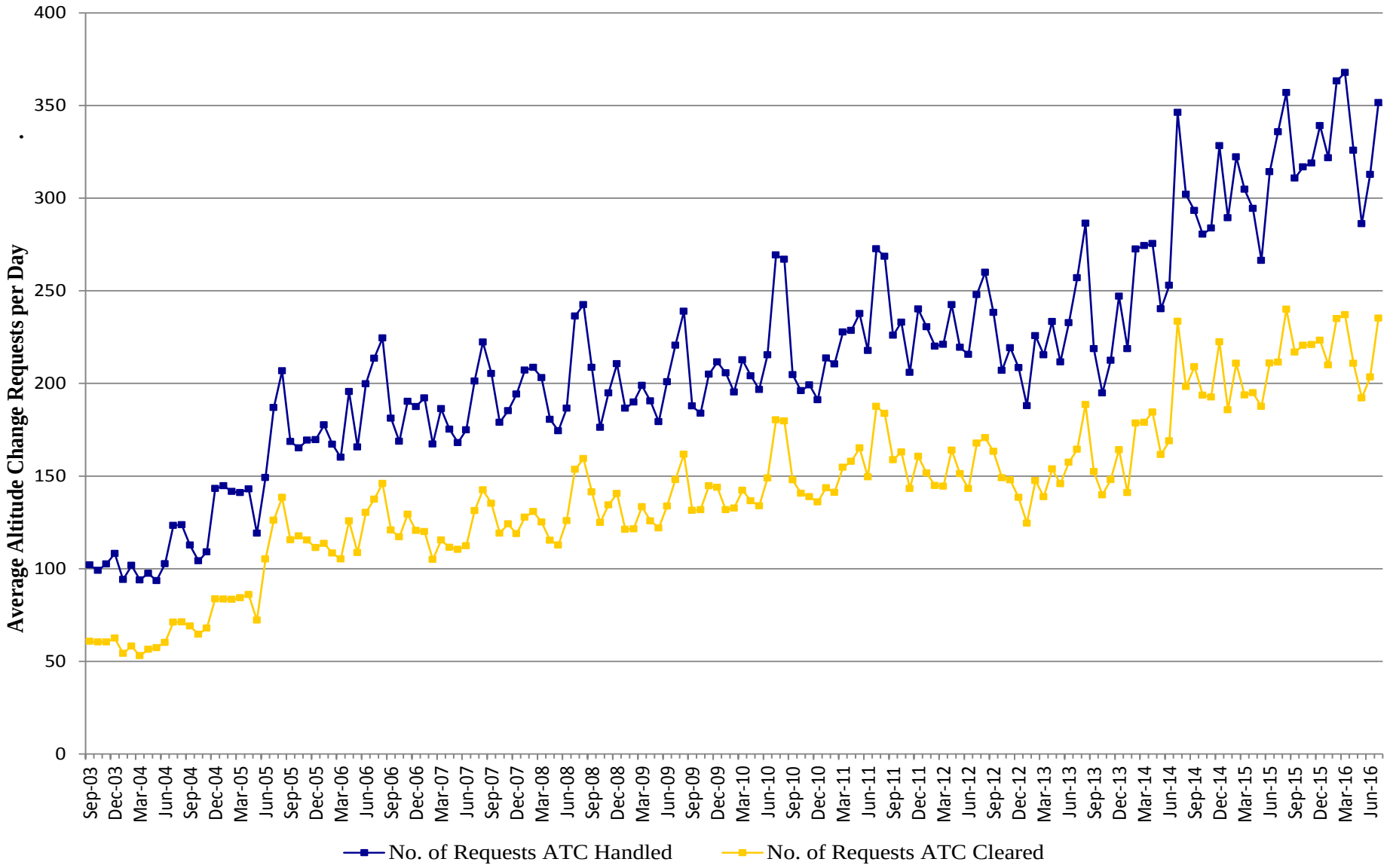
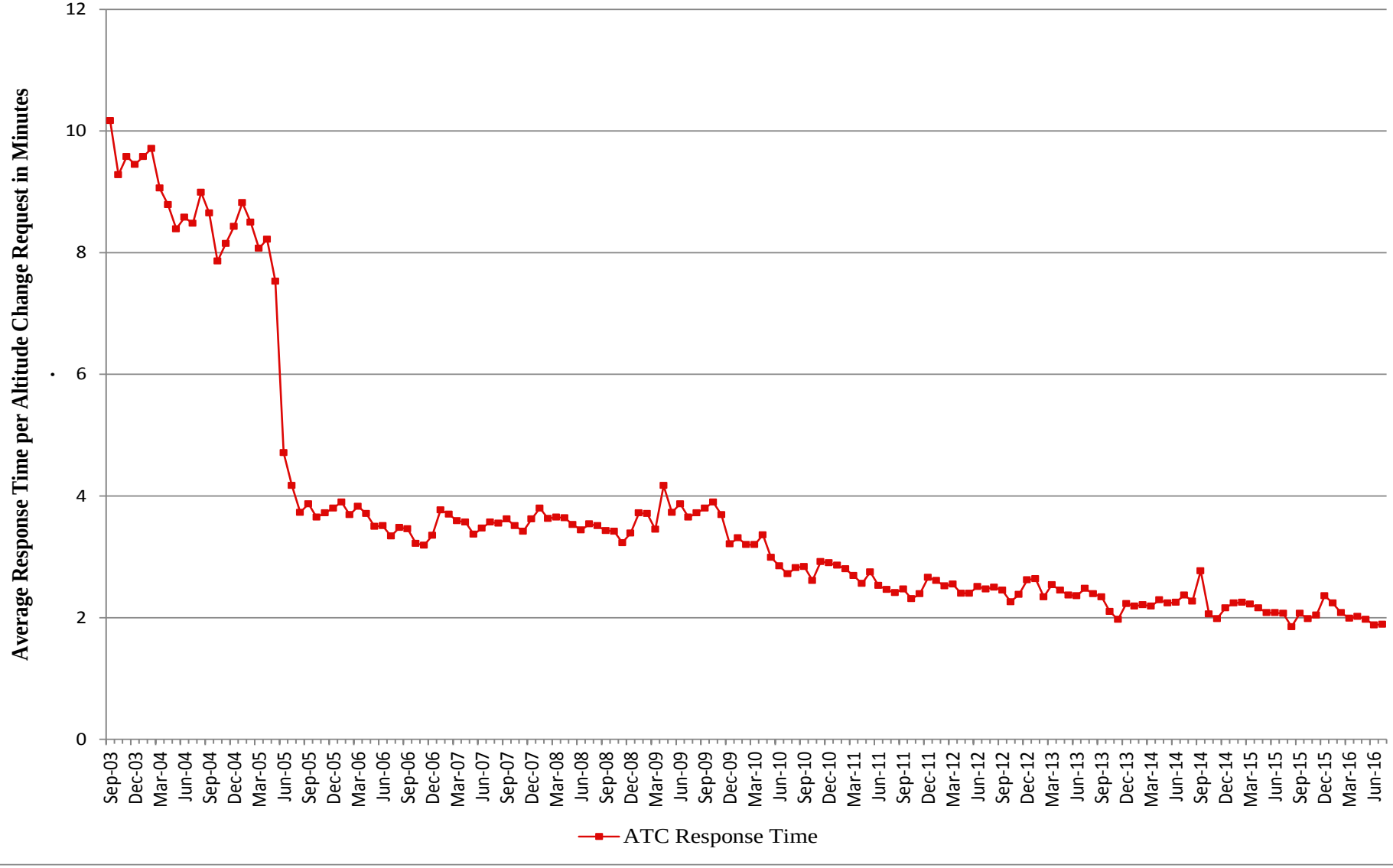
Jun-13
Sep-13
Dec-13
Mar-14
Jun-14
Sep-14
Dec-14
Mar-15
Jun-15
Sep-15
Dec-15
Mar-16
Jun-16
No. Flights
% Utilizing Datalink
% RNP4
% RNP10

ZNY Altitude Change Requests



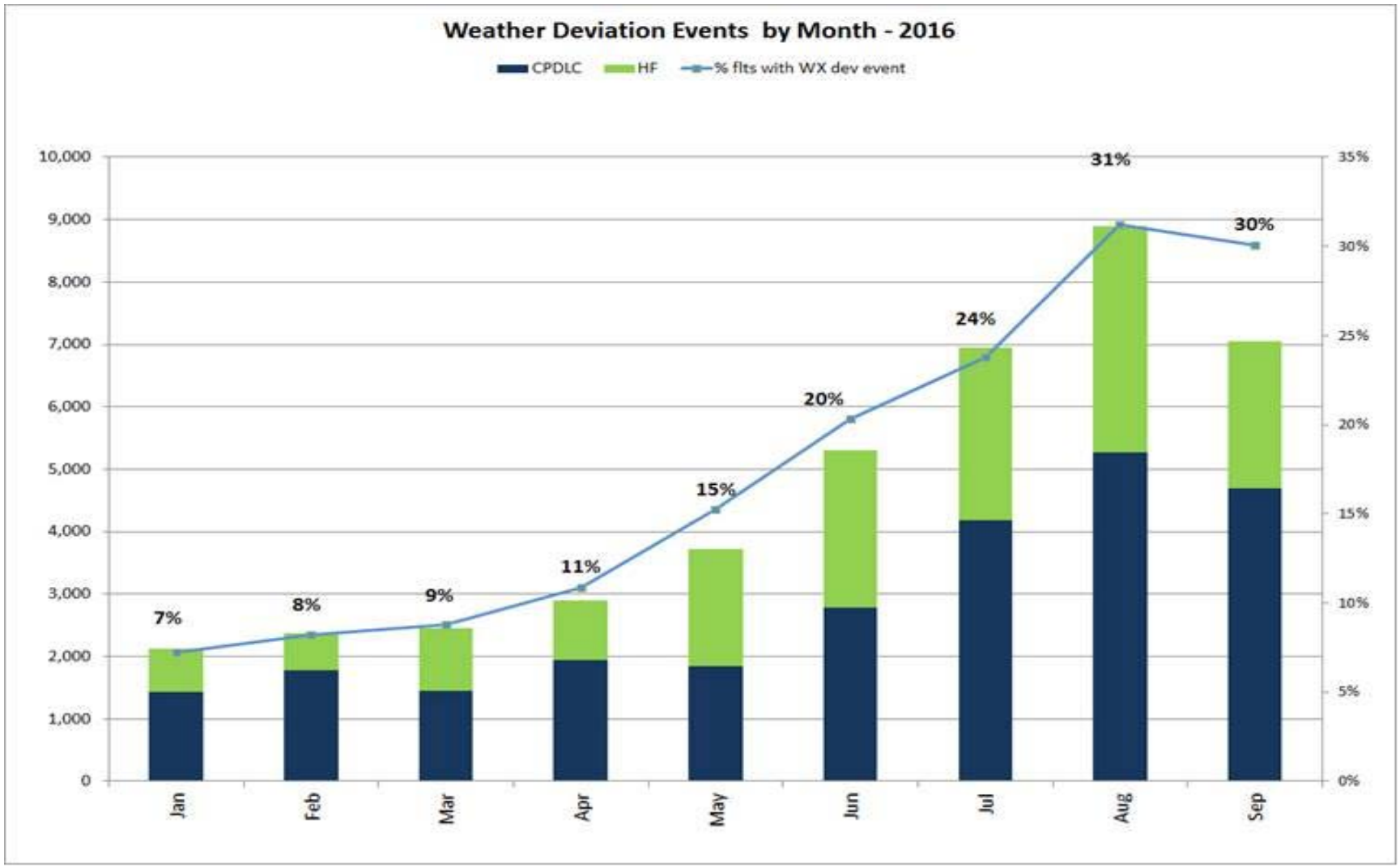
ZNY ATC Response Time to Altitude Change Requests



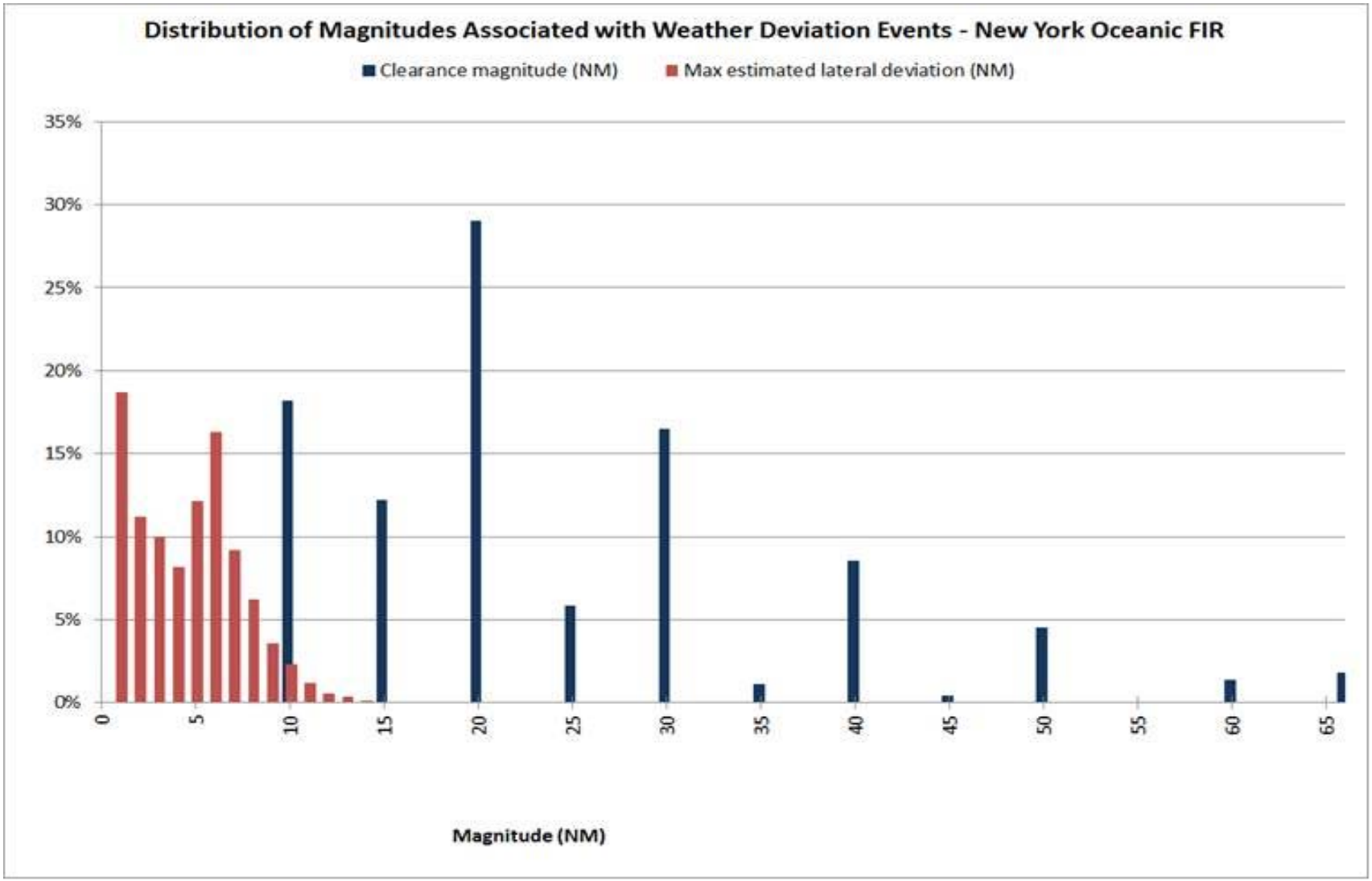
Weather Deviation Processing

Statistics and Issues with Aircraft Position Reporting

Weather Deviation Event Analysis



Weather Deviation Event Analysis



Impact of Weather Deviations on Postion Reporting and Estimates

In June, a controller reported an event whereby an aircraft on a left 25NM weather deviation clearance gave a next fix estimate that was 18 minutes off (later than) the ATOP estimate. He questioned the pilot three times to verify, and received the same estimate in reply. That estimate, when accepted by the controller, caused an immediate conflict whereby another aircraft had to be descended 2000 feet. The aircraft ultimately passed the next fix only TWO minutes later than the original estimate.

This prompted an investigation into the cause of the FMS providing an estimate that was so discrepant. Thanks to the cooperation of a few airlines, it was determined that certain FMS characteristics aboard both Boeing and Airbus aircraft, when flying the deviation in “heading select” mode, hindered the FMS capability to accurately predict the time over the next waypoint when flying “abeam” a reporting point.

What Was Happening?

As explained, whenever a weather clearance was flown in heading mode, it basically corrupted the FMS ability to predict future times because it disengaged the LNAV from the route held in the system.

Also, when passing abeam the current fix:

Airbus aircraft would not release that fix from the database, and tried to navigate back to that fix before proceeding to the next. The further the aircraft flies away from the fix, the more corrupt the time will be downstream, cause it is now adding time to get back to the now previous fix. For FANS-1A aircraft, this causes the Aircraft Position Symbol (APS) to turn around on the display and fly “backwards.” Whenever control personnel see this, they are trained to send a clearance to the flight to “resequence waypoints”.

For HF only aircraft, if the times become corrupted, we get out of conformance messages that require the controller to go out and ask the flights to “confirm next waypoint estimate”.

Frequency of Occurrence

We then went back over the data from the last 15 days, and inquired about how many messages of this type we were sending for aircraft were on cleared deviations.

The results showed that control personnel had issued fifty-nine “resequence waypoint” messages to CPDLC aircraft, and seventy-five “confirm next waypoint ETA” messages to HF aircraft that were on a cleared weather deviation.

This raised a level of concern due to the amount of workload being placed upon ATC to have to constantly ask aircraft to provide updated or correct data.

Impact of Weather Deviations on Postion Reporting and Estimates

Based on that information, and working with FAA Flight Standards Office, Offshore and Oceanic Procedures office, and the other two Oceanic facilities, it was determined that the best course of action was for AFS to issue a Safety Alert for Operators (SAFO) that brings attention to the problem, and suggests what cockpit procedures should be followed to prevent issues from occurring.

Since this document has to be approved at the FAA Administrator level, there has been a delay in the final processing of the document, as the final language is agreed upon. Since we believe that has now taken place, we expect that document will be issued shortly.

Updates on FAA Performance Based Communication and Surveillance (PBCS) Approvals and Monitoring

Updates to Procedural and Technological Changes Between New York Oceanic and Piarco Area Control Center

Piarco/New York Procedural Changes

On July 21, 2016, Piarco ACC and New York Center entered into an agreement that commenced an operational trial that incorporated agreements that were initially agreed upon during a bi-lateral meeting in February, 2016. These new procedures included the following:

For aircraft entering the Piarco continental airspace (at or west of 18N057W):

- Piarco will accept aircraft at any altitude regardless of direction prior to 2000Z
- Piarco will tactically accept aircraft from New York at every ONE degree of longitude, with a goal to also eliminate the current AIP restriction of filing with TWO degrees of longitudinal spacing at 18N.
- Piarco has submitted a PfA to the Caribbean Region to enable their airspace to have a 50 NM lateral standard for RNP/RNAV-10 or greater equipped aircraft
- New York Center ensures that a beacon code assignment is generated and issued to every aircraft that will enter the Piarco Continental airspace. New York then passes that code during the coordination process. This allows for aircraft to be automatically identified by their operating system prior to crossing the common boundary at 18 North.

Piarco/New York Technological Changes

Datalink:

On July 14, 2016, New York and Piarco Centers began officially transferring FANS-1A connections between the two facilities.

AIDC:

On June 27, 2016, New York and Piarco Centers conducted formal testing between the ATOP and Selex systems for AIDC 2.0. The results of those tests indicated that the Selex system would require modification before certain types of messages under the NAT ICD protocol could successfully be exchanged. We are awaiting indication from Piarco so that another test can be scheduled

New Notional PBN Route to Brazil

During the last OWG, we reported about a new PBN route that was under development that will provide a more streamlined route option to Brazil from the Northeast U.S/Canada.

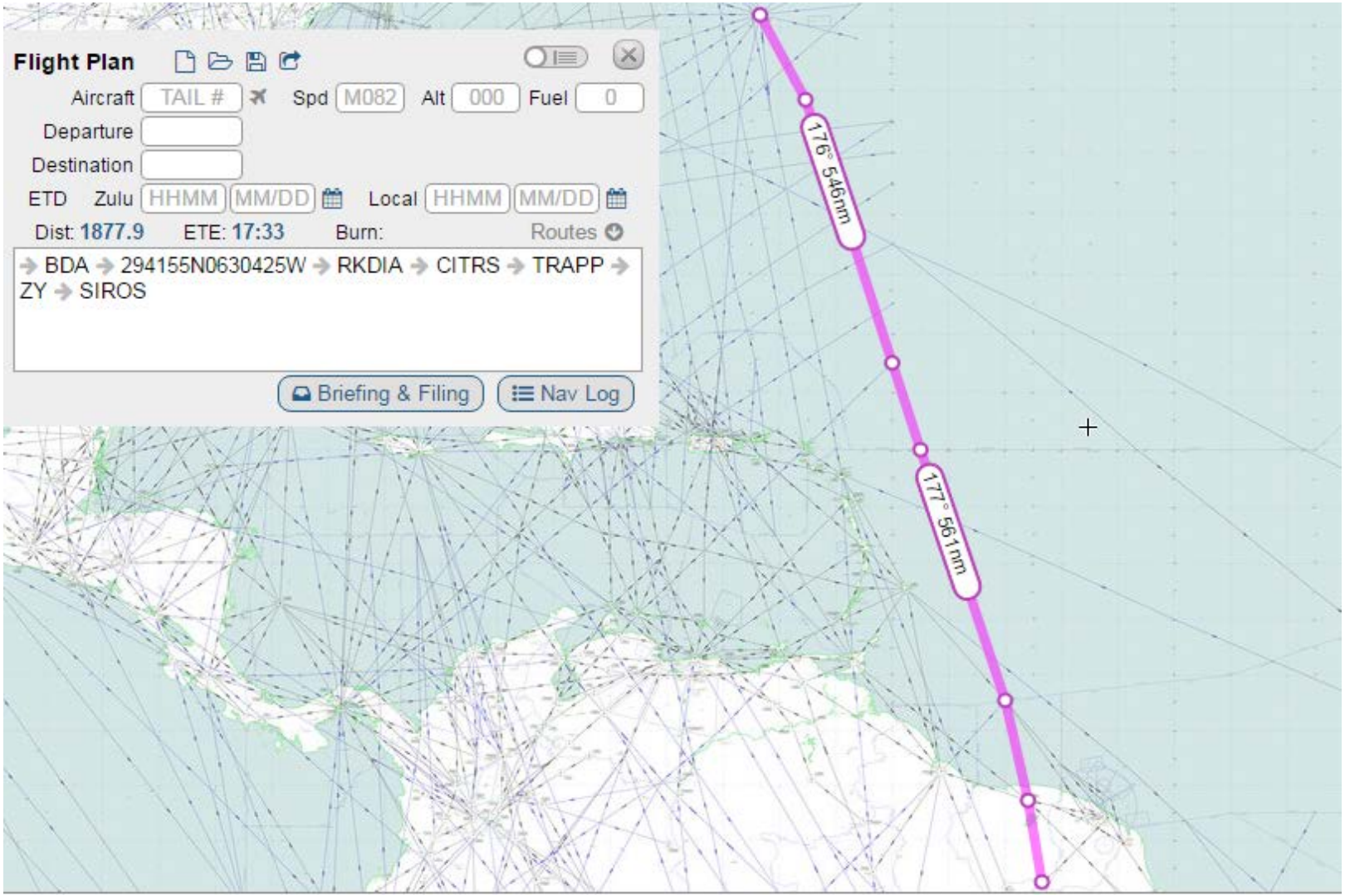
With the cooperation of several States/ANSP's, as well as vetting through IATA, that route has now been submitted to the ICAO NACC Regional office for processing. This new route, to be named L463, will originates at the Bermuda VOR (BDA), and run southeastward.

Note: FAA was just informed that the new route will be named L576/UL576 due a pre-existing L463 airway

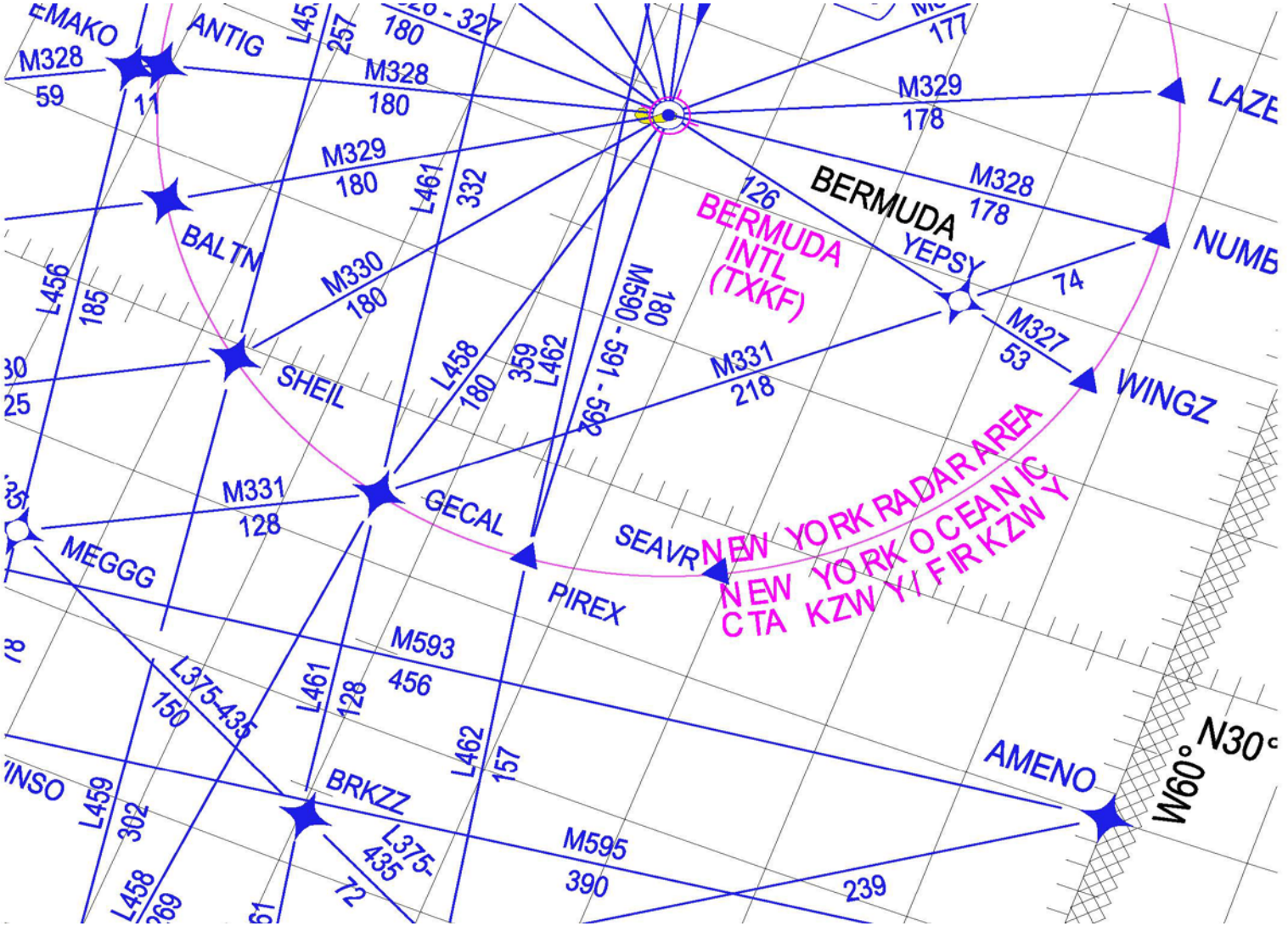
The new route was presented to the ICAO NAT Region during the 2nd meeting of the Procedures and Operations Group.

To facilitate the new route, a new fix, SEAVR, has been added southeast of BDA VOR at 180DME, and will be officially published as of November 10, 2016

~~L463~~ L576/UL576



New Fix SEAVR



L463 Fixes

WAYPOINT/ SIGNIFICANT POINT	LATITUDE	LONGITUDE
BDA	*32 22 16.43*	*064 41 33.28*
SEAVR	*29 41 55.89*	*063 04 25.02*
RKDIA	*21 00 00.00*	*060 00 00.00*
CITRS	*18 00 00.00*	*059 00 00.00*
TRAPP	*09 05 05.00*	*055 59 29.00*
ZY	*05 27 01.00*	*055 11 03.00*
SIROS	*02 28 28.00*	*054 41 33.00*

ICAO NAT Region Updates

ICAO NAT Region Updates

ICAO just published bulletin EUR/NAT 16-0517.TEC, which is the official announcement that the planned implementation date for Phase 2 of the RLatSM Operational trials. This was originally planned for November 10, 2016.

At the Second Meeting of the North Atlantic Procedures and Operations Group (NAT POG/2) (12 to 16 September 2016 in Paris, France), it was informed that a number of issues have been identified that required the Phase 2 implementation to be delayed. A new implementation date will be determined by the Shanwick and Gander operations and this information will be promulgated officially with a minimum of 2 months' advance notice.

ICAO NAT Region Updates

FAA and New York Center have been participants to several NAT Regional Project Teams, which were convened to advance the work programs of the contributory bodies of the Implementation Management Group (IMG). These include:

- **No Mid-Ocean SELCAL Check**
- **Development of CONOPs Document for Space Based ADS-B**
- **PBCS**
- **RLatSM Phase 2 Implementation**

ICAO NACC Region Updates

New York Domestic Offshore Airspace Redesign Project

Offshore Airspace Re-design Project

During the holiday periods in winter 2013 and 2014, the offshore sectors that link the New York metro area and New York Oceanic airspace became nearly unmanageable to operate due to the amount of volume introduced into those sectors during peak traffic periods. New initiatives such as the Holiday Airspace Release Program contributed to that volume.

Issues that needed to be examined included:

- Confined lateral airspace between W105 / W107
- Existing traffic flows result in conflictions between arrival and departure flows for all coordination fixes
- Route saturation on L453 with north and southbound traffic, compounded during severe weather
- ZNY86 and ZNY65 sector split complicates sector management and workload balancing
- Lack of published holding patterns in ZNY86
- Traffic Management Initiatives

Offshore Airspace Redesign
Creation of New Offshore Sector 85

Background

- The FAA tasked MITRE to work with ZNY on airspace issues and develop solutions at offshore sectors 86/65.
- The goal was to keep all the changes contained within ZNY airspace.
- The modifications to 86/65 were made to reduce operational limitations in the current sector design.

Design Work Included

- Review & Refine arrival/departure procedures to completion
- Design must incorporate “holiday routings” & recent operational changes
- Design should consider new “Q” route development activity

Implementation

- **Phase I: HOBOH STOOG and SHOKR fixes introduced – 9/15/2016**
- **Phase II: High Low Split of 86 to 86/85, moving boundary of 86/65 to the West Effective October 13, 2016**
- **Phase III: New fixes/holding patterns to accompany arrival/departure route changes**

  Effective March/April 2017
- **Phase IV: PBN Procedures on EWR/JFK arrivals and departures**

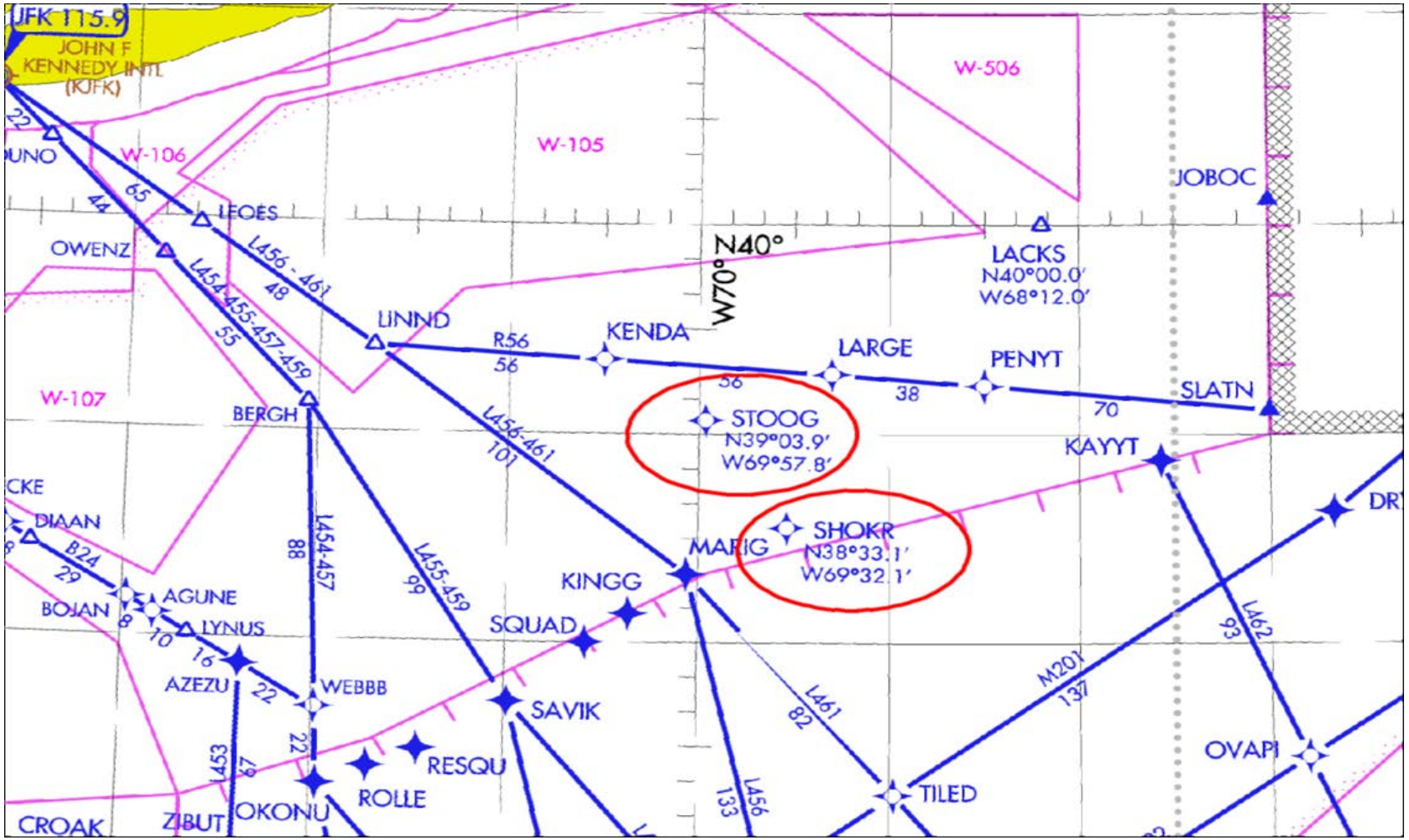
  Under development

We will review Phase 1 and Phase 2

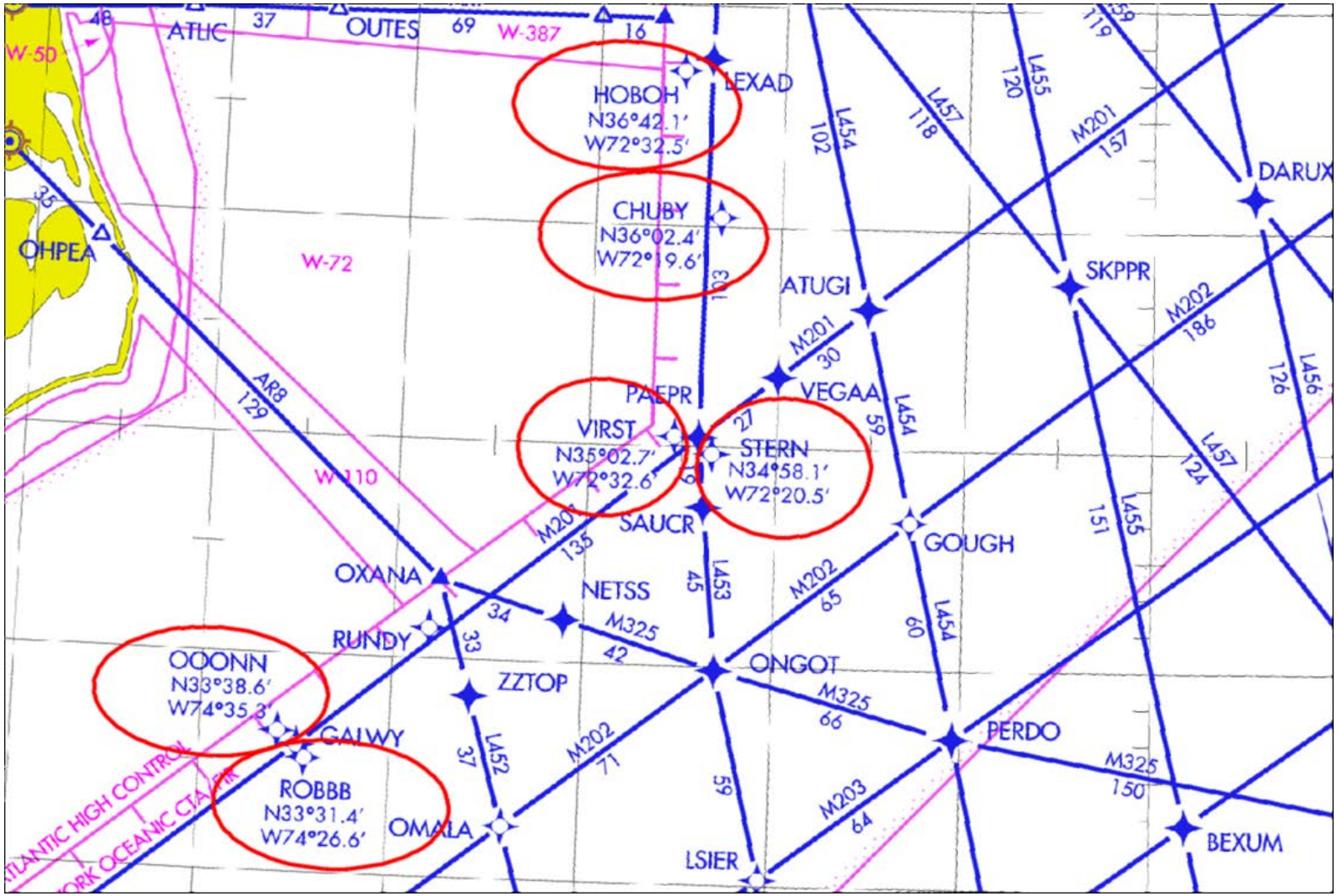
Phase 1
September 15, 2016 - New Waypoints Added

CHUBY	[**chuhb**-ee]	**STERN**	[sturn]
HOBOH	[**hoh**-boh]	**STOOG**	[stooj]
OOONN	[awn]	**TUBBS**	[tubhs]
ROBBB	[rob]	**VIRST**	[vurst]
SHOKR	[**shok**-er]	**WHOOS**	[hooz]

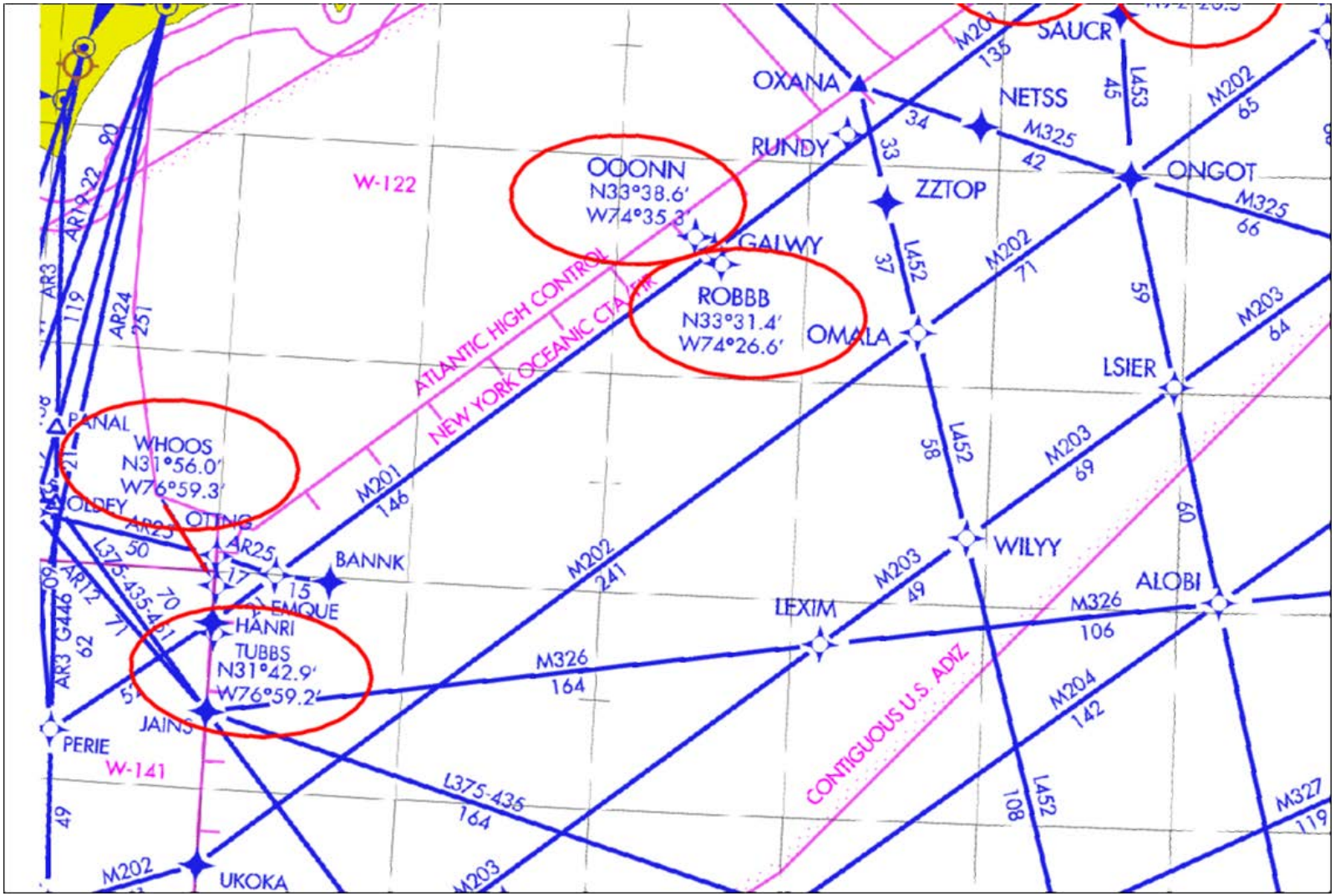
New Fixes Location



New Fixes Location



New Fixes Location



New NOTAM – Reference L453

KZNY A0255/16 - L453 IS NOT AUTH BTN AZEZU AND PAEPR. USERS WISHING TO USE L453 MUST FILE:

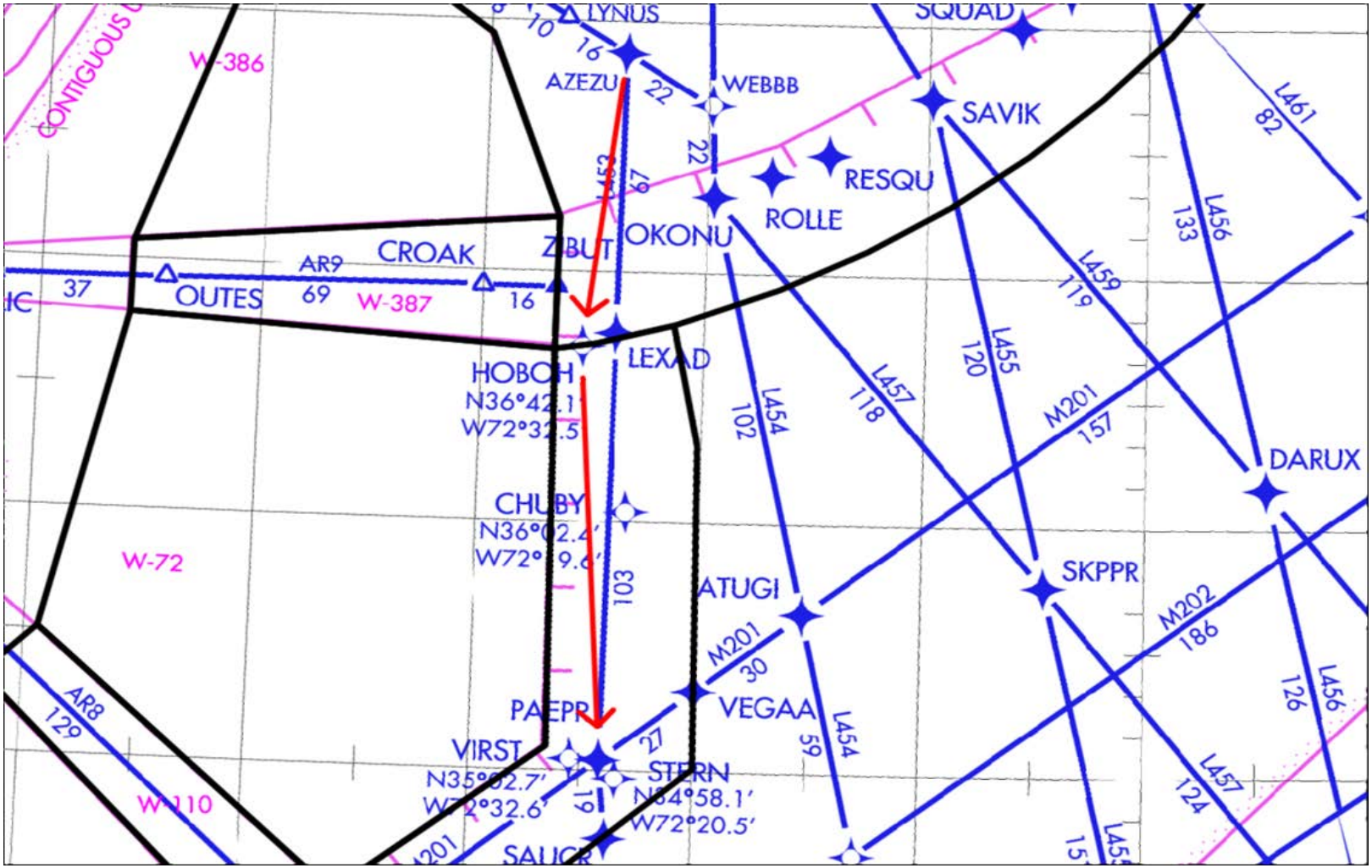
NORTHBOUND: PAEPR HOBOH AZEZU

SOUTHBOUUND: AZEZU HOBOH PAEPR.

15 SEP 09:01 2016 UNTIL PERM.

Purpose: To de-conflict the protected route width of L454 during times when Oceana Long Range Radar is out of service, and New York Center is running ADS-B only operations through the offshore surveillance sector.

Phase 1 – Continued
Re-routing of Traffic Between AZEZU and PAEPR



Phase 2 – Creation of New Offshore Sector

During their airspace review, Mitre conducted some Human in the Loop (HITL) activities to test a new design of the airspace. The results of those studies produced the following conclusions:

A three sector operation was more streamlined and efficient than the two sector operation in place.

- Reduces frequency congestion
- Balances sector workload:
- High sector (86) primarily handles transition to Oceanic airspace, and provides initial sequencing to arrival aircraft
- New low sector (85) primarily handles arrival and departure traffic to and from the New York metro airports, as well as Washington Center airports (PHL/IAD/DCA).
- Established several new holding patterns
- Created distinct arrival and departure corridors.

Phase 2 – Creation of New Offshore Sector

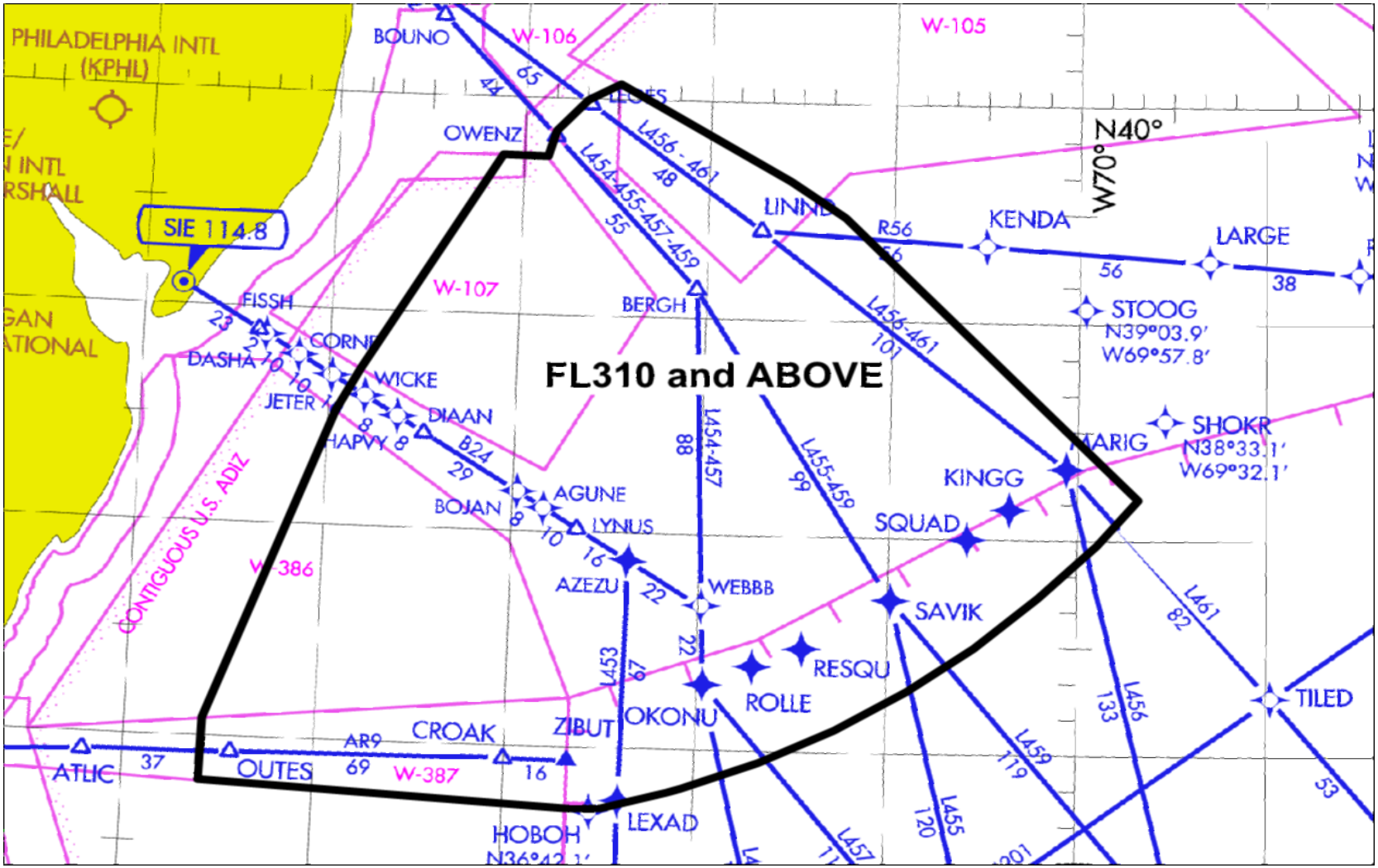
Effective October 13, 2016, New York Center has introduced a new sector that underlies the airspace currently in place at FL300 and below.

Note: Initially, there will be **NO** changes to any existing route structure or traffic patterns with this implementation. That will come in Phase 3. (March 2017)

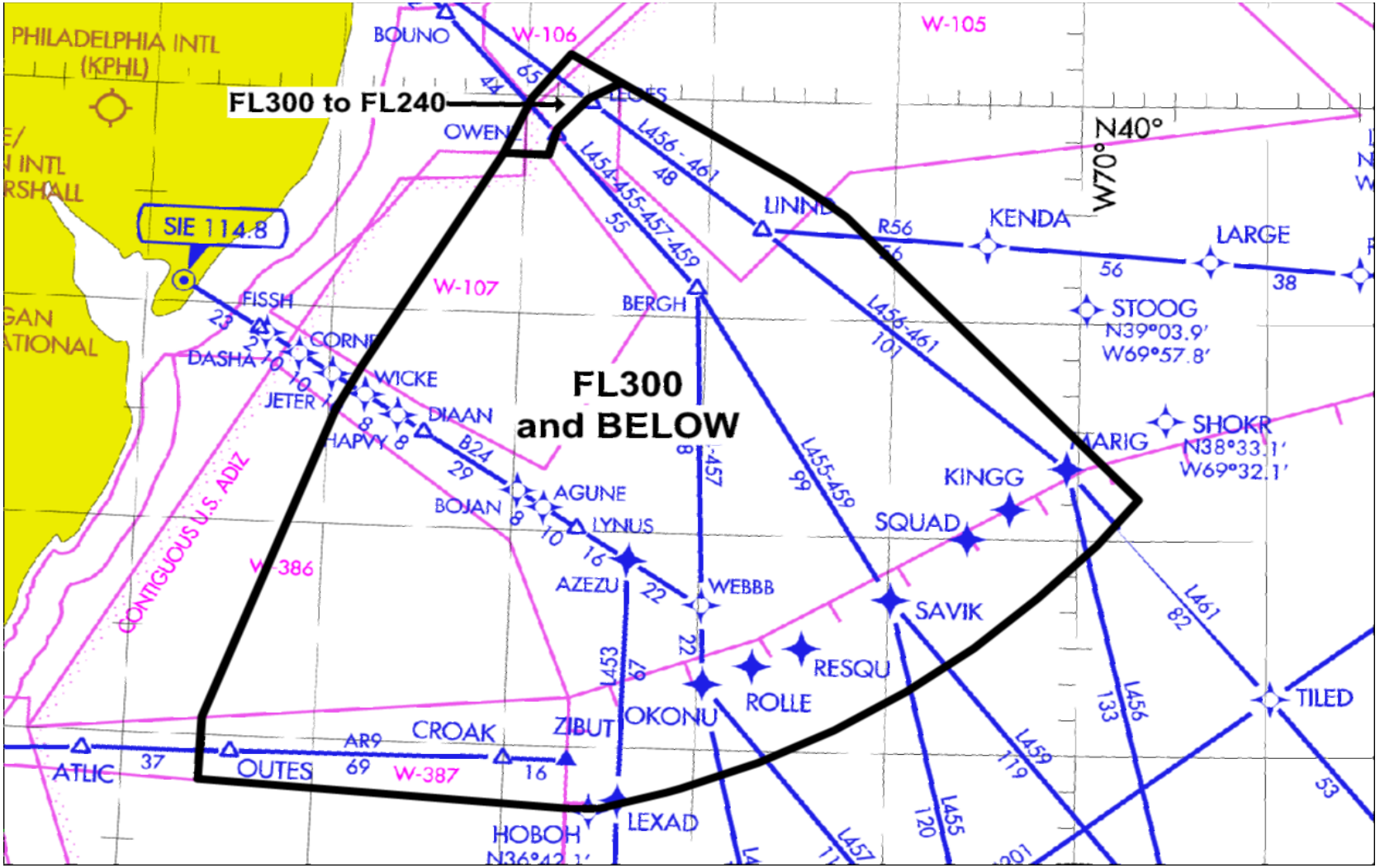
The new Sector will have primary frequency of 121.125, while the traditional sector, now at and above FL310, will retain 133.5

New York Center plans on opening both sectors frequently during the next two months. This will allow control personnel to become familiar with the new sector before the next holiday season arrives.

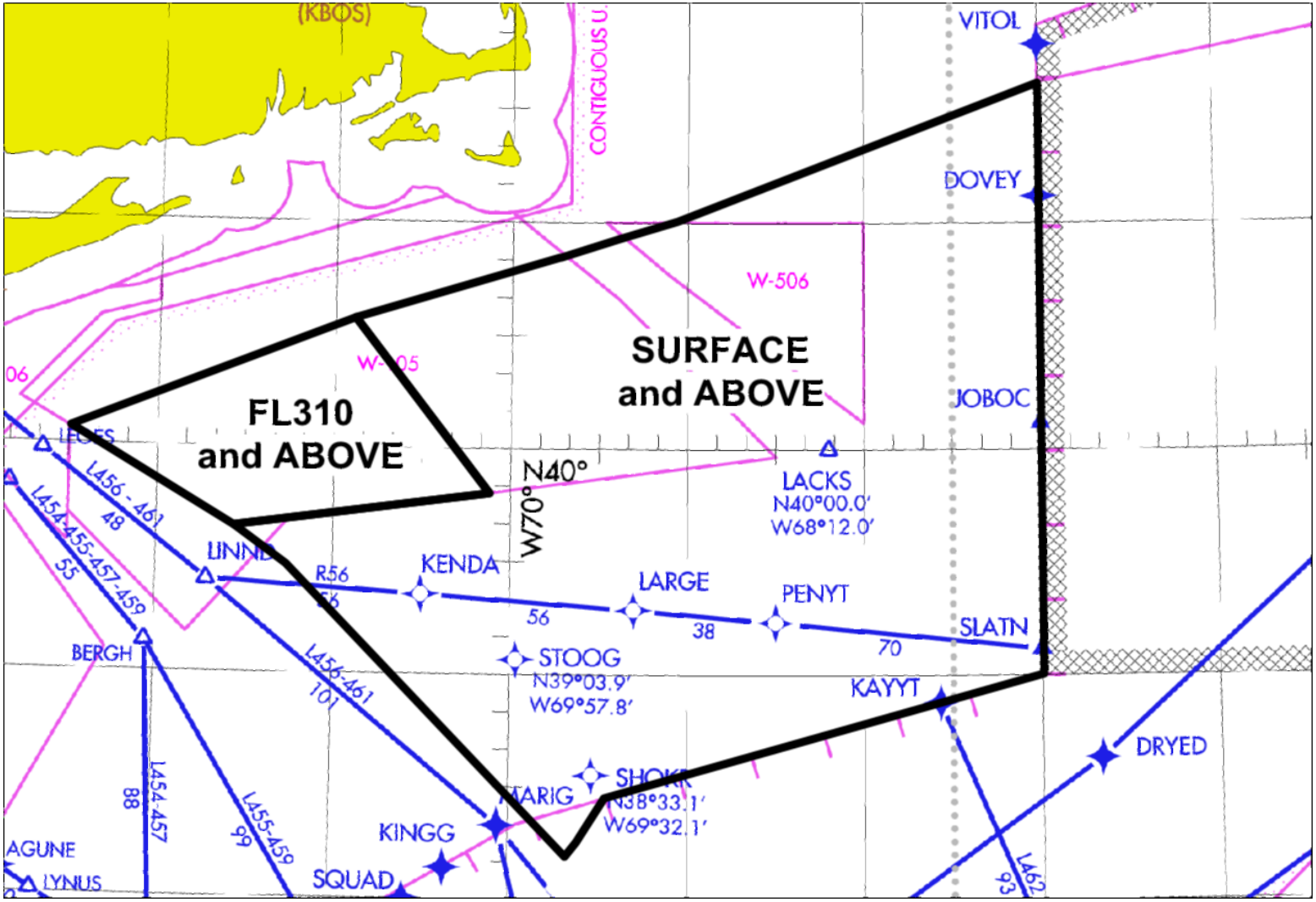
ATLANTIC Sector 86



OHRYN Sector 85



JOBOC Sector 65



2016 Holiday Route Plan Preview

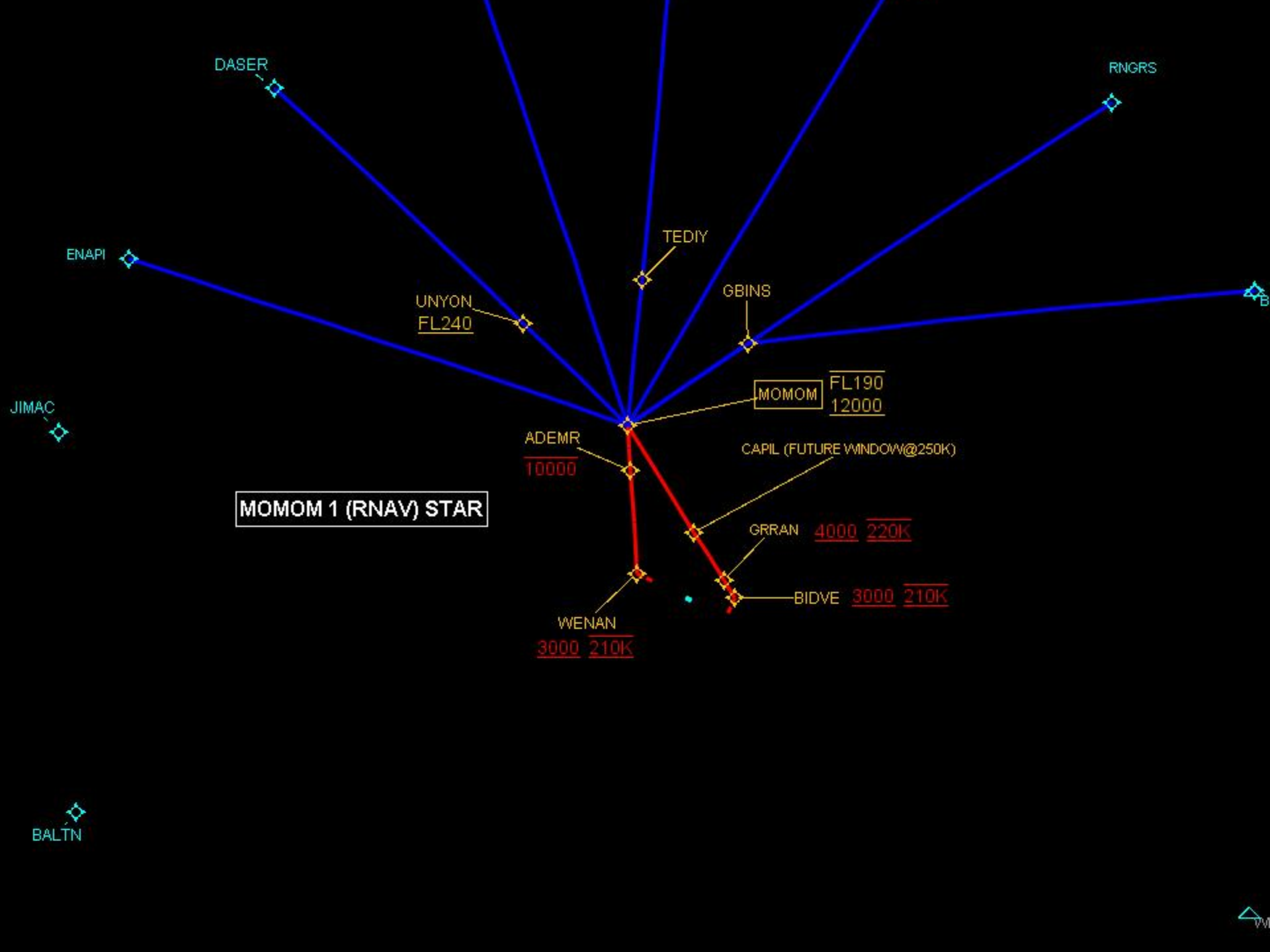
Bermuda SIDS/STARS Project

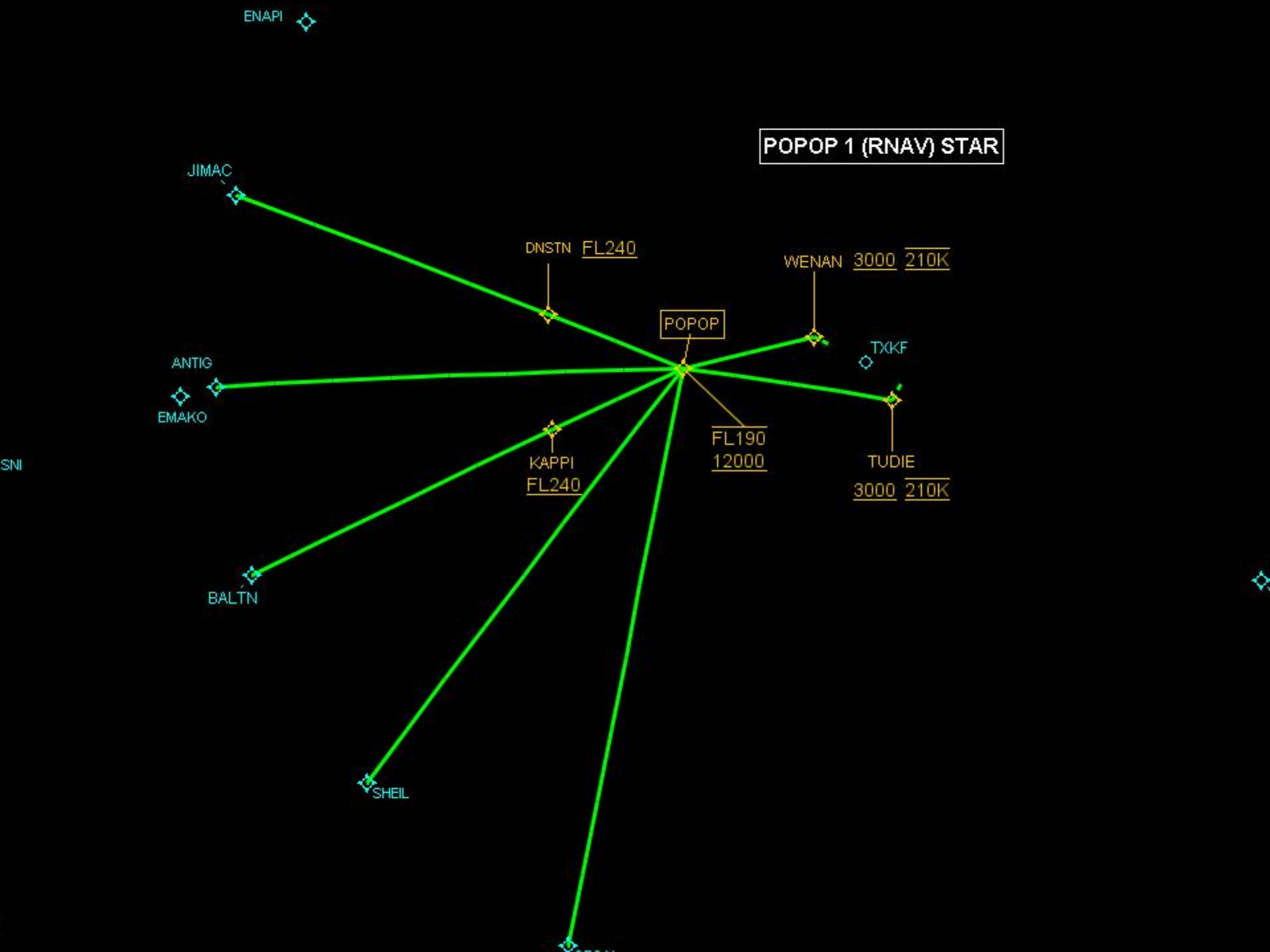
In accordance with Memorandums of Cooperation between Bermuda and the United States, the FAA Performance Based Navigation (PBN) office, in conjunction with a project team from New York Center, has developed new SIDs and STARs procedures for L.F Wade International airport. These will become effective March 02, 2017. These new procedures were designed to be procedurally separated from each other, so they can be utilized during times when the Bermuda Radar is not available. We anticipate that this will greatly reduce departure delays that are normally incurred during those outages.

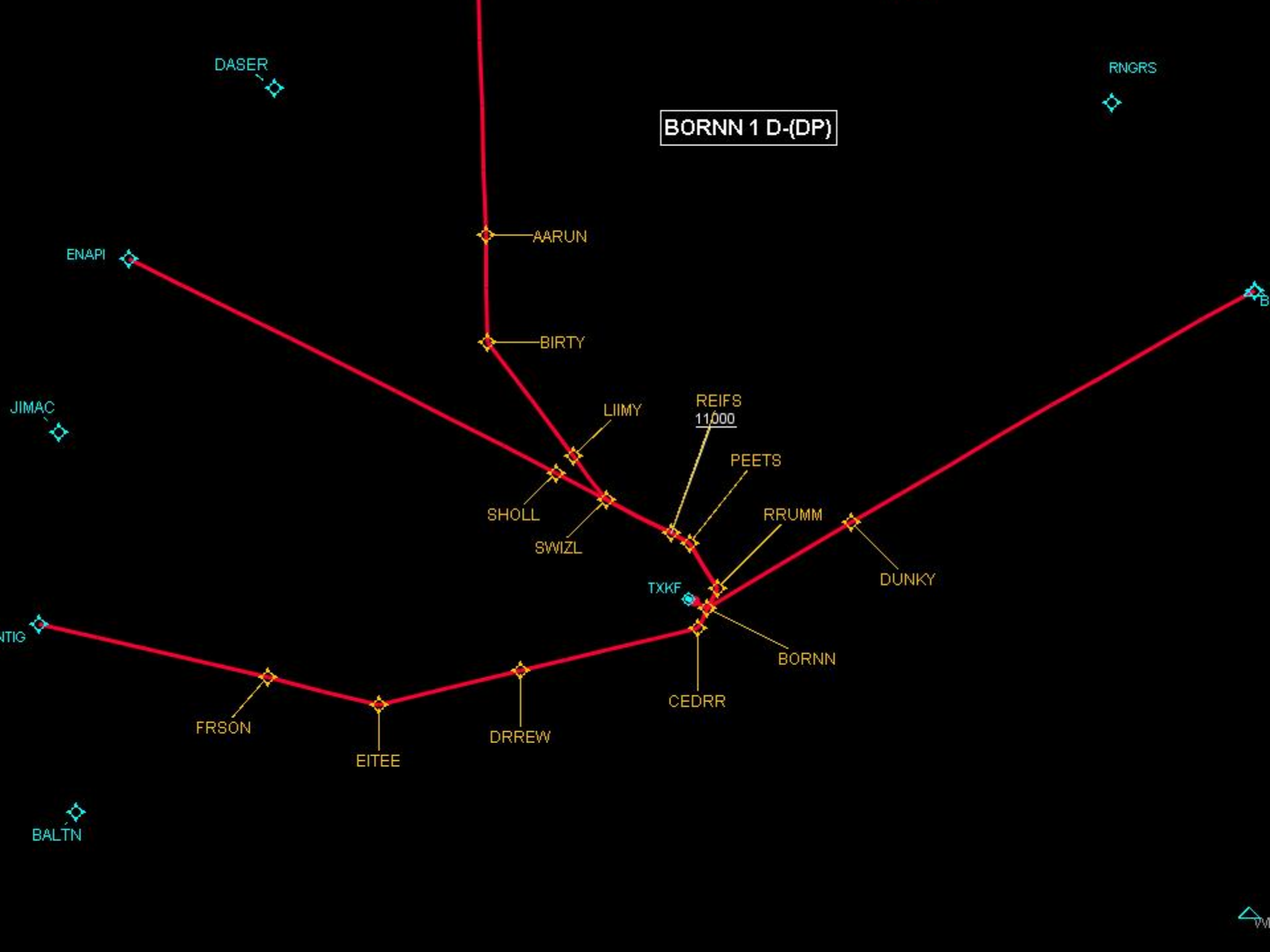
The current implementation plan call for:

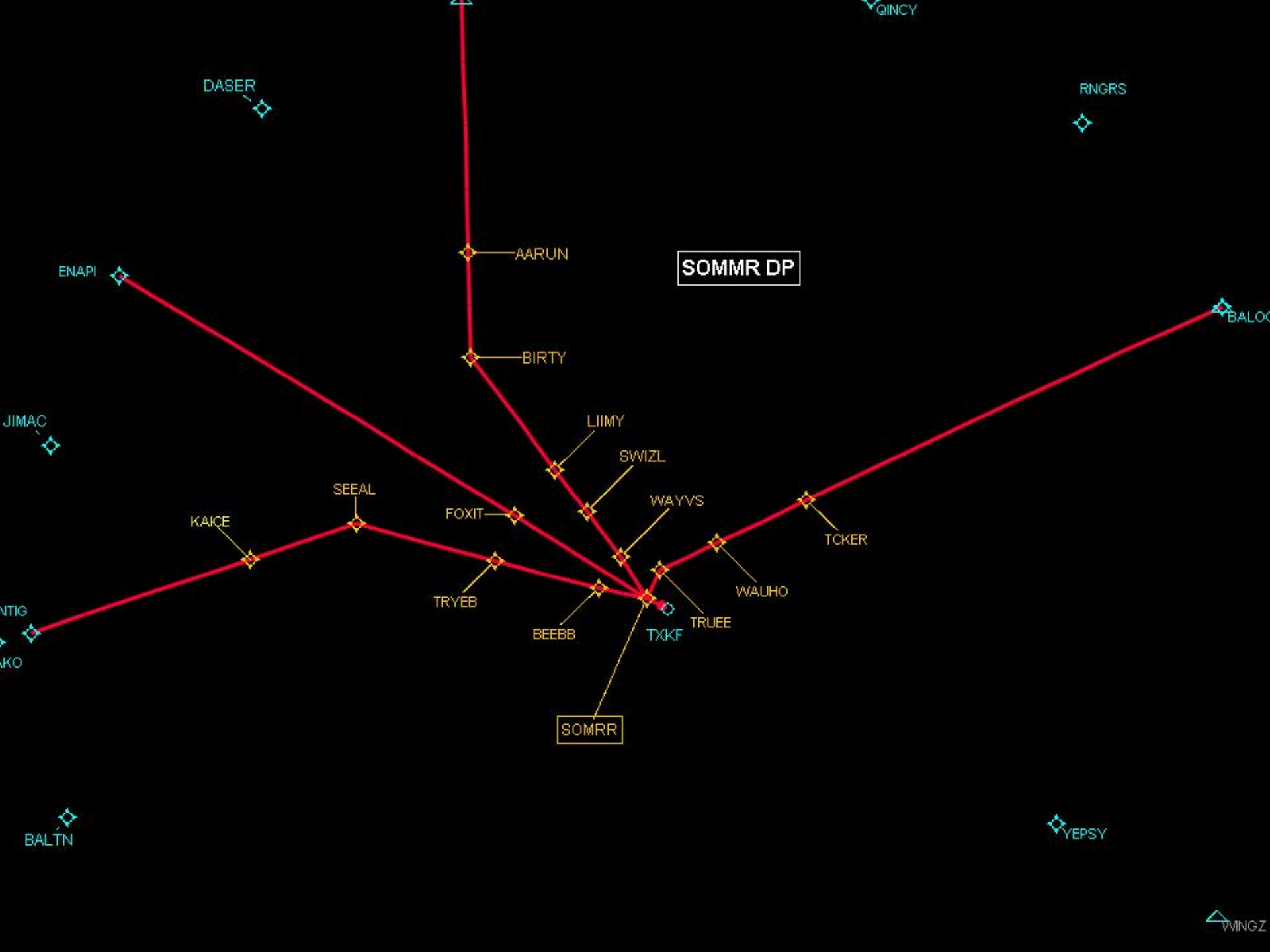
STARS: Available for users to file at any time

SIDS: Available to file ***only*** during non-radar operations. Traditional departure procedures will be used for normal operations.


DASER
RNGRS
TEDIY
ENAPI
UNYON
FL240
GBINS
JIMAC
MOMOM
FL190
12000
ADEMR
10000
CAPIL (FUTURE WINDOW@250K)
MOMOM 1 (RNAV) STAR
GRRAN
4000
220K
BIDVE
3000
210K
WENAN
3000
210K
BALTN


POPOP 1 (RNAV) STAR
ENAPI
JIMAC
DNSTN FL240
WENAN 3000 210K
POPOP
TXKF
ANTIG
EMAKO
SNI
KAPPI
FL240
FL190
12000
TUDIE
3000 210K
BALTN
SHEIL


BORNN 1 D-(DP)
DASER
RNGRS
AARUN
ENAPI
BIRTY
JIMAC
LIIMY
REIFS
11000
PEETS
SHOLL
RRUMM
SWIZL
DUNKY
TXKF
BORNN
CEDRR
FRSON
DRREW
EITEE
BALTN

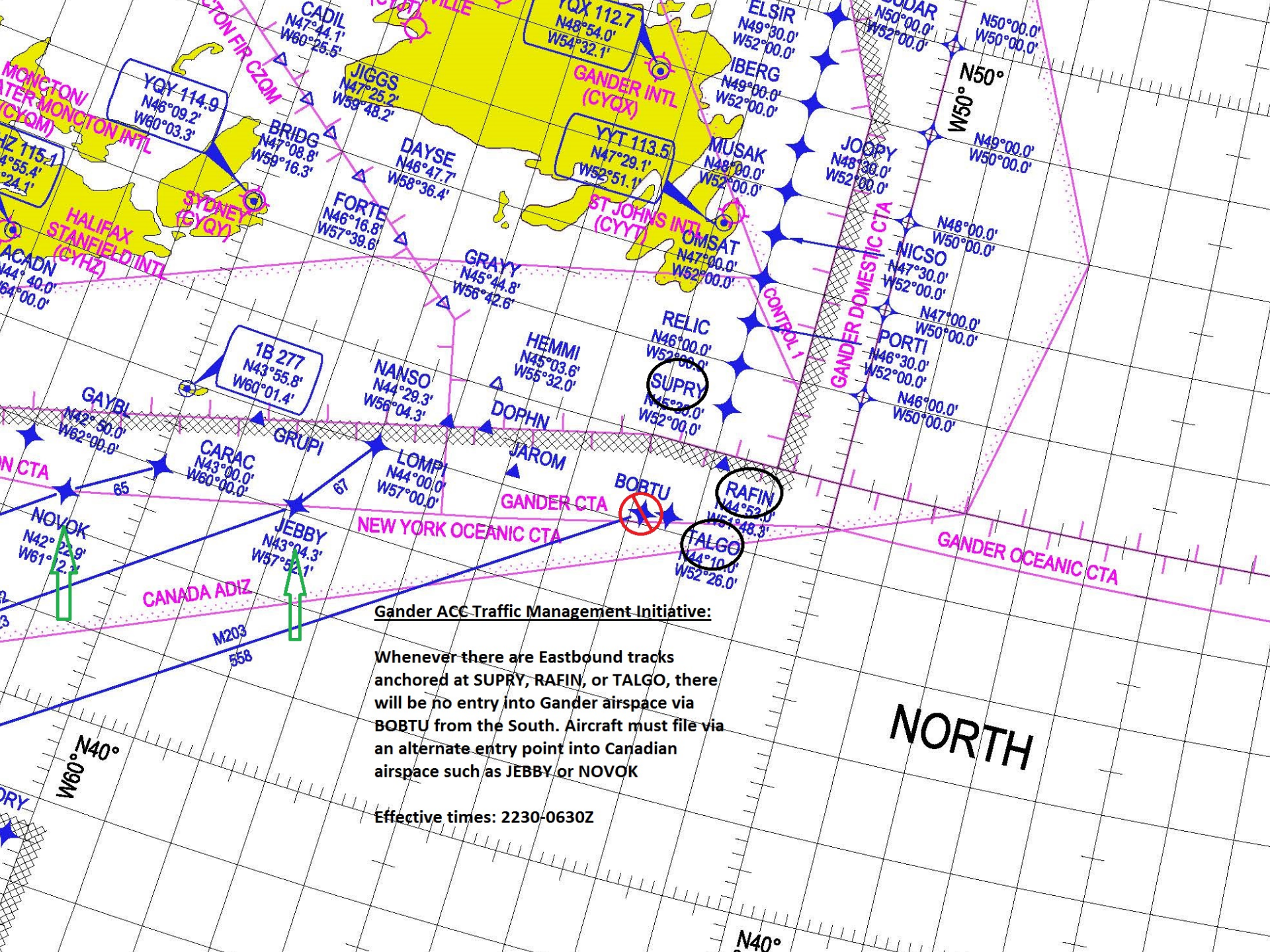

QINCY
DASER
RNGRS
AARUN
SOMMR DP
ENAPI
BIRTY
JIMAC
LIIMY
SWIZL
SEEAL
FOXIT
WAYVS
KAICE
TCKER
WAUHO
TRYEB
TRUEE
BEEBB
TXKF
SOMRR
BALTN
YEPSY

New Gander ACC Transition Restrictions

Recently, Gander ACC has begun restricting entry into their airspace via **BOBTU** whenever the Organized Track System (OTS) includes tracks that are just North of New York Oceanic airspace. This flow management initiative is due to operational difficulties they were experiencing in handling and processing aircraft onto tracks with a limited amount of time and airspace to perform all associated tasks, as well as merging aircraft from the south into heavier flows of traffic from the west.

Procedure: when there are published tracks with an entry point of **SUPRY, RAFIN, or TALGO,** aircraft will not be permitted to enter Gander airspace via BOBTU during the times of **2230-0630Z**

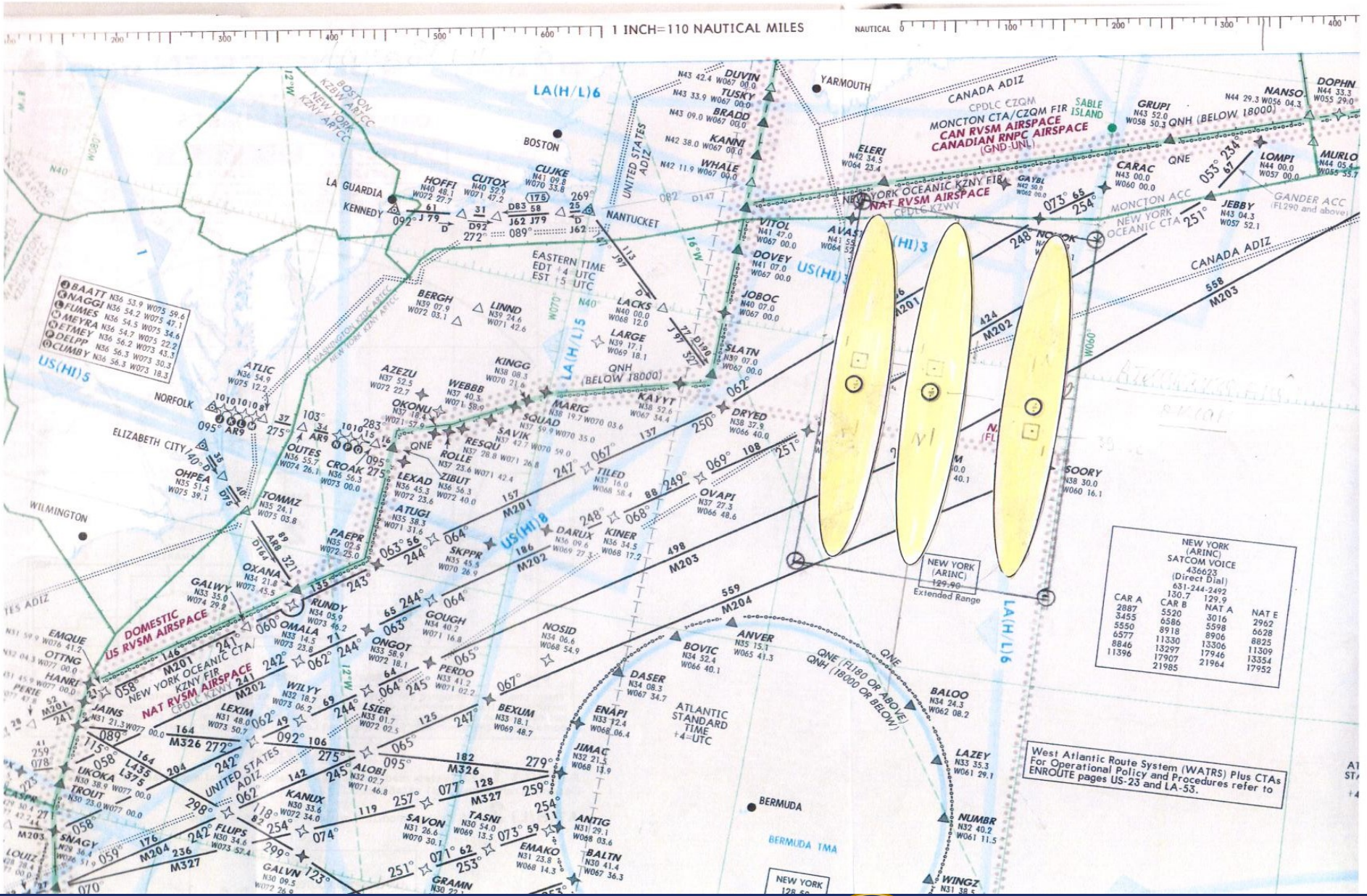
If applicable, this information will be included on both the official published Track Message, as well as the ATCSCC Track Advisory message


Gander ACC Traffic Management Initiative:
Whenever there are Eastbound tracks anchored at SUPRY, RAFIN, or TALGO, there will be no entry into Gander airspace via BOBTU from the South. Aircraft must file via an alternate entry point into Canadian airspace such as JEBBY or NOVOK
Effective times: 2230-0630Z
NORTH
GANDER OCEANIC CTA
NEW YORK OCEANIC CTA
GANDER CTA
GANDER DOMESTIC CTA
CONTROL 1
CANADA ADIZ
MONCTON FIR CZQM
HALIFAX STANFIELD INTL (CYHZ)
SYDNEY (CYQY)
GANDER INTL (CYQX)
ST JOHNS INTL (CYYT)
MONCTON/ MONCTON INTL (CYQM)
YQY 114.9
YQX 112.7
YYT 113.5
1B 277
CADIL
JIGGS
BRIDG
DAYSE
FORTE
GRAYY
HEMMI
NANSO
DOPHN
JAROM
LOMPI
GRUPI
CARAC
GAYBL
ACADN
NOVOK
JEBBY
SUPRY
BOBTU
RAFIN
TALGO
RELIC
PORTI
NICSO
OMSAT
MUSAK
JOOPY
IBERG
ELSIR
M203
558
65
67
N50°
W50°
N40°
W60°

New Russian Rocket Launch Danger Area

New York Center Oceanic has received initial notification of a high seas Danger Area that will be the result of rocket launch activity from the new Vostochny Cosmodrome located in Eastern Russia.

Several launches have been planned for 2017/2018, and could have impact to North Atlantic traffic flows depending on the time of the activity.


1 INCH=110 NAUTICAL MILES
NAUTICAL
LA(H/L)6
BOSTON
YARMOUTH
CANADA ADIZ
CPDLC CZQM
MONCTON CTA/CZQM FIR
CAN RVSM AIRSPACE
CANADIAN RNPC AIRSPACE
(GND-UNL)
SABLE ISLAND
GRUPI
QNH (BELOW 18000)
NANSO
DOPHN
ELERI
CARAC
QNE
LOMPI
MURLO
NEW YORK OCEANIC KZNY FIR
NAT RVSM AIRSPACE
CPDLC KZWY
GAYBI
MONCTON ACC
NEW YORK OCEANIC CTA
JEBBY
GANDER ACC
(FL290 and above)
LA GUARDIA
KENNEDY
HOFFI
CUTOX
CUJKE
NANTUCKET
UNITED STATES ADIZ
EASTERN TIME
EDT -4 UTC
EST -5 UTC
VITOL
DOVEY
JOBOC
SLATN
DRYED
AVAST
BERGH
LINND
LACKS
LARGE
KINGG
AZEZU
WEBBB
OKONU
MARIG
SQUAD
SAVIK
RESQU
ROLLE
ZIBUT
LEXAD
ATUGI
KAYYT
TILED
OVAPI
KINER
DARUX
SKPPR
PAEPR
CROAK
OUTES
OHPEA
TOMMZ
OXANA
GALWY
RUNDY
GOUGH
OMALA
ONGOT
PERDO
NOSID
ANVER
BOVIC
DASER
ENAPI
BEXUM
WILYY
LSIER
LEXIM
JAINS
UKOKA
TROUT
SNAGY
FLUPS
KANUX
ALOBI
SAVON
TASNI
JIMAC
ANTIG
EMAKO
BALTN
GALVN
GRAMN
LAZEY
BALOO
NUMBR
WINGZ
BERMUDA
BERMUDA 1MA
ATLANTIC STANDARD TIME +4=UTC
NORFOLK
ELIZABETH CITY
WILMINGTON
DOMESTIC US RVSM AIRSPACE
NEW YORK OCEANIC CTA
KZNY FIR
NAT RVSM AIRSPACE
CPDLC KZWY
US(HI)5
US(HI)8
LA(H/L)5
M201
M202
M203
M204
M326
M327
NEW YORK (ARINC)
129.90
Extended Range
NEW YORK (ARINC)
SATCOM VOICE
436623
(Direct Dial)
631-244-2492
130.7
129.9
CAR A
CAR B
NAT A
NAT E
2887
5520
3016
2962
3455
6586
5598
6628
5550
8918
8906
8825
6577
11330
13306
11309
8846
13297
17946
13354
11396
17907
21964
17952
21985
West Atlantic Route System (WATRS) Plus CTAs
For Operational Policy and Procedures refer to
ENROUTE pages US-23 and LA-53.

Open Forum/New Business

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