

NAT DATA LINK PERFORMANCE FOR THE TWO RECENT 6-MONTH REPORTING PERIODS (H1/2018 AND H2/2018)

(Appendix E & F to the NAT IMG/54 Summary of Discussions – NAT IMG Decision 54/1 refers)

1.1 Data link performance reports for two recent 6-month reporting periods (H1/2018 and H2/2018) were provided for Gander, Reykjavik, Santa Maria, Shanwick, and New York FIRs. As recommended by the guidance in the Performance-Based Communication and Surveillance (PBCS) Manual, International Civil Aviation Organization (ICAO) Document 9869, the automatic dependent surveillance-contract (ADS-C) and controller-pilot data link communication (CPDLC) performance are measured against the applicable Required Communication Performance (RCP), and Required Surveillance Performance (RSP) specifications, RCP240 and RSP180, respectively.

1.2 Tables 1 and 2 provide a summary of the aggregate ASP and aggregate ACP, respectively, over all media types, as reported by each NAT ANSP for the two most recent 6-month reporting periods.

Table 1. NAT ASP

REQUIRED SURVEILLANCE PERFORMANCE						
Region	NAT					
Performance Measure	ASP					
Performance Criteria	RSP180					
Time Period	2018 January-June			2018 July-December		
	No. Messages	No. Messages		No. Messages	Criteria	
		95% (% < 90 sec)	99.90% (% < 180 sec)		95% (% < 90 sec)	99.90% (% < 180 sec)
Aggregate NAT	9,779,829	97.9%	99.2%	11,288,561	97.8%	99.2%
Reykjavik	909,835	98.4%	99.5%	1,039,965	98.5%	99.5%
Santa Maria	1,303,839	97.7%	99.1%	1,582,836	97.6%	99.1%
Gander	2,595,134	97.7%	99.1%	3,031,147	97.8%	99.2%
New York	2,365,678	98.3%	99.3%	2,654,907	98.0%	99.2%
Shanwick	2,605,343	97.5%	99.0%	2,979,706	97.5%	99.0%

Table 2. NAT ACP

REQUIRED COMMUNICATION PERFORMANCE										
Region	NAT									
Performance Measures	ACP, ACTP									
Performance Criteria	RCP240									
Time Period	2018 January-June*					2018 July-December				
	No. Transactions	ACP Criteria		ACTP Criteria		No. Transactions	ACP Criteria		ACTP Criteria	
		95% (% < 180 sec)	99.9% (% < 210 sec)	95% (% < 120 sec)	99.9% (% < 150 sec)		95% (% < 180 sec)	99.9% (% < 210 sec)	95% (% < 120 sec)	99.9% (% < 150 sec)
Aggregate NAT	716,198	98.7%	99.1%	99.2%	99.5%	827,559	98.6%	99.0%	99.2%	99.4%
Reykjavik	141,555	98.6%	99.1%	99.3%	99.6%	165,858	98.6%	99.1%	99.2%	99.5%
Santa Maria	96,278	98.8%	99.3%	99.0%	99.4%	106,478	98.9%	98.9%	99.2%	99.3%
Gander	200,488	98.8%	99.2%	99.3%	99.5%	229,249	98.7%	99.1%	99.3%	99.5%
New York	140,643	98.8%	99.2%	99.4%	99.6%	168,359	98.8%	99.1%	99.3%	99.4%
Shanwick	137,234	98.2%	98.6%	98.9%	99.2%	157,615	98.3%	98.6%	98.9%	99.3%

1.3 Table 3 provides the data link performance analysis conclusions based on what is presented in Tables 1 and 2 and **Attachments A** through **D**.

Table 3. NAT PBCS analysis conclusions

NAT PBCS Analysis Conclusions																																																															
Period: July 1, 2018 to December 31, 2018																																																															
Aggregate NAT																																																															
<ul style="list-style-type: none"> The aggregated performance within the NAT region, combining the SAT, VHF, HF and transition area performance together, has remained stable for several years. It is noted that the majority of the data is delivered via SATCOM. During the 2 most recent 6-months report periods: <ul style="list-style-type: none"> the 95% criteria were met for RSP 180 and RCP240 for the aggregate NAT and for the individual NAT FIRs; the 99.9% criteria were met for RSP 180 and RCP240 at the currently accepted level of 99.0% for the aggregate NAT and for the individual NAT FIRs. 																																																															
Media type																																																															
<ul style="list-style-type: none"> During the 2 most recent 6-months report periods: <ul style="list-style-type: none"> The 95% criteria for RSP180 ASP and RCP240 ACTP, ACP and PORT were met for the aggregate as well as both satellite and VHF media populations; The 99.9% criteria for RSP180 ASP and RCP240 ACTP, ACP were met at the currently accepted level of 99.0%; Neither the 95% nor the 99.9% criteria for RSP180 ASP or RCP240 ACTP, ACP were met for HF during this period; In general, the ACP criteria continue to <u>not</u> be met for any subpopulations of mixed media RCP transactions. Though satellite meets all criteria on aggregate, EGGX and BIRD both report failure to meet ACP240 for satellite at the currently accepted level of 99.0%. 																																																															
Remote Ground Station (RGS) / Ground Earth Station (GES)																																																															
<ul style="list-style-type: none"> The 95% criteria for RSP180 ASP via the Inmarsat virtual I-3 paths: XXI and IOR2., was again not met in the Reykjavik FIR and also not met in Santa Maria FIR. Further analysis may be needed to determine which aircraft are using this path and if the satellite configuration settings need to be corrected or optimized. <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">id</th> <th colspan="6">ASP <= 90s</th> <th colspan="6">ASP <= 180s</th> </tr> <tr> <th>LPPO</th> <th>EGGX</th> <th>KZNY</th> <th>BIRD</th> <th>CZQX</th> <th>TOTAL</th> <th>LPPO</th> <th>EGGX</th> <th>KZNY</th> <th>BIRD</th> <th>CZQX</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>XXI</td> <td>93.7%</td> <td>91.8%</td> <td></td> <td>92.0%</td> <td>99.1%</td> <td>93.8%</td> <td>98.4%</td> <td>95.9%</td> <td></td> <td>95.8%</td> <td>99.6%</td> <td>97.2%</td> </tr> <tr> <td>IOR2</td> <td>87.1%</td> <td></td> <td></td> <td>81.8%</td> <td></td> <td>84.5%</td> <td>95.3%</td> <td></td> <td></td> <td>90.6%</td> <td></td> <td>92.9%</td> </tr> </tbody> </table> <ul style="list-style-type: none"> There has been notable improvement for Iridium paths (IG1 and IGW1) observed starting in May 2018 as compared with previous analysis periods. However, there continue to be challenges in some FIRs for these paths. There are challenges observed for some FIRs over the Inmarsat I-4 Americas path (AME2). The path combinations for mixed path CPDLC transactions are mainly unique to individual ANSPs, though EGGX has some in common with either BIRD or CZQX. The deficient mixed paths are mostly related to the use of HF in the uplink or downlink message and the combination of SATCOM and VHF in the transition areas. Particularly concerning is the performance of AME1 uplink/EUA1 downlink as reported by both CZQX and EGGX. This may highlight challenges related to transitions between satellite coverage areas. 													id	ASP <= 90s						ASP <= 180s						LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	XXI	93.7%	91.8%		92.0%	99.1%	93.8%	98.4%	95.9%		95.8%	99.6%	97.2%	IOR2	87.1%			81.8%		84.5%	95.3%			90.6%		92.9%
id	ASP <= 90s						ASP <= 180s																																																								
	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL																																																			
XXI	93.7%	91.8%		92.0%	99.1%	93.8%	98.4%	95.9%		95.8%	99.6%	97.2%																																																			
IOR2	87.1%			81.8%		84.5%	95.3%			90.6%		92.9%																																																			

NAT PBCS Analysis Conclusions												
Period: July 1, 2018 to December 31, 2018												
id	ACP <= 180s						ACP <= 210s					
	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL
AME1/EUA1		58.7%			85.8%	76.1%		65.7%			85.8%	78.6%

Uplink Message (UM) Elements

- Most uplinks and uplink combinations in all NAT FIRs meet the 95% performance targets for RCP240 ACP, ACTP and PORT as well as the 99.0% performance targets for RCP240 ACP and ACTP, indicating no significant issues with the associated response time needed.
- The most notable deficiency is the ACP associated with the UM137 uplink. Further analysis shows that the issue appears to be connected with the PORT.

id	ACP <= 180s						ACP <= 210s					
	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL
U137		0.0%				0.0%		0.0%				0.0%

CSP / Network

Satellite Service Provider (SSP)	Satellite	Service	Ground Station Location	CSP	ACARS Identifiers	# unplanned outages affecting path > 10 min	Sum of unplanned outages affecting path > 10 min (min)	Estimated availability for path	Sum of minutes with observed impact KZAK	Sum of minutes with observed impact KZNY	Sum of minutes with observed impact PAZA
Iridium	All	Short Burst Data	Primary: Tempe, Arizona, US Back-up: None	ARINC	IG1	5	690	99.87%	1525	970	1164
				SITA	IGW1	13	1424	99.73%	1492	1316	1464
Inmarsat	AORE (3F5 at 54°W)	Classic Aero	Primary: Burum, Netherlands Back-up: Fucino, Italy	ARINC	XXN	0	0	100.00%	0	0	0
				SITA	AOE2	3	801	99.85%	0	0	0
				SITA	AOE6	1	10	100.00%	0	23	0
	EMEA (AF1 at 25°E)	Classic Aero over I-4	Primary: Fucino, Italy Back-up: Burum, Netherlands	ARINC	XXF	4	1709	99.67%	0	0	0
				SITA	EUA1	7	1799	99.66%	0	0	0
			Primary: Burum, Netherlands Back-up: Fucino, Italy	ARINC	XXI	0	0	100.00%	0	0	0
				SITA	EUA2	0	0	100.00%	0	0	0
				SITA	IOR1	0	0	100.00%	0	0	0
				SITA	IOR6	0	0	100.00%	0	0	0
				SITA	IOR6	0	0	100.00%	0	0	0
	Swift Broadband-Safety	Primary: Burum, Netherlands Back-up: Fucino, Italy	ARINC	XXB	3	502	99.90%	0	0	0	
			SITA	EUA9	0	0	100.00%	0	0	0	
			SITA	EME9	3	215	99.96%	0	0	0	
	AMER (4F3 at 98°W)	Classic Aero over I-4	Primary: Paumalu, Hawaii, US Back-up: Auckland, New Zealand	ARINC	XXH	1	38	99.99%	32	0	0
SITA				AME1	4	361	99.93%	77	72	0	
Primary: Laurentides, CA Back-up: Paumalu, Hawaii, US			ARINC	XXW	1	58	99.99%	11	41	0	
			SITA	AME2	6	971	99.82%	49	11	0	
			SITA	AOW2	4	983	99.81%	0	205	0	
			SITA	XXU	2	386	99.93%	31	0	0	
Swift Broadband-Safety	Primary: Paumalu, Hawaii, US Back-up: Auckland, New Zealand	ARINC	AME9	0	0	100.00%	0	0	0		
		SITA	AMR9	3	173	99.97%	0	0	0		

Color key	Meets safety and reliability criteria	Meets safety criteria only	Does not meet safety or reliability criteria
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- Based on the information from the unexpected outages reported by the CSPs, it appears the estimated availability for the most recent 12-month period over some of the satellite paths affecting the NAT region have struggled to meet the safety and reliability criteria for total durations of unplanned outages greater than 10 minutes, as required for RSP180 and RCP240.
- There have also been periods of apparent network issues that have not been reported by the CSPs.
- The TIG analysts have been working on a standardized process to detect periods of outage impact which is detailed in a separate working paper. This work will help identify the local impact for each ANSP considering the availability as reported by the CSPs.

Aircraft Type

- Looking at deficient performance for aircraft types, ACP<=210 seems to be the hardest benchmark to pass with only a handful of deficient performance aircraft types passing that benchmark while failing

NAT PBCS Analysis Conclusions

Period: July 1, 2018 to December 31, 2018

on some other.

- Notably A321 is categorized as deficient while passing on aggregate on all benchmarks and this is because 2 ANSPs report deficient performance for ACP≤210 with LPPO reporting particularly bad performance for this aircraft type.
- In three of four ANSPs reporting B38M (KZNY, EGGX, CZQX) almost all benchmarks are failed (only ACP≤180 narrowly passed in KZNY). In BIRD, three of four benchmarks pass while only ACP≤210 is failed. Icelandair, who the bulk of the B38M data in BIRD belongs to, have indicated their equipment differs from other B38M's.

A321	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL
ASP <= 90s	86.7%	97.9%	97.9%	99.1%	96.2%	97.8%
ASP <= 180s	90.9%	99.2%	99.0%	99.7%	99.0%	99.1%
ACP <= 180s	94.3%	98.6%	98.5%	98.8%	97.2%	98.5%
ACP <= 210s	95.5%	99.2%	98.9%	99.3%	99.0%	99.1%

B38M	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL
ASP <= 90s	94.6%	92.3%	98.6%	94.7%	95.4%	95.4%
ASP <= 180s	97.2%	96.2%	99.6%	97.2%	97.7%	97.7%
ACP <= 180s	90.3%	95.0%	96.8%	89.7%	94.0%	94.0%
ACP <= 210s	91.4%	96.2%	97.5%	92.2%	95.2%	95.2%

Pilot / Operator

- Performance data was compiled by operator/aircraft type pair and by airframe from *Gander, Reykjavik, Santa Maria, Shanwick, and New York FIRs*. The results were combined and posted on the **www.FANS-CRA.com** website. The combined results were analysed to identify cases where the RSP180/RCP240 95% requirements were not met in one or more FIRs.
 - The data is analysed by operator/aircraft type pair and by airframe to support fleet approvals for larger commercial operations as well as distinct airframe approvals for small IGA operations.
 - It should be noted that the State of Operator/Registry is determined based on an algorithm using the 3-letter ICAO operator code and/or the registration number using the most currently available information. **Errors in correlation of State information are possible and will be corrected when pointed out.**
- **MONITORING RESULTS BY OPERATOR/AIRCRAFT TYPE PAIR:**
 - There were 1,021 pairs observed using data link in one or more of the NAT FIRs. There were **72 pairs** identified with at least 100 data points and an ASP below the RSP180 95% criteria and/or an ACP below the RCP240 95% criteria, in at least 1 of the FIRs. **Appendix A** contains a table with a summary of these unique pairs.
- **MONITORING RESULTS BY AIRFRAME:**
 - There were 6,087 airframes observed using data link in one or more of the NAT FIRs. There were **631 airframes** identified with at least 100 data points and an ASP below the RSP180 95% criteria and/or an ACP below the RCP240 95% criteria, in at least 1 of the FIRs. Many of these airframes are included as part of a fleet in the operator/aircraft type pair analysis, some of which are also identified as not meeting required performance and others which are observed with different results than the associated fleet. **Appendix B** contains a summary of these airframes.
- It is noted that a separate working paper has been provided to the NAT TIG/7 to discuss the next steps for reporting the non-compliant fleets and airframes to the NAT CMA.

The following Attachments are provided with this Report:

ATTACHMENT A – NAT PBCS MONITORING REPORT BY OPERATOR/AIRCRAFT TYPE

ATTACHMENT B – NAT PBCS MONITORING REPORT BY AIRFRAME

ATTACHMENT C – NAT PBCS MONITORING - DEFICIENCIES

ATTACHMENT D – NAT PBCS MONITORING - FILTERING

NAT DATA LINK PERFORMANCE REPORT 2018 - ATTACHMENT A – NAT PBCS MONITORING REPORT BY OPERATOR/AIRCRAFT TYPE

NAT PBCS Monitoring Report by Operator/Aircraft Type Pair

Period: July to December 2018

Color key:

Meets criteria

99.0%-99.9%

Under criteria

* Multiple entries are seen for some Operator/Aircraft Type in the same FIR because of the use of different operator codes.

* Results for oper/act with low counts of messages/transactions may have skewed results. Request further analysis from data source POCs if needed.

State of Registry	Data Source (FIR)	Operator/ Aircraft Type	ADS-C downlink Message Counts	95% RSP 180 benchmark ASP <=90 sec	99.9% RSP 180 benchmark ASP <= 180 sec	CPDLC Transaction Counts	95% RCP 240 benchmark ACP <= 180 sec	99.9% RCP 240 benchmark ACP <=210 sec
ARGENTINA	Santa Maria	ARG/A343	3,282	98.6%	99.7%	115	94.8%	97.4%
AZERBAIJAN	Gander	AHY/B788	1,245	88.7%	97.3%	89	87.6%	92.1%
AZERBAIJAN	Reykjavik	AHY/B788	964	92.4%	97.4%	185	96.2%	97.3%
AZERBAIJAN	Santa Maria	AZG/B748	314	94.6%	97.5%	12	100.0%	100.0%
BELGIUM	Santa Maria	FYG/FA7X	113	94.7%	94.7%	6	83.3%	83.3%
BELGIUM	Shanwick	JAF/B744	141	90.8%	92.2%	8	87.5%	87.5%
BRAZIL	New York	TAM/A359	8,996	98.8%	99.8%	499	92.4%	96.0%
BRAZIL	New York	TAM/B763	5,855	94.7%	97.7%	276	99.3%	99.3%
BRAZIL	Shanwick	TAM/B763	242	84.7%	88.4%	7	85.7%	85.7%
CANADA	Shanwick	ACA/A333	24,541	96.5%	98.4%	1,103	88.0%	90.2%
CANADA	Gander	ACA/B38M	15,925	94.3%	97.0%	906	89.1%	91.7%
CANADA	New York	ACA/B38M	2,585	92.0%	96.0%	215	95.4%	96.7%
CANADA	Shanwick	ACA/B38M	11,166	94.5%	97.0%	440	88.2%	89.1%
CANADA	Santa Maria	CFC/C17	921	94.0%	95.7%	22	100.0%	100.0%
CANADA	Gander	CFC/CL60	193	92.8%	95.9%	14	78.6%	78.6%
CANADA	New York	CJT/B763	240	93.3%	97.1%	28	92.9%	92.9%
CANADA	Shanwick	ROU/B763	36,490	97.1%	98.7%	1,622	94.6%	95.3%
CANADA	Shanwick	TSC/A333	13,037	98.0%	99.3%	602	93.4%	95.7%
CANADA	Gander	WJA/B38M	5,529	94.4%	96.5%	115	85.2%	87.8%
CANADA	New York	WJA/B38M	133	94.7%	98.5%	11	90.9%	90.9%
CANADA	Shanwick	WJA/B38M	4,990	93.8%	96.2%	67	85.1%	86.6%
CANADA	Gander	WJA/DH8D	205	93.2%	93.7%	2	100.0%	100.0%
CHILE	Gander	LCO/B763	116	74.1%	80.2%			
CHINA	Reykjavik	CES/B77W	995	93.4%	96.0%	24	91.7%	95.8%
CHINA	Reykjavik	CHH/B788	1,567	94.9%	96.9%	33	100.0%	100.0%
CHINA	Reykjavik	CXA/B789	646	94.1%	96.0%	13	92.3%	100.0%
COLOMBIA	Shanwick	SAM/GLF5	115	93.9%	97.4%	4	100.0%	100.0%
DEMOCRATIC REPUBLIC OF CONGO	Gander	CFR/ASTR	435	92.2%	97.2%	18	100.0%	100.0%
DENMARK	New York	PRI/A21N	657	94.7%	95.6%	43	100.0%	100.0%
ETHIOPIA	Shanwick	ETH/B77W	1,934	93.1%	94.8%	58	94.8%	96.6%
FRANCE	Santa Maria	BOS/A343	234	94.0%	100.0%	15	100.0%	100.0%
FRANCE	Gander	DJT/B752	8,021	86.2%	91.3%	473	83.7%	86.9%
FRANCE	New York	DJT/B752	1,153	85.8%	90.6%	54	92.6%	96.3%
FRANCE	Shanwick	DJT/B752	7,252	85.0%	90.8%	289	67.8%	71.6%
GERMANY	Gander	BVR/GLEX	130	93.9%	97.7%	8	100.0%	100.0%
GERMANY	Shanwick	BVR/GLEX	104	94.2%	97.1%	4	100.0%	100.0%
GERMANY	New York	GAF/GL5T	159	92.5%	100.0%	5	100.0%	100.0%
ICELAND	Reykjavik	ABD/B744	125	90.4%	100.0%	18	100.0%	100.0%
ICELAND	Santa Maria	ABD/B744	1,727	96.4%	98.3%	114	94.7%	95.6%
ICELAND	Gander	ICE/B38M	7,987	95.6%	98.2%	346	94.5%	96.0%
ISRAEL	Santa Maria	ELY/B744	705	94.8%	98.4%	40	100.0%	100.0%
ITALY	Santa Maria	ISS/B763	660	93.3%	98.0%	50	98.0%	98.0%
ITALY	Shanwick	ISS/B763	594	94.8%	98.2%	33	100.0%	100.0%
ITALY	New York	NOS/A333	106	94.3%	100.0%	8	100.0%	100.0%
JORDAN	Santa Maria	RJA/B788	430	92.6%	96.0%	18	100.0%	100.0%
MEXICO	Gander	AMX/B762	437	77.6%	86.3%	7	85.7%	85.7%
MEXICO	Gander	AMX/B788	5,259	84.0%	89.5%	473	94.5%	95.8%
MEXICO	New York	AMX/B788	8,460	87.2%	91.6%	658	93.6%	94.7%
MEXICO	Santa Maria	AMX/B788	3,968	83.3%	88.7%	240	91.3%	92.9%
MEXICO	Shanwick	AMX/B788	6,243	84.4%	89.4%	332	91.6%	92.5%
MEXICO	Gander	AMX/B789	9,561	77.3%	84.2%	748	90.8%	92.0%
MEXICO	New York	AMX/B789	32,622	84.5%	89.4%	2,482	92.6%	93.6%
MEXICO	Santa Maria	AMX/B789	19,567	83.0%	88.1%	1,256	92.2%	92.9%
MEXICO	Shanwick	AMX/B789	10,366	80.3%	86.5%	542	86.5%	89.9%
NETHERLANDS	Gander	XRO/F900	113	79.7%	92.0%	3	100.0%	100.0%
NORWAY	Reykjavik	NAX/B38M	119	93.3%	95.8%	8	75.0%	75.0%
NORWAY	Santa Maria	NAX/B772	544	94.1%	100.0%	4	75.0%	75.0%
PAKISTAN	Gander	PIA/B77W	158	88.6%	98.1%	12	100.0%	100.0%
RUSSIAN FEDERATION	Gander	NWS/B772	416	84.6%	93.3%	23	100.0%	100.0%
RUSSIAN FEDERATION	Santa Maria	NWS/B772	319	92.5%	98.4%	12	100.0%	100.0%
RUSSIAN FEDERATION	Shanwick	NWS/B772	381	91.9%	98.4%	14	100.0%	100.0%
RUSSIAN FEDERATION	Gander	NWS/B77W	1,057	93.3%	98.9%	89	98.9%	100.0%
SAUDI ARABIA	Shanwick	SVA/B77L	666	92.3%	95.1%	35	100.0%	100.0%
SAUDI ARABIA	Shanwick	SVA/B789	578	91.9%	95.3%	20	95.0%	95.0%
SOUTH AFRICA	Santa Maria	SAA/A333	3,705	94.4%	97.8%	82	98.8%	98.8%
SPAIN	Santa Maria	AEA/B789	2,469	94.5%	97.9%	143	97.9%	97.9%
SWITZERLAND	Shanwick	SUI/F900	101	93.1%	97.0%	5	60.0%	80.0%
TURKEY	Gander	THY/B742	1,125	94.5%	97.7%	27	96.3%	100.0%
UNITED ARAB EMIRATES	Gander	UAE/B744	1,226	92.7%	94.6%	106	96.2%	96.2%
UNITED ARAB EMIRATES	Shanwick	UAE/B744	1,134	91.2%	92.9%	58	100.0%	100.0%
UNITED KINGDOM	Gander	CFN/CL60	105	94.3%	99.1%	9	77.8%	77.8%

NAT PBCS Monitoring Report by Operator/Aircraft Type Pair
 Period: July to December 2018




Color key:

- Meets criteria
- 99.0%-99.9%
- Under criteria

* Multiple entries are seen for some Operator/Aircraft Type in the same FIR because of the use of different operator codes.
 * Results for oper/act with low counts of messages/transactions may have skewed results. Request further analysis from data source POCs if needed.

State of Registry	Data Source (FIR)	Operator/ Aircraft Type	ADS-C downlink Message Counts	95% RSP 180 benchmark ASP <=90 sec	99.9% RSP 180 benchmark ASP <= 180 sec	CPDLC Transaction Counts	95% RCP 240 benchmark ACP <= 180 sec	99.9% RCP 240 benchmark ACP <=210 sec
UNITED KINGDOM	Gander	CRV/A319	108	94.4%	99.1%	7	100.0%	100.0%
UNITED KINGDOM	New York	GMA/GLF5	156	93.6%	98.1%	12	100.0%	100.0%
UNITED KINGDOM	Santa Maria	TCX/A321	859	74.5%	79.9%	72	86.1%	88.9%
UNITED KINGDOM	Shanwick	TCX/A321	637	83.7%	89.8%	47	83.0%	91.5%
UNITED KINGDOM	Santa Maria	TOM/B763	649	91.4%	96.6%	34	100.0%	100.0%
UNITED KINGDOM	Shanwick	TOM/B763	396	93.4%	97.7%	35	97.1%	97.1%
UNITED STATES	Shanwick	AAL/A333	29,282	96.6%	98.7%	1,322	94.4%	95.2%
UNITED STATES	Santa Maria	BLU/DC10	400	93.5%	97.3%	21	100.0%	100.0%
UNITED STATES	Gander	CGG/GLF5	231	87.9%	91.8%	18	100.0%	100.0%
UNITED STATES	Gander	CKS/B742	271	92.3%	98.5%	9	100.0%	100.0%
UNITED STATES	Santa Maria	CKS/B744	133	94.0%	98.5%	4	100.0%	100.0%
UNITED STATES	New York	DAL/B750	316	90.2%	92.7%	13	92.3%	92.3%
UNITED STATES	New York	DAL/B75X	194	90.7%	92.3%	8	87.5%	87.5%
UNITED STATES	Shanwick	EJM/CL35	126	93.7%	97.6%	4	100.0%	100.0%
UNITED STATES	Santa Maria	EJM/GLF4	120	94.2%	97.5%	7	100.0%	100.0%
UNITED STATES	Shanwick	FDX/B77L	20,260	93.2%	96.3%	1,021	96.3%	97.1%
UNITED STATES	New York	GTH/GLF4	113	91.2%	96.5%	6	83.3%	100.0%
UNITED STATES	Santa Maria	GTH/GLF4	182	93.4%	97.8%	14	100.0%	100.0%
UNITED STATES	New York	GTI/B748	1,312	94.7%	97.0%	54	100.0%	100.0%
UNITED STATES	Gander	JAS/GLF6	117	94.0%	98.3%	8	100.0%	100.0%
UNITED STATES	New York	JBU/A320	2,241	94.6%	95.8%	143	99.3%	100.0%
UNITED STATES	Gander	LXJ/GLF5	125	94.4%	96.0%	7	85.7%	85.7%
UNITED STATES	Shanwick	NRS/B744	419	92.4%	95.9%	17	88.2%	100.0%
UNITED STATES	Gander	PAC/B748	355	94.1%	96.3%	22	100.0%	100.0%
UNITED STATES	Gander	RCH/C5	2,669	93.9%	94.9%	133	94.7%	94.7%
UNITED STATES	Reykjavik	RCH/C5	145	89.0%	92.4%	12	100.0%	100.0%
UNITED STATES	Santa Maria	RCH/DC10	701	94.7%	98.6%	43	97.7%	97.7%
UNITED STATES	Shanwick	RCH/DC10	1,008	94.2%	97.4%	45	93.3%	93.3%
UNITED STATES	Reykjavik	RCH/K35R	1,266	98.8%	99.3%	179	95.0%	95.0%
UNITED STATES	Gander	RDN/B737	303	94.7%	99.0%	20	95.0%	95.0%
UNITED STATES	Reykjavik	RDN/B737	117	92.3%	98.3%	10	100.0%	100.0%
UNITED STATES	Shanwick	RDN/B737	310	94.8%	98.4%	21	95.2%	95.2%
UNITED STATES	Gander	TWY/GLEX	560	94.6%	97.5%	41	97.6%	97.6%
UNITED STATES	Gander	TWY/GLF4	131	94.7%	96.2%	10	100.0%	100.0%
UNITED STATES	Reykjavik	UPS/B763	592	95.9%	99.5%	111	93.7%	96.4%
UNKNOWN	Gander	BOB/DC10	204	94.6%	99.5%	14	100.0%	100.0%
UNKNOWN	Gander	IBK/B38M	6,406	95.0%	97.4%	218	87.6%	90.8%
UNKNOWN	Shanwick	IBK/B38M	13,274	94.3%	97.3%	342	88.9%	90.4%
UNKNOWN	Gander	IBK/B738	9,748	94.2%	96.4%	392	84.2%	87.0%




NAT PBCS Monitoring Report by Airframe
 Period: July to December 2018

Color key:
 Meets criteria
 99.0%-99.9%
 Under criteria

* Multiple entries are seen for some registration numbers in the same FIR because of the use of different operator codes.
 * Results for airframes with low counts of messages/transactions may have skewed results. Request further analysis from data source POCs if needed.

State of Registry	Data Source (FIR)	3-letter ICAO Operator code (where applicable)	4-letter ICAO Aircraft Type	Registration Number	ADS-C downlink Message Counts	95% RSP 180 benchmark ASP <=90 sec	99.9% RSP 180 benchmark ASP <= 180 sec	CPDLC Transaction Counts	95% RCP 240 benchmark ACP <= 180 sec	99.9% RCP 240 benchmark ACP <=210 sec
ARGENTINA	Santa Maria	ARG	A332	LVGKP	284	92.6%	95.4%	12	100.0%	100.0%
AUSTRIA	Santa Maria	AUA	B763	OELAY	222	94.1%	97.7%	16	100.0%	100.0%
AZERBAIJAN	Gander	AHY	B788	VPBBR	771	89.6%	97.7%	53	96.2%	94.3%
AZERBAIJAN	Reykjavik	AHY	B788	VPBBR	611	91.8%	97.1%	109	98.2%	99.1%
AZERBAIJAN	Gander	AHY	B788	VPBBS	474	87.1%	96.6%	36	86.1%	77.8%
AZERBAIJAN	Reykjavik	AHY	B788	VPBBS	353	93.5%	98.0%	76	93.4%	94.7%
AZERBAIJAN	Gander	AZG	B748	VQBWY	268	94.8%	96.3%	18	100.0%	100.0%
BELGIUM	Santa Maria	JAF	B763	IAIGG	661	93.3%	98.0%	50	98.0%	98.0%
BELGIUM	Gander	TAY	B744	OOTHD	592	92.9%	95.1%	43	97.7%	97.7%
BELGIUM	Shanwick	TAY	B744	OOTHD	557	93.4%	95.0%	19	89.5%	94.7%
BERMUDA	Gander	VPB	F900	VPBFM	162	91.4%	94.4%	14	92.9%	92.9%
BERMUDA	Gander	VPB	GLF5	VPBSI	148	92.6%	96.6%	16	93.8%	93.8%
BERMUDA	Shanwick		F900	VPBFM	174	86.2%	92.0%	7	57.1%	71.4%
BERMUDA	Shanwick		GLF5	VPBSI	131	87.8%	96.2%	7	85.7%	85.7%
BRAZIL	New York	TAM	B763	PTMOB	378	93.1%	97.4%	25	100.0%	100.0%
BRAZIL	New York	TAM	B763	PTMOE	215	89.8%	94.4%	6	100.0%	100.0%
BRAZIL	Santa Maria	TAM	B763	PTMOE	104	90.4%	93.3%	6	100.0%	100.0%
BRAZIL	Santa Maria	TAM	B763	PTMOF	269	94.4%	99.6%	17	100.0%	100.0%
BRAZIL	New York	TAM	B763	PTMSO	381	94.0%	97.4%	21	100.0%	100.0%
BRAZIL	New York	TAM	B763	PTMSV	517	94.6%	98.7%	24	100.0%	100.0%
BRAZIL	New York	TAM	B763	PTMSW	534	93.8%	96.6%	22	100.0%	100.0%
BRAZIL	Santa Maria	TAM	B763	PTMSW	276	94.6%	99.3%	21	95.2%	100.0%
BRAZIL	New York	TAM	B763	PTMSX	417	94.7%	98.6%	21	100.0%	100.0%
BRAZIL	New York	TAM	B763	PTMSY	276	94.2%	96.4%	18	100.0%	100.0%
BRAZIL	Santa Maria	TAM	B763	PTMSY	161	94.4%	98.1%	6	100.0%	100.0%
BRAZIL	New York	TAM	B763	PTMSZ	362	93.1%	94.5%	17	100.0%	100.0%
BRAZIL	Shanwick	TAM	B77W	PTMUJ	337	95.0%	100.0%	16	100.0%	100.0%
BRAZIL	New York		CL35	PRXDE	138	94.2%	96.4%	7	100.0%	100.0%
BRAZIL	New York		FA7X	PPOS M	119	95.0%	97.5%	12	75.0%	75.0%
BRAZIL	New York		GLF5	PRWQY	145	93.1%	100.0%	9	100.0%	100.0%
BRAZIL	New York			PPMXM	125	93.6%	99.2%	8	75.0%	75.0%
CANADA	Shanwick	ACA	A333	CGFAF	2,890	96.2%	98.2%	133	82.7%	85.0%
CANADA	Shanwick	ACA	A333	CGFAH	3,082	95.8%	97.5%	137	88.3%	92.0%
CANADA	Shanwick	ACA	A333	CGFAJ	3,255	97.2%	99.2%	155	89.7%	92.3%
CANADA	Santa Maria	ACA	A333	CGFUR	945	94.7%	98.1%	58	94.8%	98.3%
CANADA	Shanwick	ACA	A333	CGHKK	3,373	95.3%	97.3%	136	77.9%	82.4%
CANADA	Shanwick	ACA	A333	CGHKK	2,763	96.4%	98.8%	128	87.5%	89.8%
CANADA	Santa Maria	ACA	A333	CGHLM	361	94.7%	97.8%	24	100.0%	100.0%
CANADA	Shanwick	ACA	A333	CGHLM	3,497	96.8%	98.5%	161	88.2%	90.1%
CANADA	Gander	ACA	B38M	CFSCY	449	93.8%	98.2%	24	87.5%	87.5%
CANADA	New York	ACA	B38M	CFSCY	170	91.8%	95.3%	15	100.0%	100.0%
CANADA	Shanwick	ACA	B38M	CFSCY	245	92.2%	96.3%	8	75.0%	75.0%
CANADA	Gander	ACA	B38M	CFSD B	825	94.9%	97.2%	52	92.3%	84.6%
CANADA	New York	ACA	B38M	CFSD B	329	93.6%	96.4%	25	100.0%	100.0%
CANADA	Shanwick	ACA	B38M	CFSD B	599	94.7%	96.5%	21	90.5%	90.5%
CANADA	Gander	ACA	B38M	CFSDQ	769	94.3%	97.3%	41	90.2%	87.8%
CANADA	Gander	ACA	B38M	CFSDW	407	81.3%	86.7%	20	90.0%	85.0%
CANADA	New York	ACA	B38M	CFSDW	272	82.0%	87.5%	15	73.3%	80.0%
CANADA	Shanwick	ACA	B38M	CFSDW	277	80.5%	86.6%	8	50.0%	50.0%
CANADA	Shanwick	ACA	B38M	CFSIL	994	94.9%	96.9%	40	85.0%	87.5%
CANADA	Gander	ACA	B38M	CFSIP	1,117	94.6%	97.3%	63	90.5%	90.5%
CANADA	New York	ACA	B38M	CFSIP	139	95.0%	99.3%	13	92.3%	100.0%
CANADA	Gander	ACA	B38M	CFSIQ	1,022	93.6%	96.8%	65	92.3%	90.8%
CANADA	Shanwick	ACA	B38M	CFSIQ	784	94.0%	97.3%	29	93.1%	93.1%
CANADA	Gander	ACA	B38M	CFSJH	885	94.4%	96.3%	54	81.5%	79.6%
CANADA	New York	ACA	B38M	CFSJH	155	91.6%	96.1%	11	100.0%	100.0%
CANADA	Gander	ACA	B38M	CFSJJ	850	94.9%	97.9%	46	91.3%	89.1%
CANADA	Gander	ACA	B38M	CFSKZ	1,183	93.7%	97.0%	60	91.7%	88.3%
CANADA	New York	ACA	B38M	CFSKZ	185	91.4%	95.7%	16	100.0%	100.0%
CANADA	Shanwick	ACA	B38M	CFSKZ	797	93.7%	97.5%	34	88.2%	94.1%
CANADA	Gander	ACA	B38M	CFSLU	985	94.3%	97.6%	61	96.7%	93.4%
CANADA	New York	ACA	B38M	CFSLU	330	93.3%	97.0%	30	96.7%	96.7%
CANADA	Gander	ACA	B38M	CFSNQ	1,086	94.0%	97.0%	61	88.5%	86.9%
CANADA	New York	ACA	B38M	CFSNQ	179	91.6%	96.7%	20	90.0%	95.0%
CANADA	Shanwick	ACA	B38M	CFSNQ	767	92.8%	96.1%	37	86.5%	86.5%
CANADA	Gander	ACA	B38M	CFSNU	1,166	94.5%	97.3%	67	91.0%	88.1%
CANADA	New York	ACA	B38M	CFSNU	232	91.4%	96.6%	16	93.8%	93.8%
CANADA	Shanwick	ACA	B38M	CFSNU	942	94.7%	96.4%	39	94.9%	94.9%
CANADA	Shanwick	ACA	B38M	CFSOC	940	94.6%	97.3%	34	79.4%	79.4%
CANADA	Gander	ACA	B38M	CFTJV	415	94.5%	97.8%	27	92.6%	92.6%
CANADA	Shanwick	ACA	B38M	CFTJV	186	94.6%	97.3%	8	100.0%	100.0%
CANADA	New York	ACA	B77W	CFIWW	154	94.2%	97.4%	7	100.0%	100.0%
CANADA	New York	ACA	B77W	CFJZS	412	91.8%	94.7%	35	100.0%	100.0%
CANADA	New York	ACA	B77W	CFKAU	687	94.9%	97.8%	62	95.2%	95.2%
CANADA	Reykjavik	ACA	B788	CGHQY	687	93.9%	96.4%	72	97.2%	97.2%
CANADA	Santa Maria	ACA	B789	CFGEI	304	94.7%	97.0%	15	100.0%	100.0%
CANADA	Santa Maria	ACA	B789	CFGHZ	189	92.6%	96.8%	6	100.0%	100.0%
CANADA	New York	ACA	B789	CFNOE	357	93.6%	96.9%	26	96.2%	96.2%
CANADA	Santa Maria	ACA	B789	CFNOE	102	92.2%	98.0%	6	100.0%	100.0%




NAT PBCS Monitoring Report by Airframe
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State of Registry	Data Source (FIR)	3-letter ICAO Operator code (where available)	4-letter ICAO Aircraft Type	Registration Number	ADS-C downlink Message Counts	95% RSP 180 benchmark ASP <= 90 sec	99.9% RSP 180 benchmark ASP <= 180 sec	CPDLC Transaction Counts	95% RCP 240 benchmark ACP <= 180	99.9% RCP 240 benchmark ACP <= 210
CANADA	Santa Maria	ACA	B789	CFNOG	160	92.5%	96.9%	5	100.0%	100.0%
CANADA	Shanwick	ACA	B789	CFNOG	1,267	94.2%	96.3%	66	87.9%	89.4%
CANADA	Santa Maria	ACA	B789	CFNOH	157	93.0%	98.7%	6	100.0%	100.0%
CANADA	New York	ACA	B789	CFRTG	353	93.5%	98.6%	21	100.0%	100.0%
CANADA	Santa Maria	ACA	B789	CFRTG	105	94.3%	98.1%	6	100.0%	100.0%
CANADA	New York	ACA		CFSES	127	94.5%	96.9%	10	100.0%	100.0%
CANADA	New York	ACA		CFSIQ	252	94.4%	99.2%	19	100.0%	100.0%
CANADA	Gander	CFC	C17	77702A	165	87.3%	89.7%	16	93.8%	93.8%
CANADA	Santa Maria	CFC	C17	77702A	301	87.7%	90.7%	3	100.0%	100.0%
CANADA	Shanwick	CFC	C17	77702A	140	86.4%	88.6%	12	91.7%	91.7%
CANADA	New York	CFC	C17	77702A	461	89.8%	91.8%	31	100.0%	100.0%
CANADA	Gander	CFC	CL60	144617	153	90.9%	94.8%	11	72.7%	72.7%
CANADA	Gander	CFN	CL60	CFNVT	105	94.3%	99.1%	9	77.8%	77.8%
CANADA	Gander	CFR	ASTR	CFRIZ	435	92.2%	97.2%	18	100.0%	100.0%
CANADA	Gander	CGD	GLEX	CGDPF	196	94.9%	99.5%	14	100.0%	100.0%
CANADA	Gander	CGG	GLF5	CGGPM	231	87.9%	91.8%	18	100.0%	100.0%
CANADA	New York	ROU	B763	CFIYE	797	93.6%	99.1%	56	100.0%	100.0%
CANADA	New York	ROU	B763	CFMLV	753	93.4%	98.4%	44	95.5%	95.5%
CANADA	Shanwick	ROU	B763	CFMWP	1,008	93.2%	96.0%	48	85.4%	85.4%
CANADA	New York	ROU	B763	CFMWU	653	93.7%	98.5%	39	100.0%	100.0%
CANADA	Shanwick	ROU	B763	CFMWU	1,667	93.5%	95.9%	69	87.0%	88.4%
CANADA	Shanwick	ROU	B763	CFMWV	985	94.8%	96.5%	40	85.0%	87.5%
CANADA	Shanwick	ROU	B763	CFMXC	1,571	93.6%	95.5%	65	78.5%	81.5%
CANADA	New York	ROU	B763	CFXCA	849	94.6%	97.5%	50	98.0%	98.0%
CANADA	New York	ROU	B763	CGHLA	433	94.7%	98.4%	27	100.0%	100.0%
CANADA	New York	ROU	B763	CGHLQ	657	94.5%	99.4%	38	100.0%	100.0%
CANADA	New York	ROU	B763	CGHPE	888	92.8%	98.4%	56	98.2%	100.0%
CANADA	New York	ROU	B763	CGHPN	475	94.3%	98.7%	35	100.0%	100.0%
CANADA	New York	ROU	B763	CGSCA	244	93.9%	99.2%	16	100.0%	100.0%
CANADA	Santa Maria	TSC	A332	CGGTS	798	85.8%	87.3%	39	100.0%	100.0%
CANADA	Shanwick	TSC	A332	CGGTS	2,598	90.8%	92.6%	65	95.4%	100.0%
CANADA	Shanwick	TSC	A332	CGITS	2,361	94.8%	96.7%	95	99.0%	99.0%
CANADA	Santa Maria	TSC	A332	CGTSR	685	94.9%	97.2%	49	95.9%	95.9%
CANADA	Santa Maria	TSC	A332	CGTSZ	485	94.0%	97.1%	31	100.0%	100.0%
CANADA	New York	TSC	A332	CGUBF	335	91.6%	93.4%	15	100.0%	100.0%
CANADA	Shanwick	TSC	A333	CGCTS	3,751	98.8%	99.6%	175	93.7%	97.1%
CANADA	Shanwick	TSC	A333	CGTSO	3,385	96.0%	98.6%	143	85.3%	88.8%
CANADA	Gander	WJA	B38M	CFNAX	1,113	93.8%	97.0%	21	90.5%	90.5%
CANADA	Shanwick	WJA	B38M	CFNAX	989	94.2%	97.1%	13	84.6%	92.3%
CANADA	Gander	WJA	B38M	CFRAX	768	93.1%	95.7%	17	94.1%	94.1%
CANADA	Shanwick	WJA	B38M	CFRAX	733	94.3%	96.2%	12	91.7%	91.7%
CANADA	Gander	WJA	B38M	CGCAM	1,007	94.1%	95.6%	14	100.0%	85.7%
CANADA	Shanwick	WJA	B38M	CGCAM	894	94.4%	97.1%	7	71.4%	71.4%
CANADA	Gander	WJA	B38M	CGRAX	735	93.6%	95.7%	25	76.0%	76.0%
CANADA	Shanwick	WJA	B38M	CGRAX	566	88.2%	92.2%	12	75.0%	75.0%
CANADA	Gander	WJA	B38M	CGZSG	558	94.4%	95.9%	11	81.8%	81.8%
CANADA	Shanwick	WJA	B38M	CGZSG	479	93.3%	95.4%	5	100.0%	100.0%
CANADA	New York	WJA	B737	CGWCN	217	94.9%	99.5%	15	100.0%	100.0%
CANADA	Reykjavik	WJA	B763	CFOGT	2,313	96.0%	99.4%	426	94.6%	97.4%
CANADA	Gander	WJA	DH8D	CFRYV	205	93.2%	93.7%	2	100.0%	100.0%
CANADA	Reykjavik		ASTR	CFRIZ	264	91.7%	95.1%	39	82.1%	89.7%
CANADA	New York		CL60	CFCIB	127	92.1%	94.5%	9	100.0%	100.0%
CANADA	New York		FA7X	CFBNS	134	93.3%	100.0%	8	100.0%	100.0%
CANADA	Shanwick		GLF5	CGGPM	201	93.5%	99.0%	8	87.5%	87.5%
CANADA	New York			CGFZG	159	93.7%	96.2%	8	100.0%	100.0%
CAYMAN ISLANDS	New York		GLF5	VPCUA	281	91.1%	95.4%	14	100.0%	100.0%
CHILE	Santa Maria	LAN	B789	CCBGI	402	94.8%	97.5%	27	96.3%	96.3%
CHILE	Gander	LCO	B763	N418LA	116	74.1%	80.2%			
CHINA	Reykjavik	CHH	B788	B2728	126	92.9%	96.8%	2	100.0%	100.0%
CHINA	Reykjavik	CHH	B788	B2729	121	94.2%	96.7%			
CHINA	Reykjavik	CHH	B788	B2730	204	94.1%	95.1%	6	100.0%	100.0%
CHINA	Reykjavik	CHH	B788	B2738	189	91.5%	95.8%	4	100.0%	100.0%
CHINA	Reykjavik	CHH	B788	B2750	191	94.2%	96.3%	3	100.0%	100.0%
CHINA	Reykjavik	CHH	B789	B1546	184	93.5%	95.1%			
CHINA	Reykjavik	CHH	B789	B6969	215	94.4%	96.7%			
CHINA	Gander	CHH	B789	B6998	136	94.1%	96.3%			
CHINA	Reykjavik	CHH	B789	B6998	349	94.8%	96.0%	3	100.0%	100.0%
CHINA	Reykjavik	CHH	B789	B7667	268	94.4%	97.4%	2	100.0%	100.0%
CHINA	Reykjavik	CHH	B789	B7835	318	94.0%	96.5%	7	100.0%	100.0%
CHINA	Reykjavik	CHH	B789	B7880	157	93.6%	97.5%			
CHINA	Reykjavik	CXA	B789	B1566	150	93.3%	95.3%	5	80.0%	100.0%
CHINA	Reykjavik	CXA	B789	B7836	133	94.7%	95.5%			
CHINA	New York	VJT	GLEX	9HVJA	124	92.7%	94.4%	8	75.0%	87.5%
CHINA	Santa Maria	VJT	GLEX	9HVJC	115	87.8%	98.3%	7	100.0%	100.0%
CHINA	Santa Maria	VJT	GLEX	9HVJF	131	93.9%	96.2%	8	100.0%	100.0%
CHINA	Santa Maria	VJT	GLEX	9HVJI	122	93.4%	98.4%	4	100.0%	100.0%
CHINA	Santa Maria	VJT	GLEX	9HVJO	157	90.4%	98.1%	7	100.0%	100.0%
CHINA	Shanwick	VJT	GLEX	9HVJV	178	94.9%	97.8%	7	100.0%	100.0%
COLOMBIA	Shanwick	AVA	B788	N785AV	233	93.6%	96.6%	10	100.0%	100.0%
DENMARK	Shanwick	MMD	F2TH	OYMGGA	194	94.9%	99.5%	13	100.0%	100.0%
DENMARK	Shanwick	MMD	FA7X	OYVIK	142	93.0%	95.8%	3	100.0%	100.0%
DENMARK	Shanwick	MMD	FA8X	OYNEW	159	92.5%	95.0%	9	100.0%	100.0%




NAT PBCS Monitoring Report by Airframe
 Period: July to December 2018

Color key:
 Meets criteria
 99.0%-99.9%
 Under criteria

* Multiple entries are seen for some registration numbers in the same FIR because of the use of different operator codes.
 * Results for airframes with low counts of messages/transactions may have skewed results. Request further analysis from data source POCs if needed.

State of Registry	Data Source (FIR)	3-letter ICAO Operator code (where available)	4-letter ICAO Aircraft Type	Registration Number	ADS-C downlink Message Counts	95% RSP 180 benchmark ASP <=90 sec	99.9% RSP 180 benchmark ASP <= 180 sec	CPDLC Transaction Counts	95% RCP 240 benchmark ACP <= 180	99.9% RCP 240 benchmark ACP <=210
DENMARK	New York	PRI	A21N	OYPAC	202	89.6%	91.1%	7	100.0%	100.0%
ECUADOR	Santa Maria	LNE	B763	CCCXH	1,443	91.3%	93.2%	78	89.7%	92.3%
EGYPT	Reykjavik	MSR	B77W	SUGDM	323	91.6%	97.8%	65	95.4%	96.9%
EGYPT	Santa Maria	MSR	B77W	SUGDM	217	90.8%	99.5%	13	100.0%	100.0%
ETHIOPIA	Shanwick	ETH	B773	ETAPX	590	91.4%	94.1%	17	100.0%	100.0%
ETHIOPIA	Shanwick	ETH	B773	ETAPY	803	92.9%	95.0%	25	92.0%	92.0%
ETHIOPIA	Shanwick	ETH	B773	ETASK	769	94.5%	96.1%	24	95.8%	95.8%
ETHIOPIA	Shanwick	ETH	B77L	ETANN	399	95.0%	95.7%	6	100.0%	100.0%
ETHIOPIA	Shanwick	ETH	B77L	ETAPU	253	92.5%	94.1%	14	100.0%	100.0%
ETHIOPIA	Shanwick	ETH	B77L	ETARH	133	94.7%	97.0%	7	85.7%	100.0%
ETHIOPIA	Santa Maria	ETH	B77L	ETARI	224	94.6%	96.9%	17	94.1%	94.1%
ETHIOPIA	Shanwick	ETH	B77L	ETARJ	193	94.8%	95.9%	13	100.0%	100.0%
ETHIOPIA	Santa Maria	ETH	B77L	ETARK	144	92.4%	94.4%	7	100.0%	100.0%
ETHIOPIA	Gander	ETH	B788	ETAOQ	435	80.7%	86.9%	29	86.2%	86.2%
ETHIOPIA	New York	ETH	B788	ETAOQ	867	93.4%	97.0%	32	90.6%	93.8%
ETHIOPIA	Santa Maria	ETH	B788	ETAOQ	664	94.3%	97.4%	22	95.5%	95.5%
ETHIOPIA	Shanwick	ETH	B788	ETAOQ	405	83.5%	88.6%	15	86.7%	86.7%
ETHIOPIA	Gander	ETH	B788	ETASG	230	70.4%	74.8%	14	92.9%	92.9%
ETHIOPIA	New York	ETH	B788	ETASG	321	85.4%	88.5%	11	100.0%	100.0%
ETHIOPIA	Santa Maria	ETH	B788	ETASG	200	84.5%	85.5%	6	100.0%	100.0%
ETHIOPIA	Shanwick	ETH	B788	ETASG	164	72.6%	79.3%	7	85.7%	85.7%
FRANCE	Shanwick	AFR	B77L	A7BFL	1,552	95.0%	95.9%	76	100.0%	100.0%
FRANCE	Gander	AFR	B77L	FGUOB	1,583	95.0%	98.2%	141	99.3%	97.9%
FRANCE	Santa Maria	AFR	B77W	FGZNE	208	93.8%	100.0%	17	100.0%	100.0%
FRANCE	Shanwick	AFR	B789	FHRBA	1,619	96.8%	98.6%	113	94.7%	95.6%
FRANCE	Gander	DJT	B752	FHCIE	3,545	94.4%	98.3%	228	91.7%	86.8%
FRANCE	New York	DJT	B752	FHCIE	505	92.3%	96.8%	26	92.3%	96.2%
FRANCE	Shanwick	DJT	B752	FHCIE	3,272	93.1%	98.0%	133	83.5%	87.2%
FRANCE	Gander	DJT	B752	FHTAG	4,476	79.7%	85.7%	245	82.5%	80.8%
FRANCE	New York	DJT	B752	FHTAG	704	82.2%	86.8%	28	92.9%	96.4%
FRANCE	Shanwick	DJT	B752	FHTAG	3,980	78.3%	84.9%	156	54.5%	58.3%
FRANCE	Santa Maria	FWI	A332	CGTSR	685	94.9%	97.2%	49	95.9%	95.9%
GERMANY	Reykjavik	CFG	B763	DABUC	1,109	98.7%	99.5%	163	94.5%	95.7%
GERMANY	Reykjavik	CFG	B763	DABUH	759	94.6%	97.2%	115	91.3%	93.9%
GERMANY	Shanwick	CFG	B763	DABUH	2,305	94.8%	97.7%	162	98.2%	98.2%
GERMANY	Shanwick	CFG	B763	DABUL	650	94.9%	96.9%	43	97.7%	97.7%
GERMANY	Shanwick	CFG	B763	DABUM	785	94.4%	96.9%	56	98.2%	100.0%
GERMANY	Reykjavik	CFG	B763	DABUS	1,286	98.8%	99.7%	190	94.7%	96.3%
GERMANY	Gander	DLH	A333	DAIKJ	747	92.5%	94.5%	56	96.4%	94.6%
GERMANY	Shanwick	DLH	A333	DAIKJ	666	89.5%	92.5%	32	96.9%	96.9%
GERMANY	Santa Maria	DLH	B744	DABTK	163	93.9%	95.7%	6	100.0%	100.0%
GERMANY	Gander	DLH	B744	DABTL	1,776	94.3%	96.5%	128	98.4%	97.7%
GERMANY	Santa Maria	DLH	B744	DABTL	403	94.0%	96.5%	23	100.0%	100.0%
GERMANY	Shanwick	DLH	B744	DABTL	1,857	94.4%	97.2%	105	99.1%	99.1%
GERMANY	Santa Maria	DLH	B744	DABVM	186	94.1%	97.3%	13	100.0%	100.0%
GERMANY	Gander	DLH	B744	DABVO	1,642	94.3%	97.0%	126	98.4%	97.6%
GERMANY	Gander	DLH	B744	DABVP	1,319	93.6%	96.4%	99	97.0%	97.0%
GERMANY	Shanwick	DLH	B744	DABVP	1,290	94.6%	96.5%	74	97.3%	98.7%
GERMANY	Gander	DLH	B744	DABVR	1,426	94.0%	96.6%	103	100.0%	99.0%
GERMANY	New York	DLH	B744	DABVR	895	94.4%	96.4%	60	98.3%	98.3%
GERMANY	New York	DLH	B744	DABVS	582	93.0%	95.2%	36	94.4%	94.4%
GERMANY	Santa Maria	DLH	B744	DABVS	194	93.8%	97.9%	12	100.0%	100.0%
GERMANY	Santa Maria	DLH	B744	DABVV	218	89.4%	91.3%	10	80.0%	80.0%
GERMANY	New York	DLH	B744	DABVY	600	94.8%	97.7%	42	97.6%	97.6%
GERMANY	New York	GEC	MD11	DALCJ	103	94.2%	99.0%	9	88.9%	88.9%
GERMANY	Santa Maria	GLF5	DADLR	DADLR	161	88.2%	95.7%	6	83.3%	100.0%
HONG KONG, CHINA	Reykjavik	CPA	A359	BLRR	131	93.9%	95.4%	3	66.7%	100.0%
HONG KONG, CHINA	Reykjavik	CPA	A359	BLRT	144	93.8%	96.5%	5	100.0%	100.0%
HONG KONG, CHINA	Reykjavik	CPA	B77W	BKPC	317	94.0%	98.7%	16	93.8%	93.8%
HONG KONG, CHINA	Reykjavik	CPA	B77W	BKPO	177	94.9%	96.6%	8	100.0%	100.0%
HONG KONG, CHINA	Reykjavik	CPA	B77W	BKQB	105	94.3%	97.1%	3	100.0%	100.0%
HONG KONG, CHINA	Reykjavik	CPA	B77W	BKQC	159	95.0%	96.9%	4	100.0%	100.0%
HONG KONG, CHINA	Reykjavik	CPA	B77W	BKQT	109	90.8%	94.5%	5	100.0%	100.0%
HONG KONG, CHINA	Reykjavik	CPA	B77W	BKQW	319	95.0%	98.4%	21	100.0%	100.0%
HONG KONG, CHINA	Reykjavik	CPA	B77W	BKQY	120	91.7%	96.7%	3	100.0%	100.0%
ICELAND	Santa Maria	ABD	B744	TFAMP	580	94.7%	97.2%	30	96.7%	96.7%
ICELAND	Gander	ICE	B38M	TFICE	2,386	90.9%	95.9%	97	87.6%	85.6%
ICELAND	Santa Maria	WOW	A321	TFGMA	133	93.2%	97.7%	14	100.0%	100.0%
ICELAND	Gander	WOW	A321	TFWIN	2,238	90.0%	93.8%	97	95.9%	92.8%
INDIA	Gander	JAI	B77W	VTJEV	501	94.4%	99.2%	42	100.0%	100.0%
INDIA	Shanwick	JAI	B77W	VTJEX	121	94.2%	98.4%	6	100.0%	100.0%
IRELAND	Shanwick	EIN	A332	EIGEY	4,488	98.1%	99.3%	186	90.3%	93.0%
IRELAND	Shanwick	EIN	B752	EILBS	4,520	94.0%	96.1%	198	100.0%	100.0%
IRELAND	Shanwick	IBK	B38M	EIFYB	3,124	94.9%	97.7%	69	94.2%	94.2%
IRELAND	Shanwick	IBK	B38M	EIFYC	1,740	93.9%	96.8%	52	82.7%	86.5%
IRELAND	Shanwick	IBK	B38M	EIFYD	1,610	94.4%	97.3%	55	83.6%	87.3%
IRELAND	Shanwick	IBK	B38M	EIFYE	842	91.9%	95.7%	37	91.9%	91.9%
IRELAND	Gander	IBK	B38M	EIFYG	3,185	94.8%	97.6%	95	89.5%	87.4%
IRELAND	Shanwick	IBK	B38M	EIFYH	1,378	94.3%	97.8%	23	82.6%	87.0%
IRELAND	Shanwick	IBK	B38M	EIFYI	1,363	93.5%	96.6%	45	86.7%	86.7%
IRELAND	Gander	IBK	B738	EIFYA	373	88.2%	90.1%			
IRELAND	Gander	IBK	B738	EIFYB	3,747	95.0%	97.5%	119	89.9%	86.6%




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State of Registry	Data Source (FIR)	3-letter ICAO Operator code (where available)	4-letter ICAO Aircraft Type	Registration Number	ADS-C downlink Message Counts	95% RSP 180 benchmark ASP <= 90 sec	99.9% RSP 180 benchmark ASP <= 180 sec	CPDLC Transaction Counts	95% RCP 240 benchmark ACP <= 180	99.9% RCP 240 benchmark ACP <= 210
IRELAND	Gander	IBK	B738	EIFYC	2,173	94.9%	96.5%	110	86.4%	84.6%
IRELAND	Gander	IBK	B738	EIFYD	2,175	94.1%	96.2%	106	85.9%	82.1%
IRELAND	Gander	IBK	B738	EIFYE	1,180	92.5%	95.4%	57	84.2%	82.5%
ISLE OF MAN	Shanwick		GLF4	MWONE	118	94.9%	98.3%	5	100.0%	100.0%
ISLE OF MAN	Shanwick		GLF6	MYGIG	292	94.9%	98.6%	18	94.4%	100.0%
ISRAEL	Reykjavik	ELY	B744	4XELB	264	94.3%	99.6%	56	100.0%	100.0%
ISRAEL	Santa Maria	ELY	B772	4XECD	233	93.6%	95.7%	5	100.0%	100.0%
ISRAEL	Santa Maria	ELY	B789	4XEDA	282	94.0%	98.2%	6	100.0%	100.0%
ITALY	Santa Maria	AZA	A332	EIEIJ	974	94.6%	97.3%	43	100.0%	100.0%
ITALY	Santa Maria	AZA	B772	EIDBL	430	90.9%	94.4%	20	95.0%	95.0%
ITALY	Santa Maria	AZA	B772	EISIO	427	93.9%	96.0%	25	100.0%	100.0%
ITALY	Gander	ISS	A332	EIGFX	2,019	99.3%	100.0%	145	94.5%	94.5%
ITALY	Santa Maria	ISS	B763	IAIGG	661	93.3%	98.0%	50	98.0%	98.0%
ITALY	Shanwick	ISS	B763	IAIGG	619	94.8%	98.2%	34	100.0%	100.0%
ITALY	Santa Maria	NOS	B772	ECMUA	769	94.9%	100.0%	22	95.5%	95.5%
JORDAN	Gander	RJA	B788	JYBAA	914	91.6%	93.4%	68	94.1%	94.1%
JORDAN	Santa Maria	RJA	B788	JYBAA	101	78.2%	89.1%	7	100.0%	100.0%
JORDAN	Shanwick	RJA	B788	JYBAA	593	94.9%	97.3%	40	97.5%	97.5%
JORDAN	Gander	RJA	B788	JYBAG	1,289	93.3%	96.6%	100	98.0%	97.0%
JORDAN	Shanwick	RJA	B788	JYBAG	987	93.5%	96.6%	76	94.7%	96.1%
LUXEMBOURG	Gander	CLX	B744	LXGCL	195	93.9%	95.9%	16	100.0%	93.8%
LUXEMBOURG	Shanwick	CLX	B744	LXGCL	1,214	90.7%	92.8%	63	98.4%	98.4%
LUXEMBOURG	Gander	CLX	B744	LXICL	543	88.6%	92.3%	40	97.5%	97.5%
LUXEMBOURG	New York	CLX	B744	LXICL	167	88.0%	91.0%	9	100.0%	100.0%
LUXEMBOURG	Shanwick	CLX	B744	LXICL	593	89.9%	93.1%	30	90.0%	90.0%
LUXEMBOURG	Santa Maria	CLX	B744	LXWCV	395	94.7%	98.2%	23	100.0%	100.0%
MALTA	Santa Maria	TEU	CL60	9HOWL	141	94.3%	97.9%	4	100.0%	100.0%
MALTA	Santa Maria		CL60	9HOWL	141	94.3%	97.9%	4	100.0%	100.0%
MALTA	Santa Maria		GLEX	9HVJO	157	90.4%	98.1%	7	100.0%	100.0%
MEXICO	Gander	AMX	B762	XAAMX	437	77.6%	86.3%	7	85.7%	85.7%
MEXICO	Santa Maria	AMX	B788	N438AM	2,364	83.4%	88.6%	147	91.2%	91.8%
MEXICO	Gander	AMX	B788	N782AM	424	78.1%	84.7%	37	94.6%	94.6%
MEXICO	New York	AMX	B788	N782AM	1,158	85.7%	90.6%	86	94.2%	94.2%
MEXICO	Santa Maria	AMX	B788	N782AM	563	81.0%	87.0%	29	89.7%	89.7%
MEXICO	Shanwick	AMX	B788	N782AM	517	76.0%	85.3%	32	93.8%	93.8%
MEXICO	Gander	AMX	B788	N783AM	367	82.0%	87.7%	31	96.8%	96.8%
MEXICO	New York	AMX	B788	N783AM	573	82.2%	89.0%	37	81.1%	83.8%
MEXICO	Santa Maria	AMX	B788	N783AM	310	81.0%	87.1%	16	81.3%	87.5%
MEXICO	Shanwick	AMX	B788	N783AM	399	77.7%	84.2%	18	88.9%	88.9%
MEXICO	Gander	AMX	B788	N961AM	1,143	84.8%	89.7%	98	94.9%	91.8%
MEXICO	New York	AMX	B788	N961AM	985	86.3%	91.3%	92	96.7%	96.7%
MEXICO	Santa Maria	AMX	B788	N961AM	332	83.7%	89.2%	17	100.0%	100.0%
MEXICO	Shanwick	AMX	B788	N961AM	1,233	85.9%	90.8%	65	92.3%	93.9%
MEXICO	Gander	AMX	B788	N964AM	883	85.5%	90.9%	71	94.4%	93.0%
MEXICO	New York	AMX	B788	N964AM	911	86.3%	89.8%	64	100.0%	100.0%
MEXICO	Santa Maria	AMX	B788	N964AM	291	77.0%	81.1%	18	88.9%	94.4%
MEXICO	Shanwick	AMX	B788	N964AM	948	84.4%	88.7%	53	92.5%	94.3%
MEXICO	Gander	AMX	B788	N965AM	753	81.9%	87.7%	61	98.4%	98.4%
MEXICO	New York	AMX	B788	N965AM	532	88.0%	92.9%	48	91.7%	91.7%
MEXICO	Santa Maria	AMX	B788	N965AM	200	82.5%	88.5%	11	81.8%	90.9%
MEXICO	Shanwick	AMX	B788	N965AM	758	86.7%	90.1%	38	97.4%	97.4%
MEXICO	Gander	AMX	B788	N967AM	676	82.1%	90.4%	55	98.2%	94.6%
MEXICO	New York	AMX	B788	N967AM	1,118	89.3%	93.4%	83	92.8%	96.4%
MEXICO	Santa Maria	AMX	B788	N967AM	499	85.2%	90.2%	32	93.8%	93.8%
MEXICO	Shanwick	AMX	B788	N967AM	766	83.9%	89.8%	37	94.6%	94.6%
MEXICO	Gander	AMX	B788	XAAMR	566	79.2%	85.0%	45	95.6%	95.6%
MEXICO	New York	AMX	B788	XAAMR	1,039	85.9%	91.2%	85	89.4%	90.6%
MEXICO	Santa Maria	AMX	B788	XAAMR	531	81.7%	87.6%	38	89.5%	89.5%
MEXICO	Shanwick	AMX	B788	XAAMR	610	83.0%	88.2%	29	75.9%	79.3%
MEXICO	New York	AMX	B788	XAAMX	1,102	81.7%	87.5%	85	90.6%	92.9%
MEXICO	Santa Maria	AMX	B788	XAAMX	629	76.8%	84.3%	43	88.4%	90.7%
MEXICO	Shanwick	AMX	B788	XAAMX	574	82.1%	87.6%	36	86.1%	86.1%
MEXICO	Gander	AMX	B789	N183AM	1,154	77.2%	83.6%	90	97.8%	97.8%
MEXICO	New York	AMX	B789	N183AM	3,762	81.1%	86.4%	278	91.0%	91.4%
MEXICO	Santa Maria	AMX	B789	N183AM	2,316	80.3%	85.9%	149	93.3%	94.0%
MEXICO	Shanwick	AMX	B789	N183AM	1,226	80.8%	86.5%	64	84.4%	92.2%
MEXICO	Gander	AMX	B789	N438AM	1,276	76.3%	83.4%	105	93.3%	93.3%
MEXICO	New York	AMX	B789	N438AM	3,761	84.4%	89.6%	290	93.5%	94.1%
MEXICO	Santa Maria	AMX	B789	N438AM	2,364	83.4%	88.6%	147	91.2%	91.8%
MEXICO	Shanwick	AMX	B789	N438AM	1,383	81.1%	87.0%	71	87.3%	90.1%
MEXICO	Gander	AMX	B789	N446AM	1,242	80.0%	86.6%	97	94.9%	93.8%
MEXICO	New York	AMX	B789	N446AM	4,112	85.4%	90.1%	310	95.5%	96.1%
MEXICO	Santa Maria	AMX	B789	N446AM	2,501	83.4%	88.3%	167	92.2%	92.2%
MEXICO	Shanwick	AMX	B789	N446AM	1,356	83.3%	89.2%	73	94.5%	94.5%
MEXICO	Gander	AMX	B789	XAADC	1,065	79.7%	86.3%	92	91.3%	89.1%
MEXICO	New York	AMX	B789	XAADC	4,052	85.0%	90.1%	321	93.5%	94.7%
MEXICO	Santa Maria	AMX	B789	XAADC	2,463	84.0%	88.6%	157	93.6%	94.3%
MEXICO	Shanwick	AMX	B789	XAADC	1,195	78.1%	84.2%	60	90.0%	90.0%
MEXICO	Gander	AMX	B789	XAADD	1,290	73.5%	80.5%	98	89.8%	88.8%
MEXICO	New York	AMX	B789	XAADD	4,077	82.8%	88.2%	305	90.2%	93.4%
MEXICO	Santa Maria	AMX	B789	XAADD	2,272	80.8%	86.8%	139	90.6%	90.6%
MEXICO	Shanwick	AMX	B789	XAADD	1,323	77.9%	84.5%	68	83.8%	86.8%




NAT PBCS Monitoring Report by Airframe
 Period: July to December 2018

Color key:
 Meets criteria
 99.0%-99.9%
 Under criteria

* Multiple entries are seen for some registration numbers in the same FIR because of the use of different operator codes.
 * Results for airframes with low counts of messages/transactions may have skewed results. Request further analysis from data source POCs if needed.

State of Registry	Data Source (FIR)	3-letter ICAO Operator code (where available)	4-letter ICAO Aircraft Type	Registration Number	ADS-C downlink Message Counts	95% RSP 180 benchmark ASP <=90 sec	99.9% RSP 180 benchmark ASP <= 180 sec	CPDLC Transaction Counts	95% RCP 240 benchmark ACP <= 180	99.9% RCP 240 benchmark ACP <=210
MEXICO	Gander	AMX	B789	XAADG	1,142	81.6%	87.6%	85	90.6%	89.4%
MEXICO	New York	AMX	B789	XAADG	4,359	83.3%	88.3%	317	90.9%	91.5%
MEXICO	Santa Maria	AMX	B789	XAADG	2,493	82.4%	87.4%	156	88.5%	90.4%
MEXICO	Shanwick	AMX	B789	XAADG	1,326	81.5%	87.5%	70	85.7%	90.0%
MEXICO	Gander	AMX	B789	XAADH	1,152	75.3%	82.7%	92	89.1%	84.8%
MEXICO	New York	AMX	B789	XAADH	4,116	87.1%	91.2%	308	91.2%	92.5%
MEXICO	Santa Maria	AMX	B789	XAADH	2,567	83.6%	88.9%	166	94.0%	95.2%
MEXICO	Shanwick	AMX	B789	XAADH	1,228	81.5%	87.5%	63	85.7%	85.7%
MEXICO	Gander	AMX	B789	XAADL	1,240	75.5%	83.8%	89	88.8%	88.8%
MEXICO	New York	AMX	B789	XAADL	4,383	86.2%	90.8%	353	94.6%	94.9%
MEXICO	Santa Maria	AMX	B789	XAADL	2,610	85.9%	90.0%	177	93.8%	94.4%
MEXICO	Shanwick	AMX	B789	XAADL	1,343	78.7%	85.2%	74	81.1%	89.2%
NETHERLANDS	Reykjavik	KLM	B744	PHBFG	924	98.3%	95.5%	141	94.3%	95.7%
NETHERLANDS	Gander	KLM	B772	PHBQG	1,186	94.1%	98.8%	92	98.9%	98.9%
NETHERLANDS	Shanwick	KLM	B772	PHBQG	1,535	92.4%	98.9%	88	98.9%	98.9%
NETHERLANDS	Shanwick	KLM	B77W	PHBVP	857	92.1%	94.5%	36	100.0%	100.0%
NETHERLANDS	Gander	KLM	B77W	PHBVU	355	94.9%	99.7%	36	100.0%	100.0%
NETHERLANDS	Shanwick	KLM	B77W	PHBVU	1,009	93.5%	95.6%	60	98.3%	98.3%
NETHERLANDS	Gander	XRO	F900	PHLAU	113	79.7%	92.0%	3	100.0%	100.0%
NEW ZEALAND	Gander	ANZ	B77W	ZKOKM	411	92.9%	97.6%	28	100.0%	100.0%
NEW ZEALAND	Shanwick	ANZ	B77W	ZKOKM	452	93.6%	96.7%	29	100.0%	100.0%
NEW ZEALAND	Reykjavik	ANZ	B77W	ZKOKP	723	97.1%	98.8%	113	93.8%	96.5%
NORWAY	Shanwick	NAX	B744	ECKXN	595	90.9%	94.0%	30	83.3%	90.0%
NORWAY	Santa Maria	NAX	B772	ECMUA	769	94.9%	100.0%	22	95.5%	95.5%
NORWAY	Santa Maria	NAX	B788	LNLNE	215	94.0%	99.5%	10	100.0%	100.0%
NORWAY	Santa Maria	NAX	B789	GCKNY	208	94.7%	100.0%	13	100.0%	100.0%
NORWAY	Santa Maria	NAX	B789	LNLNO	607	94.6%	99.0%	34	100.0%	100.0%
NORWAY	Shanwick	TFL	B763	PHOVI	1,350	94.6%	97.5%	64	98.4%	98.4%
PAKISTAN	Reykjavik	PIA	B77W	APBID	202	93.1%	98.0%	46	91.3%	91.3%
PANAMA	Santa Maria	MLM	CL60	9HOWL	141	94.3%	97.9%	4	100.0%	100.0%
PERU	New York	LPE	B763	CCCVW	550	93.5%	94.7%	8	100.0%	100.0%
PERU	Santa Maria	LPE	B763	CCCXH	1,443	91.3%	93.2%	78	89.7%	92.3%
POLAND	Gander	LOT	B788	SPLRB	704	94.7%	99.0%	47	97.9%	97.9%
POLAND	Gander	LOT	B788	SPLRD	308	94.2%	97.4%	19	100.0%	100.0%
PORTUGAL	Santa Maria	NJE	GLEX	CSLGG	113	93.8%	96.5%	11	100.0%	100.0%
PORTUGAL	New York	NJE	GLF5	CSDKK	140	94.3%	95.0%	8	87.5%	87.5%
PORTUGAL	Santa Maria	RZO	A21N	CSTSF	4,898	94.2%	96.7%	337	96.7%	97.3%
PORTUGAL	Santa Maria	GLEX	CSLGG		113	93.8%	96.5%	11	100.0%	100.0%
QATAR	Gander	QTR	A359	A7AMG	120	94.2%	95.0%	10	100.0%	100.0%
QATAR	Gander	QTR	B77L	A7BBA	865	93.6%	99.3%	67	97.0%	97.0%
QATAR	Gander	QTR	B77L	A7BBB	361	92.5%	98.3%	29	100.0%	100.0%
QATAR	Shanwick	QTR	B77L	A7BBB	204	93.6%	100.0%	17	100.0%	100.0%
QATAR	Gander	QTR	B77L	A7BBC	332	93.7%	98.2%	16	100.0%	93.8%
QATAR	Reykjavik	QTR	B77L	A7BBC	897	96.7%	99.3%	114	94.7%	96.5%
QATAR	Gander	QTR	B77L	A7BBE	302	94.0%	98.7%	17	100.0%	100.0%
QATAR	Shanwick	QTR	B77L	A7BBE	162	90.7%	100.0%	9	100.0%	100.0%
QATAR	Shanwick	QTR	B77L	A7BBF	168	94.1%	98.8%	12	91.7%	100.0%
QATAR	Gander	QTR	B77L	A7BBG	1,305	94.6%	99.2%	95	99.0%	97.9%
QATAR	Santa Maria	QTR	B77L	A7BBG	117	94.0%	100.0%	1	100.0%	100.0%
QATAR	Shanwick	QTR	B77L	A7BBG	1,014	94.6%	99.5%	74	96.0%	98.7%
QATAR	Gander	QTR	B77L	A7BBH	171	92.4%	98.3%	9	88.9%	88.9%
QATAR	Shanwick	QTR	B77L	A7BFG	1,051	94.5%	95.4%	67	97.0%	97.0%
QATAR	Gander	QTR	B77W	A7BAB	190	94.7%	99.0%	14	100.0%	100.0%
QATAR	Gander	QTR	B77W	A7BAK	229	93.0%	98.7%	19	100.0%	100.0%
QATAR	Gander	QTR	B77W	A7BAL	166	86.8%	94.0%	10	90.0%	90.0%
QATAR	Gander	QTR	B77W	A7BAM	322	89.1%	97.8%	27	100.0%	100.0%
QATAR	Gander	QTR	B77W	A7BAO	298	93.6%	98.0%	26	88.5%	88.5%
QATAR	Gander	QTR	B77W	A7BAP	167	94.6%	99.4%	13	100.0%	100.0%
QATAR	Reykjavik	QTR	B77W	A7BAP	112	93.8%	98.2%	29	96.6%	96.6%
QATAR	Shanwick	QTR	B77W	A7BAP	103	93.2%	100.0%	11	81.8%	90.9%
QATAR	Gander	QTR	B77W	A7BAQ	240	93.8%	96.7%	20	100.0%	100.0%
QATAR	Gander	QTR	B77W	A7BAS	230	93.5%	97.8%	18	83.3%	83.3%
QATAR	Gander	QTR	B77W	A7BAU	165	94.6%	99.4%	15	93.3%	93.3%
QATAR	Gander	QTR	B77W	A7BAV	116	94.8%	96.6%	12	100.0%	100.0%
QATAR	Shanwick	QTR	B77W	A7BAX	130	91.5%	95.4%	7	100.0%	100.0%
QATAR	Gander	QTR	B77W	A7BAZ	152	93.4%	97.4%	12	100.0%	100.0%
QATAR	Gander	QTR	B77W	A7BED	836	94.7%	98.9%	66	100.0%	100.0%
QATAR	Shanwick	QTR	B77W	A7BED	593	93.4%	96.0%	50	100.0%	100.0%
QATAR	Gander	QTR	B77W	A7BEE	507	94.3%	96.7%	43	100.0%	100.0%
QATAR	Gander	QTR	B77W	A7BEF	150	93.3%	98.0%	11	100.0%	100.0%
QATAR	Shanwick	QTR	B77W	A7BEF	303	93.7%	96.4%	22	100.0%	100.0%
QATAR	Gander	QTR	B77W	A7BEG	284	90.5%	95.8%	20	100.0%	95.0%
QATAR	Gander	QTR	B77W	A7BEH	454	94.3%	98.2%	36	100.0%	100.0%
QATAR	New York	QTR	B77W	A7BEH	126	92.1%	92.9%	4	100.0%	100.0%
QATAR	Gander	QTR	B77W	A7BEI	215	93.0%	95.8%	21	95.2%	95.2%
QATAR	New York	QTR	B77W	A7BEI	112	91.1%	95.5%	1	100.0%	100.0%
QATAR	Shanwick	QTR	B77W	A7BEI	155	89.7%	93.6%	12	100.0%	100.0%
QATAR	Shanwick	QTR	B77W	A7BEP	559	94.5%	97.0%	42	100.0%	100.0%
QATAR	Gander	QTR	B77W	A7BER	640	94.4%	98.9%	54	100.0%	100.0%
QATAR	Shanwick	QTR	B77W	A7BES	578	94.1%	96.0%	47	97.9%	97.9%
QATAR	Shanwick	QTR	B77W	A7BET	193	93.8%	97.4%	12	100.0%	100.0%
REPUBLIC OF KOREA	Gander	AAR	B744	HL7420	184	94.6%	100.0%	14	100.0%	100.0%

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State of Registry	Data Source (FIR)	3-letter ICAO Operator code (where available)	4-letter ICAO Aircraft Type	Registration Number	ADS-C downlink Message Counts	95% RSP 180 benchmark ASP <= 90 sec	99.9% RSP 180 benchmark ASP <= 180 sec	CPDLC Transaction Counts	95% RCP 240 benchmark ACP <= 180	99.9% RCP 240 benchmark ACP <= 210
RUSSIAN FEDERATION	Gander	ABW	B748	VQBF	258	93.0%	95.7%	12	100.0%	100.0%
RUSSIAN FEDERATION	Shanwick	ABW	B748	VQBF	199	90.5%	93.5%	15	86.7%	86.7%
RUSSIAN FEDERATION	Gander	ABW	B748	VQBLQ	371	94.3%	96.8%	19	100.0%	100.0%
RUSSIAN FEDERATION	Gander	ABW	B748	VQBRJ	480	91.0%	93.3%	28	92.9%	92.9%
RUSSIAN FEDERATION	Shanwick	ABW	B748	VQBRJ	322	90.4%	91.6%	19	94.7%	100.0%
RUSSIAN FEDERATION	Gander	AFL	A333	VQBCQ	103	94.2%	97.1%	4	75.0%	75.0%
RUSSIAN FEDERATION	Reykjavik	AFL	A333	VQBCQ	145	93.1%	95.2%	27	100.0%	100.0%
RUSSIAN FEDERATION	Gander	AFL	A333	VQBMV	213	94.8%	97.2%	11	100.0%	100.0%
RUSSIAN FEDERATION	Gander	AFL	B77W	VPBGB	440	91.1%	95.2%	29	93.1%	89.7%
RUSSIAN FEDERATION	Shanwick	AFL	B77W	VPBGB	168	94.1%	98.8%	7	85.7%	85.7%
RUSSIAN FEDERATION	Gander	AFL	B77W	VPBGC	286	93.4%	97.6%	17	100.0%	94.1%
RUSSIAN FEDERATION	Reykjavik	AFL	B77W	VPBGC	447	94.6%	97.5%	51	100.0%	100.0%
RUSSIAN FEDERATION	Shanwick	AFL	B77W	VPBGC	104	92.3%	94.2%	5	100.0%	100.0%
RUSSIAN FEDERATION	Gander	AFL	B77W	VPBHA	336	93.2%	97.0%	24	95.8%	95.8%
RUSSIAN FEDERATION	Shanwick	AFL	B77W	VPBHA	118	92.4%	93.2%	-	0.0%	0.0%
RUSSIAN FEDERATION	Gander	AFL	B77W	VQBQE	346	92.5%	96.2%	22	95.5%	95.5%
RUSSIAN FEDERATION	Shanwick	AFL	B77W	VQBQE	141	94.3%	96.5%	7	100.0%	100.0%
RUSSIAN FEDERATION	Gander	AFL	B77W	VQBQF	195	93.3%	97.4%	10	100.0%	100.0%
RUSSIAN FEDERATION	Reykjavik	AFL	B77W	VQBQF	409	94.4%	96.3%	54	98.1%	98.1%
RUSSIAN FEDERATION	Gander	AFL	B77W	VQBQG	370	93.0%	96.2%	23	95.7%	95.7%
RUSSIAN FEDERATION	Reykjavik	AFL	B77W	VQBQG	761	94.2%	96.5%	91	96.7%	97.8%
RUSSIAN FEDERATION	Gander	AFL	B77W	VQBQM	478	92.5%	96.9%	21	95.2%	95.2%
RUSSIAN FEDERATION	Reykjavik	AFL	B77W	VQBQM	970	94.0%	96.8%	135	96.3%	97.0%
RUSSIAN FEDERATION	Shanwick	AFL	B77W	VQBUC	171	94.7%	99.4%	-	0.0%	0.0%
RUSSIAN FEDERATION	Gander	NWS	A332	VPBUA	214	94.4%	99.1%	17	100.0%	100.0%
RUSSIAN FEDERATION	Gander	NWS	B772	VPBJG	115	82.6%	98.3%	8	100.0%	100.0%
RUSSIAN FEDERATION	Shanwick	NWS	B772	VPBJG	116	85.3%	96.6%	2	100.0%	100.0%
RUSSIAN FEDERATION	New York	NWS	B772	VPBJH	222	94.1%	98.2%	13	100.0%	100.0%
RUSSIAN FEDERATION	Santa Maria	NWS	B772	VPBJH	130	92.3%	100.0%	6	100.0%	100.0%
RUSSIAN FEDERATION	Gander	NWS	B772	VQBIA	121	78.5%	83.5%	3	100.0%	100.0%
RUSSIAN FEDERATION	New York	NWS	B772	VQBUD	132	94.7%	97.7%	6	100.0%	100.0%
RUSSIAN FEDERATION	Gander	NWS	B77W	VPBJO	1,057	93.3%	98.9%	89	100.0%	98.9%
SAN MARINO	Santa Maria		GL5T	T7JIS	353	94.3%	98.3%	17	100.0%	100.0%
SAN MARINO	Santa Maria		GLF4	T7SAL	281	94.3%	96.8%	9	100.0%	100.0%
SAUDI ARABIA	Shanwick	SVA	B77L	HZAK71	138	91.3%	92.0%	6	100.0%	100.0%
SAUDI ARABIA	Shanwick	SVA	B77L	HZAK72	278	91.7%	94.6%	14	100.0%	100.0%
SAUDI ARABIA	Shanwick	SVA	B77L	HZAK73	108	94.4%	99.1%	7	100.0%	100.0%
SAUDI ARABIA	Shanwick	SVA	B77L	HZAK74	142	93.0%	95.8%	8	100.0%	100.0%
SAUDI ARABIA	Shanwick	SVA	B77W	HZAK26	101	87.1%	90.1%	8	100.0%	100.0%
SAUDI ARABIA	Shanwick	SVA	B77W	HZAK36	1,341	94.0%	96.6%	86	100.0%	100.0%
SAUDI ARABIA	Shanwick	SVA	B77W	HZAK37	1,404	94.4%	96.6%	96	99.0%	100.0%
SAUDI ARABIA	Shanwick	SVA	B77W	HZAK39	1,069	93.8%	96.2%	74	100.0%	100.0%
SAUDI ARABIA	Shanwick	SVA	B77W	HZAK41	1,361	94.4%	96.4%	89	100.0%	100.0%
SAUDI ARABIA	Gander	SVA	B789	HZARE	104	92.3%	95.2%	8	100.0%	100.0%
SINGAPORE	Shanwick	SIA	B744	9V5FQ	187	93.6%	97.9%	20	100.0%	100.0%
SOUTH AFRICA	Santa Maria	SAA	A330	ZSSXW	692	94.9%	97.1%	16	100.0%	100.0%
SOUTH AFRICA	Santa Maria	SAA	A332	ZSSXI	914	93.5%	97.0%	16	100.0%	100.0%
SOUTH AFRICA	Santa Maria	SAA	A332	ZSSXW	692	94.9%	97.1%	16	100.0%	100.0%
SOUTH AFRICA	Santa Maria	SAA	A332	ZSSXY	895	94.6%	96.6%	18	100.0%	100.0%
SOUTH AFRICA	Santa Maria	SAA	A333	ZSSXI	914	93.5%	97.0%	16	100.0%	100.0%
SOUTH AFRICA	Santa Maria	SAA	A333	ZSSXM	670	91.6%	96.3%	20	100.0%	100.0%
SOUTH AFRICA	Santa Maria	SAA	A346	ZSSNB	104	94.2%	97.1%			
SPAIN	New York	AEA	B788	ECMMY	4,553	93.0%	96.8%	234	96.2%	96.6%
SPAIN	Santa Maria	AEA	B788	ECMMY	4,761	93.4%	97.0%	332	97.0%	97.6%
SPAIN	Santa Maria	AEA	B789	ECMSZ	1,207	94.2%	98.5%	71	98.6%	98.6%
SPAIN	Santa Maria	AEA	B789	ECMTI	1,262	94.8%	97.3%	72	97.2%	97.2%
SPAIN	Santa Maria	EXU	GLF5	ECLYO	179	94.4%	98.3%	12	91.7%	100.0%
SPAIN	Santa Maria	GES	GLEX	ECMNH	178	94.9%	99.4%	11	100.0%	100.0%
SPAIN	Santa Maria	GES	GLF5	ECLYO	179	94.4%	98.3%	12	91.7%	100.0%
SPAIN	Shanwick	IBE	A332	ECMJA	229	93.9%	95.2%	12	91.7%	100.0%
SPAIN	Reykjavik	IBE	A332	ECMKI	124	94.4%	96.8%	28	96.4%	96.4%
SPAIN	New York	IBE	A333	ECLZJ	7,738	94.2%	98.3%	411	96.6%	97.1%
SPAIN	New York	IBE	A346	ECIZX	3,626	94.5%	97.5%	169	95.9%	96.5%
SPAIN	Shanwick	IBE	A346	ECICY	191	91.1%	93.7%	9	100.0%	100.0%
SWITZERLAND	Shanwick	SUI	F900	T785	101	93.1%	97.0%	5	60.0%	80.0%
SWITZERLAND	Santa Maria		GL5T	HBJRI	104	92.3%	99.0%	4	100.0%	100.0%
TURKEY	Gander	THY	A332	TCJCI	104	94.2%	97.1%	8	100.0%	100.0%
TURKEY	Reykjavik	THY	A332	TCJNC	514	99.4%	100.0%	101	94.1%	98.0%
TURKEY	Shanwick	THY	A333	TCJOD	387	94.8%	99.7%	24	100.0%	100.0%
TURKEY	Santa Maria	THY	A333	TCLNG	110	94.5%	99.1%	4	100.0%	100.0%
TURKEY	Gander	THY	B742	N701CK	240	93.3%	97.5%	3	100.0%	66.7%
TURKEY	Gander	THY	B742	N705CK	885	94.8%	97.7%	24	100.0%	100.0%
TURKEY	Gander	THY	B744	N705CK	133	94.7%	97.7%	39	100.0%	100.0%
TURKEY	Shanwick	THY	B77L	TCLIL	418	95.0%	97.1%	33	100.0%	100.0%
TURKEY	Gander	THY	B77L	TCLIN	111	94.6%	99.1%	10	100.0%	100.0%
TURKEY	Shanwick	THY	B77L	TCLIN	139	92.8%	92.8%	13	100.0%	100.0%
TURKEY	Shanwick	THY	B77W	TCJJI	732	93.9%	96.0%	49	100.0%	100.0%
TURKEY	Shanwick	THY	B77W	TCJJP	655	91.2%	94.5%	49	100.0%	100.0%
TURKEY	Shanwick	THY	B77W	TCJJS	567	94.4%	95.6%	45	97.8%	97.8%
TURKEY	Santa Maria	THY	B77W	TCJJU	108	94.4%	100.0%	8	100.0%	100.0%
TURKEY	Shanwick	THY	B77W	TCLIC	556	95.0%	96.8%	48	97.9%	100.0%
TURKEY	Shanwick	THY	B77W	TCLID	787	94.7%	96.3%	52	98.1%	98.1%

NAT PBCS Monitoring Report by Airframe

Period: July to December 2018

Color key:




- Meets criteria
- 99.0%-99.9%
- Under criteria

* Multiple entries are seen for some registration numbers in the same FIR because of the use of different operator codes.

* Results for airframes with low counts of messages/transactions may have skewed results. Request further analysis from data source POCs if needed.

State of Registry	Data Source (FIR)	3-letter ICAO Operator code (where available)	4-letter ICAO Aircraft Type	Registration Number	ADS-C downlink Message Counts	95% RSP 180 benchmark ASP <= 90 sec	99.9% RSP 180 benchmark ASP <= 180 sec	CPDLC Transaction Counts	95% RCP 240 benchmark ACP <= 180	99.9% RCP 240 benchmark ACP <= 210
TURKEY	Santa Maria	THY	B77W	TCLH	257	94.9%	97.7%	8	100.0%	100.0%
TURKEY	Santa Maria	THY	B77W	TCLJ	210	94.8%	95.7%	11	100.0%	100.0%
TURKEY	Shanwick	THY	B77W	TCLJ	739	95.0%	96.6%	51	98.0%	98.0%
TURKEY	New York	THY	B77W	TCLJ	108	94.4%	97.2%	6	100.0%	100.0%
UNITED ARAB EMIRATES	Shanwick	ETD	B77L	A6DDC	560	93.9%	96.4%	31	96.8%	96.8%
UNITED ARAB EMIRATES	Gander	ETD	B77W	A6ETK	121	89.3%	94.2%	3	66.7%	66.7%
UNITED ARAB EMIRATES	Shanwick	ROJ	B737	A6RJV	123	94.3%	100.0%	9	100.0%	100.0%
UNITED ARAB EMIRATES	Gander	UAE	A388	A6EDA	311	93.6%	95.2%	22	100.0%	100.0%
UNITED ARAB EMIRATES	Shanwick	UAE	A388	A6EDA	228	90.4%	92.5%	10	100.0%	100.0%
UNITED ARAB EMIRATES	Gander	UAE	A388	A6EEQ	342	90.4%	91.8%	19	100.0%	100.0%
UNITED ARAB EMIRATES	Gander	UAE	A388	A6EEZ	308	84.7%	86.0%	18	100.0%	100.0%
UNITED ARAB EMIRATES	Shanwick	UAE	A388	A6EEZ	309	89.0%	90.0%	11	90.9%	100.0%
UNITED ARAB EMIRATES	Reykjavik	UAE	A388	A6EOM	558	94.8%	96.4%	29	100.0%	100.0%
UNITED ARAB EMIRATES	Gander	UAE	B744	LXGCL	1,110	92.1%	94.1%	95	95.8%	95.8%
UNITED ARAB EMIRATES	Santa Maria	UAE	B77L	A6EFH	169	94.1%	97.6%	9	88.9%	100.0%
UNITED ARAB EMIRATES	Shanwick	UAE	B77L	A6EFH	509	94.7%	96.5%	29	96.6%	96.6%
UNITED ARAB EMIRATES	Shanwick	UAE	B77L	A6EFJ	643	92.2%	96.4%	46	95.7%	97.8%
UNITED ARAB EMIRATES	Gander	UAE	B77L	A6EFK	441	93.9%	98.2%	44	97.7%	97.7%
UNITED ARAB EMIRATES	Santa Maria	UAE	B77L	A6EFK	225	92.4%	93.8%	10	90.0%	90.0%
UNITED ARAB EMIRATES	Shanwick	UAE	B77L	A6EFL	180	89.4%	95.0%	13	100.0%	100.0%
UNITED ARAB EMIRATES	Gander	UAE	B77L	A6EFM	307	94.5%	97.4%	23	100.0%	100.0%
UNITED ARAB EMIRATES	Santa Maria	UAE	B77L	A6EFO	402	92.5%	96.5%	17	100.0%	100.0%
UNITED ARAB EMIRATES	Shanwick	UAE	B77L	A6EFO	516	94.6%	97.5%	40	95.0%	95.0%
UNITED ARAB EMIRATES	Santa Maria	UAE	B77L	A6EFS	287	93.4%	97.9%	16	87.5%	87.5%
UNITED ARAB EMIRATES	New York	UAE	B77L	A6EWI	932	94.5%	98.4%	62	98.4%	100.0%
UNITED ARAB EMIRATES	Reykjavik	UAE	B77W	A6ECF	116	92.2%	95.7%	13	100.0%	100.0%
UNITED ARAB EMIRATES	New York	UAE	B77W	A6ECH	101	90.1%	98.0%	5	100.0%	100.0%
UNITED ARAB EMIRATES	New York	UAE	B77W	A6ECU	253	94.9%	98.4%	19	100.0%	100.0%
UNITED ARAB EMIRATES	New York	UAE	B77W	A6ECX	189	94.2%	98.4%	11	100.0%	100.0%
UNITED ARAB EMIRATES	New York	UAE	B77W	A6EGA	242	94.6%	99.6%	16	100.0%	100.0%
UNITED ARAB EMIRATES	Reykjavik	UAE	B77W	A6EGC	176	93.8%	97.2%	23	95.7%	95.7%
UNITED ARAB EMIRATES	New York	UAE	B77W	A6EGF	165	89.7%	96.4%	15	100.0%	100.0%
UNITED ARAB EMIRATES	Reykjavik	UAE	B77W	A6EGI	331	94.6%	96.7%	38	94.7%	94.7%
UNITED ARAB EMIRATES	New York	UAE	B77W	A6EQF	143	94.4%	96.5%	7	100.0%	100.0%
UNITED KINGDOM	Santa Maria	BAW	B744	GBNLN	273	93.8%	94.9%	15	93.3%	100.0%
UNITED KINGDOM	Reykjavik	BAW	B744	GCIVA	710	98.7%	99.7%	132	94.7%	96.2%
UNITED KINGDOM	Shanwick	BAW	B744	GCIVS	2,597	92.5%	96.7%	111	98.2%	98.2%
UNITED KINGDOM	Reykjavik	BAW	B744	GCIVU	719	95.5%	97.2%	102	94.1%	96.1%
UNITED KINGDOM	Shanwick	BAW	B744	GCIVV	3,302	94.6%	98.0%	156	98.1%	98.1%
UNITED KINGDOM	Reykjavik	BAW	B744	GCIVW	443	94.4%	98.9%	73	95.9%	95.9%
UNITED KINGDOM	Shanwick	BAW	B744	GCIVX	2,913	94.3%	97.6%	139	97.8%	97.8%
UNITED KINGDOM	Shanwick	BAW	B744	GCIVY	3,427	90.6%	94.7%	177	94.9%	94.9%
UNITED KINGDOM	Reykjavik	BAW	B772	GVIIA	154	93.5%	97.4%	22	100.0%	100.0%
UNITED KINGDOM	Shanwick	BAW	B772	GVIIB	2,117	93.7%	98.8%	108	100.0%	100.0%
UNITED KINGDOM	Shanwick	BAW	B772	GVIID	1,628	94.2%	97.6%	85	97.7%	98.8%
UNITED KINGDOM	Shanwick	BAW	B772	GVIIT	3,573	95.0%	97.5%	188	95.7%	95.7%
UNITED KINGDOM	Gander	BAW	B772	GVIIU	1,856	94.1%	97.8%	137	97.8%	96.4%
UNITED KINGDOM	Santa Maria	BAW	B772	GVIIV	2,841	93.9%	97.8%	188	98.9%	99.5%
UNITED KINGDOM	Shanwick	BAW	B772	GVIIU	3,313	94.6%	98.3%	157	100.0%	100.0%
UNITED KINGDOM	Gander	BAW	B772	GVIIX	2,807	94.6%	97.7%	210	100.0%	99.1%
UNITED KINGDOM	Shanwick	BAW	B772	GVIIX	4,457	93.0%	97.5%	232	96.1%	96.1%
UNITED KINGDOM	Shanwick	BAW	B772	GVIYY	3,998	94.1%	98.3%	236	97.9%	97.9%
UNITED KINGDOM	Shanwick	BAW	B772	GYMMB	821	94.5%	98.7%	42	100.0%	100.0%
UNITED KINGDOM	Gander	BAW	B772	GYMMC	1,628	94.7%	97.5%	128	99.2%	99.2%
UNITED KINGDOM	Shanwick	BAW	B772	GYMME	909	94.4%	98.4%	45	97.8%	97.8%
UNITED KINGDOM	Shanwick	BAW	B772	GYMMF	1,378	94.2%	98.7%	81	100.0%	100.0%
UNITED KINGDOM	Gander	BAW	B772	GYMMG	2,247	94.3%	97.7%	177	96.6%	96.1%
UNITED KINGDOM	Shanwick	BAW	B772	GYMMH	2,197	91.7%	97.0%	105	87.6%	90.5%
UNITED KINGDOM	Gander	BAW	B772	GYMMO	1,729	93.8%	96.5%	143	97.9%	97.9%
UNITED KINGDOM	Gander	BAW	B772	GYMMP	2,158	94.1%	96.6%	164	97.6%	95.7%
UNITED KINGDOM	New York	BAW	B772	GYMMP	159	93.1%	94.3%	15	93.3%	100.0%
UNITED KINGDOM	Shanwick	BAW	B772	GZZZA	1,940	94.6%	97.7%	103	97.1%	97.1%
UNITED KINGDOM	Shanwick	BAW	B772	GZZZC	1,686	94.5%	98.0%	88	98.9%	100.0%
UNITED KINGDOM	Santa Maria	BAW	B77W	GSTBE	551	94.4%	98.2%	38	100.0%	100.0%
UNITED KINGDOM	Shanwick	BAW	B77W	GSTBI	751	93.5%	96.9%	51	100.0%	100.0%
UNITED KINGDOM	Santa Maria	BAW	B788	GZBIA	185	93.0%	100.0%	14	100.0%	100.0%
UNITED KINGDOM	Shanwick	BAW	B788	GZBJB	1,592	93.7%	98.3%	72	97.2%	100.0%
UNITED KINGDOM	New York	BAW	B789	GZBKE	132	94.7%	97.7%	12	91.7%	91.7%
UNITED KINGDOM	Reykjavik	BAW	B789	GZBKJ	138	94.2%	98.6%	24	100.0%	100.0%
UNITED KINGDOM	Gander	BAW	B789	GZBKJ	1,580	94.9%	98.7%	122	100.0%	100.0%
UNITED KINGDOM	Reykjavik	BAW	B789	GZBKJ	246	92.7%	97.2%	46	97.8%	97.8%
UNITED KINGDOM	Shanwick	BAW	B789	GZBKJ	1,542	93.3%	98.4%	88	100.0%	100.0%
UNITED KINGDOM	Reykjavik	BAW	B789	GZBKM	295	94.9%	99.3%	41	100.0%	100.0%
UNITED KINGDOM	Reykjavik	BAW	B789	GZBKN	352	93.2%	97.2%	59	98.3%	100.0%
UNITED KINGDOM	Reykjavik	BAW	B789	GZBKS	363	94.2%	98.1%	70	100.0%	100.0%
UNITED KINGDOM	Santa Maria	BAW	B789	GZBKS	1,219	94.1%	96.1%	76	98.7%	98.7%
UNITED KINGDOM	Gander	CRV	A319	GNOAH	108	94.4%	99.1%	7	100.0%	100.0%
UNITED KINGDOM	New York	DHK	B763	GDHLE	151	94.7%	96.0%	9	88.9%	100.0%
UNITED KINGDOM	New York	DHK	B763	GDHLF	212	94.3%	94.8%	14	100.0%	100.0%
UNITED KINGDOM	New York	GMA	GLF5	GLSCW	156	93.6%	98.1%	12	100.0%	100.0%
UNITED KINGDOM	Shanwick	TCX	A321	GTCDN	118	94.9%	100.0%	8	87.5%	87.5%
UNITED KINGDOM	Santa Maria	TCX	A321	GTCCO	416	50.7%	58.9%	22	54.5%	63.6%




NAT PBCS Monitoring Report by Airframe
 Period: July to December 2018

Color key:
 Meets criteria
 99.0%-99.9%
 Under criteria

* Multiple entries are seen for some registration numbers in the same FIR because of the use of different operator codes.
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State of Registry	Data Source (FIR)	3-letter ICAO Operator code (where available)	4-letter ICAO Aircraft Type	Registration Number	ADS-C downlink Message Counts	95% RSP 180 benchmark ASP <= 90 sec	99.9% RSP 180 benchmark ASP <= 180 sec	CPDLC Transaction Counts	95% RCP 240 benchmark ACP <= 180	99.9% RCP 240 benchmark ACP <= 210
UNITED KINGDOM	Shanwick	TCX	A321	GTCDO	278	67.3%	77.0%	23	69.6%	87.0%
UNITED KINGDOM	Santa Maria	TOM	B763	GOBYF	195	93.8%	98.5%	12	100.0%	100.0%
UNITED KINGDOM	Santa Maria	TOM	B763	GOBYG	200	89.0%	96.5%	10	100.0%	100.0%
UNITED KINGDOM	Santa Maria	TOM	B763	GOBYH	128	93.8%	96.1%	4	100.0%	100.0%
UNITED KINGDOM	Santa Maria	TOM	B763	GOBYK	126	88.9%	94.4%	8	100.0%	100.0%
UNITED KINGDOM	Shanwick	TOM	B763	GOBYL	113	92.0%	96.5%	4	100.0%	100.0%
UNITED KINGDOM	New York	TOM	B788	GTUIC	1,266	94.8%	95.3%	56	100.0%	100.0%
UNITED KINGDOM	Shanwick	TOM	B788	GTUID	734	93.9%	97.4%	42	97.6%	97.6%
UNITED KINGDOM	Gander	TOM	B789	GTUIM	1,542	88.7%	91.0%	97	92.8%	88.7%
UNITED KINGDOM	New York	TOM	B789	GTUIN	4,968	94.0%	95.3%	320	97.2%	98.4%
UNITED KINGDOM	Shanwick	TOM	B789	GTUIM	2,398	88.6%	92.8%	129	96.9%	96.9%
UNITED KINGDOM	Gander	VIR	A333	GVKSS	3,521	93.9%	95.6%	246	98.4%	98.4%
UNITED KINGDOM	Santa Maria		FA7X	GSTMT	111	94.6%	98.2%	6	100.0%	100.0%
UNITED STATES	Shanwick			N614FE	104	90.4%	90.4%	4	75.0%	75.0%
UNITED STATES	Shanwick	AAL	A332	N280AY	2,816	95.0%	97.7%	118	94.9%	94.9%
UNITED STATES	Shanwick	AAL	A332	N282AY	2,516	95.0%	97.2%	90	98.9%	98.9%
UNITED STATES	Shanwick	AAL	A332	N283AY	2,547	96.5%	98.8%	110	93.6%	96.4%
UNITED STATES	Shanwick	AAL	A332	N284AY	2,873	96.2%	98.1%	122	92.6%	94.3%
UNITED STATES	Shanwick	AAL	A332	N285AY	2,970	97.0%	98.7%	127	92.9%	96.1%
UNITED STATES	Santa Maria	AAL	A332	N288AY	1,238	95.0%	99.0%	61	96.7%	98.4%
UNITED STATES	Shanwick	AAL	A332	N289AY	2,961	96.5%	98.6%	114	94.7%	95.6%
UNITED STATES	Shanwick	AAL	A332	N291AY	2,656	95.8%	98.2%	102	94.1%	95.1%
UNITED STATES	Shanwick	AAL	A332	N293AY	2,883	95.8%	98.3%	120	94.2%	95.0%
UNITED STATES	Shanwick	AAL	A333	N270AY	3,157	95.4%	98.0%	132	93.2%	93.9%
UNITED STATES	Shanwick	AAL	A333	N271AY	2,786	97.0%	98.7%	127	94.5%	95.3%
UNITED STATES	Santa Maria	AAL	A333	N272AY	365	94.5%	96.2%	15	100.0%	100.0%
UNITED STATES	Shanwick	AAL	A333	N272AY	3,202	97.1%	99.0%	156	94.2%	94.9%
UNITED STATES	Shanwick	AAL	A333	N274AY	3,091	97.8%	99.4%	139	95.0%	95.0%
UNITED STATES	Shanwick	AAL	A333	N275AY	3,508	96.4%	98.6%	162	93.2%	95.1%
UNITED STATES	Shanwick	AAL	A333	N276AY	3,749	96.7%	98.7%	168	91.7%	92.9%
UNITED STATES	Reykjavik	AAL	B752	N176AA	138	93.5%	95.7%	24	91.7%	95.8%
UNITED STATES	New York	AAL	B752	N192AN	109	89.9%	95.4%	5	100.0%	100.0%
UNITED STATES	Gander	AAL	B763	N381AN	1,070	92.3%	94.2%	71	100.0%	100.0%
UNITED STATES	New York	AAL	B763	N381AN	1,154	94.2%	96.0%	51	100.0%	100.0%
UNITED STATES	Shanwick	AAL	B763	N381AN	1,054	94.7%	95.8%	42	92.9%	95.2%
UNITED STATES	Santa Maria	AAL	B763	N389AA	735	94.8%	98.2%	35	97.1%	97.1%
UNITED STATES	Gander	AAL	B763	N394AN	912	87.9%	91.3%	58	96.6%	96.6%
UNITED STATES	Shanwick	AAL	B763	N394AN	838	89.9%	92.1%	35	91.4%	91.4%
UNITED STATES	Gander	AAL	B772	N758AN	918	94.9%	96.8%	60	100.0%	98.3%
UNITED STATES	Santa Maria	AAL	B772	N777AN	674	94.2%	97.8%	48	93.8%	97.9%
UNITED STATES	Shanwick	AAL	B772	N783AN	782	94.6%	97.7%	33	97.0%	97.0%
UNITED STATES	Santa Maria	AAL	B772	N787AL	731	94.8%	97.3%	52	96.2%	96.2%
UNITED STATES	New York	AAL	B772	N797AN	1,693	94.8%	98.2%	110	100.0%	100.0%
UNITED STATES	Gander	AAL	B789	N839AA	101	94.1%	97.0%	7	100.0%	100.0%
UNITED STATES	Santa Maria	BLU	DC10	40185S	107	91.6%	96.3%	4	100.0%	100.0%
UNITED STATES	Santa Maria	BLU	DC10	50028S	130	67.7%	75.4%	4	100.0%	100.0%
UNITED STATES	Santa Maria	BLU	DC10	60032S	177	90.4%	96.0%	17	100.0%	100.0%
UNITED STATES	Santa Maria	BLU	DC10	60037S	255	94.1%	98.4%	11	100.0%	100.0%
UNITED STATES	Gander	CKS	B742	N701CK	104	91.4%	98.1%			
UNITED STATES	Gander	CKS	B742	N715CK	123	93.5%	99.2%	8	100.0%	100.0%
UNITED STATES	Gander	CKS	B744	N539BC	215	94.9%	99.1%	17	100.0%	100.0%
UNITED STATES	Gander	CKS	B744	N710CK	177	93.8%	99.4%	14	100.0%	100.0%
UNITED STATES	Shanwick	CKS	B744	N710CK	213	94.8%	97.7%	18	88.9%	88.9%
UNITED STATES	Shanwick	CKS	B744	N713CK	361	94.2%	97.5%	15	100.0%	100.0%
UNITED STATES	Gander	CKS	B744	N740CK	1,068	94.9%	98.7%	84	98.8%	98.8%
UNITED STATES	Gander	CKS	B744	N741CK	1,175	94.9%	98.7%	82	100.0%	100.0%
UNITED STATES	Gander	CMB	B762	N207AX	157	93.6%	100.0%	11	100.0%	100.0%
UNITED STATES	Gander	CMB	B772	N846AX	477	95.0%	98.5%	35	100.0%	97.1%
UNITED STATES	Santa Maria	CMB	MD11	N278UP	110	94.5%	97.3%	6	100.0%	100.0%
UNITED STATES	Santa Maria	CMB	MD11	N584FE	449	93.8%	96.7%	23	91.3%	91.3%
UNITED STATES	Shanwick	DAL	A332	N859NW	2,651	96.3%	97.8%	119	94.1%	95.0%
UNITED STATES	Shanwick	DAL	A333	N805NW	2,968	95.8%	97.7%	152	92.8%	92.8%
UNITED STATES	Shanwick	DAL	A333	N812NW	3,288	96.2%	97.4%	174	93.1%	93.7%
UNITED STATES	Shanwick	DAL	A333	N813NW	2,838	96.2%	97.5%	151	94.7%	96.0%
UNITED STATES	Shanwick	DAL	A359	N507DN	371	94.9%	97.3%	24	95.8%	95.8%
UNITED STATES	New York	DAL	B739	N878DN	185	92.4%	98.9%	14	100.0%	100.0%
UNITED STATES	Gander	DAL	B752	N819DX	1,206	94.2%	98.4%	75	97.3%	96.0%
UNITED STATES	Shanwick	DAL	B752	N820DX	457	93.9%	97.4%	25	92.0%	96.0%
UNITED STATES	Gander	DAL	B752	N821DX	1,058	86.1%	91.7%	36	97.2%	91.7%
UNITED STATES	Shanwick	DAL	B752	N821DX	280	85.0%	89.6%	10	100.0%	100.0%
UNITED STATES	Gander	DAL	B752	N823DX	1,431	94.7%	98.6%	63	100.0%	96.8%
UNITED STATES	Santa Maria	DAL	B752	N823DX	103	93.2%	98.1%	3	100.0%	100.0%
UNITED STATES	New York	DAL	B75F	N718TW	723	93.8%	95.4%	48	100.0%	100.0%
UNITED STATES	New York	DAL	B75H	N821DX	1,959	91.7%	95.4%	98	93.9%	93.9%
UNITED STATES	Santa Maria	DAL	B763	N178DZ	363	94.8%	95.9%	12	100.0%	100.0%
UNITED STATES	Gander	DAL	B772	N863DA	374	93.3%	98.9%	31	100.0%	100.0%
UNITED STATES	Shanwick	DAL	B772	N863DA	348	92.0%	99.1%	22	100.0%	100.0%
UNITED STATES	Gander	DAL	B77L	N701DN	388	92.3%	98.2%	25	100.0%	96.0%
UNITED STATES	Shanwick	DAL	B77L	N710DN	400	94.5%	99.5%	25	100.0%	100.0%
UNITED STATES	Shanwick	EJM	CL35	N225FW	126	93.7%	97.6%	4	100.0%	100.0%
UNITED STATES	Santa Maria	EJM	FA7X	N716CG	135	92.6%	94.8%	5	80.0%	80.0%
UNITED STATES	Gander	EJM	GLF4	N913HH	120	86.7%	95.8%	11	100.0%	100.0%




NAT PBCS Monitoring Report by Airframe
 Period: July to December 2018

Color key:
 Meets criteria
 99.0%-99.9%
 Under criteria

* Multiple entries are seen for some registration numbers in the same FIR because of the use of different operator codes.
 * Results for airframes with low counts of messages/transactions may have skewed results. Request further analysis from data source POCs if needed.

State of Registry	Data Source (FIR)	3-letter ICAO Operator code (where available)	4-letter ICAO Aircraft Type	Registration Number	ADS-C downlink Message Counts	95% RSP 180 benchmark ASP <= 90 sec	99.9% RSP 180 benchmark ASP <= 180 sec	CPDLC Transaction Counts	95% RCP 240 benchmark ACP <= 180	99.9% RCP 240 benchmark ACP <= 210
UNITED STATES	Gander	EJM	GLF5	N561SK	170	92.9%	95.3%	15	93.3%	93.3%
UNITED STATES	Gander	FDX	B77L	N842FD	1,121	94.7%	98.9%	92	95.7%	94.6%
UNITED STATES	Shanwick	FDX	B77L	N842FD	1,103	93.3%	96.4%	53	94.3%	96.2%
UNITED STATES	Shanwick	FDX	B77L	N843FD	897	94.1%	97.0%	45	97.8%	97.8%
UNITED STATES	Gander	FDX	B77L	N844FD	663	93.4%	99.3%	50	100.0%	100.0%
UNITED STATES	Gander	FDX	B77L	N851FD	632	94.6%	99.1%	50	100.0%	98.0%
UNITED STATES	Shanwick	FDX	B77L	N851FD	628	93.2%	95.7%	34	97.1%	97.1%
UNITED STATES	Shanwick	FDX	B77L	N852FD	450	91.1%	93.6%	28	92.9%	92.9%
UNITED STATES	Shanwick	FDX	B77L	N853FD	481	94.8%	97.3%	21	100.0%	100.0%
UNITED STATES	Shanwick	FDX	B77L	N854FD	560	93.4%	95.4%	25	96.0%	96.0%
UNITED STATES	Shanwick	FDX	B77L	N855FD	542	93.7%	97.4%	27	88.9%	92.6%
UNITED STATES	Gander	FDX	B77L	N856FD	509	94.9%	98.2%	41	95.1%	95.1%
UNITED STATES	Shanwick	FDX	B77L	N856FD	530	90.4%	94.2%	24	91.7%	91.7%
UNITED STATES	Shanwick	FDX	B77L	N857FD	664	93.4%	95.8%	37	97.3%	97.3%
UNITED STATES	Gander	FDX	B77L	N858FD	526	94.3%	97.9%	43	100.0%	100.0%
UNITED STATES	Shanwick	FDX	B77L	N858FD	547	93.4%	96.0%	25	96.0%	96.0%
UNITED STATES	Gander	FDX	B77L	N859FD	548	94.3%	98.0%	42	92.9%	90.5%
UNITED STATES	Shanwick	FDX	B77L	N859FD	559	92.5%	95.2%	22	90.9%	90.9%
UNITED STATES	Shanwick	FDX	B77L	N861FD	548	92.7%	96.0%	34	97.1%	100.0%
UNITED STATES	Shanwick	FDX	B77L	N862FD	407	90.9%	95.1%	19	94.7%	94.7%
UNITED STATES	Gander	FDX	B77L	N863FD	575	93.6%	97.6%	44	97.7%	97.7%
UNITED STATES	Shanwick	FDX	B77L	N863FD	572	91.8%	94.8%	26	88.5%	92.3%
UNITED STATES	Shanwick	FDX	B77L	N868FD	527	90.3%	95.6%	29	96.6%	100.0%
UNITED STATES	Gander	FDX	B77L	N877FD	570	94.0%	98.6%	42	97.6%	95.2%
UNITED STATES	Shanwick	FDX	B77L	N877FD	497	92.8%	95.6%	24	100.0%	100.0%
UNITED STATES	Shanwick	FDX	B77L	N878FD	447	92.6%	95.8%	22	90.9%	90.9%
UNITED STATES	Gander	FDX	B77L	N880FD	689	94.9%	98.8%	48	97.9%	97.9%
UNITED STATES	Shanwick	FDX	B77L	N880FD	619	94.0%	97.3%	35	97.1%	97.1%
UNITED STATES	Shanwick	FDX	B77L	N882FD	388	92.5%	94.6%	19	100.0%	100.0%
UNITED STATES	Shanwick	FDX	B77L	N883FD	587	91.8%	95.2%	37	94.6%	94.6%
UNITED STATES	Shanwick	FDX	B77L	N884FD	585	93.7%	96.9%	33	100.0%	100.0%
UNITED STATES	Shanwick	FDX	B77L	N886FD	651	92.5%	95.7%	30	100.0%	100.0%
UNITED STATES	Gander	FDX	B77L	N887FD	594	94.1%	98.3%	41	95.1%	95.1%
UNITED STATES	Shanwick	FDX	B77L	N887FD	557	94.8%	97.3%	31	77.4%	83.9%
UNITED STATES	Gander	FDX	B77L	N888FD	961	94.5%	98.9%	74	98.7%	98.7%
UNITED STATES	Shanwick	FDX	B77L	N888FD	927	93.1%	96.7%	46	97.8%	100.0%
UNITED STATES	Gander	FDX	B77L	N889FD	949	93.7%	98.6%	72	95.8%	95.8%
UNITED STATES	Shanwick	FDX	B77L	N889FD	911	92.3%	96.9%	42	97.6%	97.6%
UNITED STATES	Shanwick	FDX	B77L	N890FD	586	93.0%	96.3%	31	100.0%	100.0%
UNITED STATES	Gander	FDX	B77L	N891FD	414	92.5%	97.3%	28	100.0%	100.0%
UNITED STATES	Shanwick	FDX	B77L	N891FD	412	93.5%	97.3%	14	100.0%	100.0%
UNITED STATES	Gander	FDX	B77L	N892FD	531	93.6%	97.7%	47	100.0%	100.0%
UNITED STATES	Shanwick	FDX	B77L	N892FD	482	91.7%	96.1%	25	100.0%	100.0%
UNITED STATES	Shanwick	FDX	B77L	N895FD	636	92.6%	95.6%	32	100.0%	100.0%
UNITED STATES	Gander	FDX	B77L	N897FD	618	95.0%	99.2%	47	100.0%	100.0%
UNITED STATES	Shanwick	FDX	B77L	N897FD	573	93.5%	96.7%	30	96.7%	96.7%
UNITED STATES	Gander	FDX	MD11	N522FE	154	94.8%	99.4%	11	100.0%	100.0%
UNITED STATES	Shanwick	FDX	MD11	N587FE	102	94.1%	99.0%	6	100.0%	100.0%
UNITED STATES	Gander	FDX	MD11	N603FE	150	92.0%	97.3%	11	81.8%	81.8%
UNITED STATES	Shanwick	FDX	MD11	N608FE	109	94.5%	99.1%	4	100.0%	100.0%
UNITED STATES	Santa Maria	GTH	F2TH	N718PM	180	93.3%	97.8%	10	100.0%	100.0%
UNITED STATES	Shanwick	GTH	FA7X	N221HJ	148	94.6%	99.3%	5	100.0%	100.0%
UNITED STATES	Santa Maria	GTH	GLF4	N718PM	180	93.3%	97.8%	10	100.0%	100.0%
UNITED STATES	New York	GTI	B744	N404KZ	137	94.2%	95.6%	4	100.0%	100.0%
UNITED STATES	New York	GTI	B748	N850GT	661	94.3%	96.1%	29	100.0%	100.0%
UNITED STATES	Gander	GTI	B748	N854GT	578	93.9%	96.2%	42	95.2%	95.2%
UNITED STATES	Gander	JAS	GLF6	N1777M	117	94.0%	98.3%	8	100.0%	100.0%
UNITED STATES	New York	JBU	A320	N708JB	1,733	93.3%	94.5%	111	99.1%	100.0%
UNITED STATES	New York	JBU	A321	N975JT	6,766	75.5%	83.8%	257	84.4%	88.3%
UNITED STATES	New York	JBU	A321	N987JT	523	93.7%	95.4%	25	100.0%	100.0%
UNITED STATES	Gander	NRS	B744	ECKXN	166	89.8%	92.8%	8	87.5%	75.0%
UNITED STATES	Gander	RCH	C17	00178A	105	93.3%	96.2%	7	85.7%	85.7%
UNITED STATES	Shanwick	RCH	C17	70041A	135	90.4%	94.1%	6	100.0%	100.0%
UNITED STATES	Gander	RCH	C5	50004B	197	92.9%	93.4%	8	100.0%	100.0%
UNITED STATES	Shanwick	RCH	C5	60017B	156	94.2%	95.5%	4	100.0%	100.0%
UNITED STATES	Gander	RCH	C5	60020B	147	92.5%	95.2%	3	100.0%	100.0%
UNITED STATES	Gander	RCH	C5	70029B	120	89.2%	90.8%	6	100.0%	100.0%
UNITED STATES	Gander	RCH	C5	70035B	152	94.1%	94.7%	8	75.0%	75.0%
UNITED STATES	Santa Maria	RCH	DC10	60032S	177	90.4%	96.0%	17	100.0%	100.0%
UNITED STATES	Santa Maria	RCH	DC10	60037S	255	94.1%	98.4%	11	100.0%	100.0%
UNITED STATES	Shanwick	RCH	K35R	23547S	102	93.1%	94.1%	4	100.0%	100.0%
UNITED STATES	Gander	RDN	B737	N839BA	120	90.8%	98.3%	8	87.5%	87.5%
UNITED STATES	Shanwick	RDN	B737	N839BA	130	93.1%	98.5%	9	88.9%	88.9%
UNITED STATES	Shanwick	SOO	B77L	N714SA	681	94.6%	96.5%	71	100.0%	100.0%
UNITED STATES	Gander	TWY	GLEX	N930EN	113	93.8%	97.4%	9	100.0%	100.0%
UNITED STATES	Shanwick	TWY	GLEX	N930EN	144	94.4%	99.3%	5	100.0%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N12109	489	94.5%	98.8%	32	96.9%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N12125	225	93.3%	97.3%	13	100.0%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N14102	440	94.8%	100.0%	27	100.0%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N14121	489	94.7%	99.8%	38	100.0%	100.0%
UNITED STATES	Gander	UAL	B752	N17104	1,489	93.7%	97.2%	105	98.1%	97.1%
UNITED STATES	New York	UAL	B752	N17104	384	91.2%	95.3%	25	96.0%	100.0%




NAT PBCS Monitoring Report by Airframe
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State of Registry	Data Source (FIR)	3-letter ICAO Operator code (where applicable)	4-letter ICAO Aircraft Type	Registration Number	ADS-C downlink Message Counts	95% RSP 180 benchmark ASP <= 90 sec	99.9% RSP 180 benchmark ASP <= 180 sec	CPDLC Transaction Counts	95% RCP 240 benchmark ACP <= 180	99.9% RCP 240 benchmark ACP <= 210
UNITED STATES	Santa Maria	UAL	B752	N17104	428	82.7%	87.6%	30	83.3%	86.7%
UNITED STATES	Shanwick	UAL	B752	N17104	1,399	94.1%	97.0%	54	98.2%	98.2%
UNITED STATES	Santa Maria	UAL	B752	N17126	479	93.9%	97.1%	26	96.2%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N18112	507	93.9%	98.4%	36	100.0%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N19130	380	93.7%	99.5%	20	95.0%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N19136	720	94.2%	99.3%	44	97.7%	97.7%
UNITED STATES	Reykjavik	UAL	B752	N19141	111	93.7%	99.1%	26	96.2%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N19141	295	93.6%	100.0%	22	100.0%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N26123	326	93.6%	98.2%	17	88.2%	94.1%
UNITED STATES	New York	UAL	B752	N29124	260	94.2%	100.0%	13	100.0%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N29124	204	94.6%	100.0%	10	90.0%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N29129	390	94.1%	99.2%	25	100.0%	100.0%
UNITED STATES	New York	UAL	B752	N33103	277	94.6%	97.8%	15	100.0%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N33103	323	94.7%	97.8%	22	95.5%	95.5%
UNITED STATES	New York	UAL	B752	N34137	367	94.3%	97.6%	19	89.5%	89.5%
UNITED STATES	Santa Maria	UAL	B752	N41140	401	94.3%	99.3%	31	100.0%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N57111	342	92.1%	98.8%	22	100.0%	100.0%
UNITED STATES	Santa Maria	UAL	B752	N58101	213	94.4%	100.0%	12	100.0%	100.0%
UNITED STATES	Gander	UAL	B752	N76064	2,550	95.0%	97.8%	185	97.8%	96.2%
UNITED STATES	Reykjavik	UAL	B763	N644UA	230	93.5%	99.1%	41	100.0%	100.0%
UNITED STATES	Santa Maria	UAL	B763	N644UA	597	94.5%	99.3%	28	100.0%	100.0%
UNITED STATES	Santa Maria	UAL	B763	N646UA	282	94.3%	96.5%	13	92.3%	100.0%
UNITED STATES	Santa Maria	UAL	B763	N673UA	403	93.3%	98.5%	15	93.3%	93.3%
UNITED STATES	New York	UAL	B764	N68061	1,081	93.6%	97.0%	72	98.6%	100.0%
UNITED STATES	Reykjavik	UAL	B764	N76055	114	93.0%	99.1%	21	95.2%	95.2%
UNITED STATES	New York	UAL	B764	N76064	1,398	93.1%	96.6%	99	100.0%	100.0%
UNITED STATES	Reykjavik	UAL	B764	N76064	147	93.9%	98.0%	26	100.0%	100.0%
UNITED STATES	Santa Maria	UAL	B764	N76064	133	88.7%	94.0%	8	87.5%	87.5%
UNITED STATES	New York	UAL	B772	N204UA	521	93.9%	97.5%	43	100.0%	100.0%
UNITED STATES	New York	UAL	B772	N216UA	639	93.3%	94.7%	55	94.6%	94.6%
UNITED STATES	Shanwick	UAL	B772	N217UA	2,025	94.3%	96.4%	108	100.0%	100.0%
UNITED STATES	New York	UAL	B772	N220UA	437	95.0%	98.2%	43	97.7%	97.7%
UNITED STATES	New York	UAL	B772	N223UA	738	93.9%	97.7%	71	98.6%	100.0%
UNITED STATES	New York	UAL	B772	N225UA	514	94.6%	96.5%	45	91.1%	91.1%
UNITED STATES	New York	UAL	B772	N226UA	535	93.5%	95.3%	38	89.5%	89.5%
UNITED STATES	Shanwick	UAL	B772	N226UA	1,555	94.7%	96.3%	82	95.1%	96.3%
UNITED STATES	New York	UAL	B772	N228UA	661	93.0%	95.5%	59	98.3%	100.0%
UNITED STATES	New York	UAL	B772	N229UA	649	94.6%	96.9%	64	96.9%	96.9%
UNITED STATES	Shanwick	UAL	B772	N27015	1,802	94.3%	95.6%	99	97.0%	98.0%
UNITED STATES	Reykjavik	UAL	B772	N37018	721	94.9%	96.3%	81	96.3%	100.0%
UNITED STATES	New York	UAL	B772	N57016	106	89.6%	92.5%	5	100.0%	100.0%
UNITED STATES	Gander	UAL	B772	N69020	1,926	94.6%	96.9%	146	98.6%	97.3%
UNITED STATES	Reykjavik	UAL	B772	N69020	919	95.6%	97.1%	133	94.0%	95.5%
UNITED STATES	Shanwick	UAL	B772	N69020	1,679	92.9%	94.5%	82	95.1%	95.1%
UNITED STATES	Gander	UAL	B772	N76010	1,439	93.9%	96.7%	110	97.3%	97.3%
UNITED STATES	Shanwick	UAL	B772	N76010	1,259	94.8%	96.6%	69	98.6%	98.6%
UNITED STATES	Shanwick	UAL	B772	N77006	1,835	93.9%	95.3%	89	96.6%	96.6%
UNITED STATES	Shanwick	UAL	B772	N77012	1,242	94.5%	96.9%	61	100.0%	100.0%
UNITED STATES	Gander	UAL	B772	N77014	1,891	94.4%	96.7%	134	99.3%	98.5%
UNITED STATES	Shanwick	UAL	B772	N77014	1,593	93.4%	95.9%	76	100.0%	100.0%
UNITED STATES	New York	UAL	B772	N77019	348	94.0%	96.0%	29	96.6%	96.6%
UNITED STATES	Shanwick	UAL	B772	N77019	1,390	95.0%	97.0%	71	98.6%	98.6%
UNITED STATES	Shanwick	UAL	B772	N77022	1,062	94.1%	95.6%	55	96.4%	96.4%
UNITED STATES	Gander	UAL	B772	N772UA	465	93.3%	97.0%	43	97.7%	97.7%
UNITED STATES	New York	UAL	B772	N772UA	493	93.1%	97.8%	30	96.7%	96.7%
UNITED STATES	Shanwick	UAL	B772	N772UA	500	94.0%	98.0%	25	100.0%	100.0%
UNITED STATES	New York	UAL	B772	N776UA	140	90.0%	93.6%	11	90.9%	90.9%
UNITED STATES	Santa Maria	UAL	B772	N776UA	168	94.6%	96.4%	5	100.0%	100.0%
UNITED STATES	Reykjavik	UAL	B772	N78001	706	97.9%	99.2%	104	94.2%	95.2%
UNITED STATES	Shanwick	UAL	B772	N78001	1,562	94.6%	96.5%	85	97.7%	97.7%
UNITED STATES	Gander	UAL	B772	N78003	1,581	93.4%	96.5%	113	96.5%	96.5%
UNITED STATES	Shanwick	UAL	B772	N78003	1,275	94.4%	95.8%	63	95.2%	96.8%
UNITED STATES	Gander	UAL	B772	N78004	2,041	94.1%	97.2%	150	98.7%	98.7%
UNITED STATES	New York	UAL	B772	N78004	143	92.3%	94.4%	13	100.0%	100.0%
UNITED STATES	Shanwick	UAL	B772	N78004	1,786	94.2%	96.4%	90	98.9%	98.9%
UNITED STATES	Shanwick	UAL	B772	N78008	1,217	94.6%	96.7%	58	94.8%	94.8%
UNITED STATES	Gander	UAL	B772	N78009	1,790	94.9%	97.5%	132	97.7%	97.0%
UNITED STATES	Shanwick	UAL	B772	N78009	1,586	94.7%	96.3%	88	95.5%	96.6%
UNITED STATES	Santa Maria	UAL	B772	N78013	137	94.9%	97.8%	8	100.0%	100.0%
UNITED STATES	Shanwick	UAL	B772	N784UA	1,578	94.9%	96.3%	90	98.9%	98.9%
UNITED STATES	New York	UAL	B772	N785UA	828	94.7%	97.1%	67	97.0%	98.5%
UNITED STATES	Reykjavik	UAL	B772	N79011	495	94.1%	96.2%	53	98.1%	98.1%
UNITED STATES	New York	UAL	B772	N793UA	385	94.8%	97.7%	36	94.4%	94.4%
UNITED STATES	New York	UAL	B772	N797UA	542	94.8%	97.2%	50	98.0%	98.0%
UNITED STATES	New York	UAL	B772	N799UA	602	93.2%	95.4%	57	96.5%	96.5%
UNITED STATES	Santa Maria	UAL	B77W	N2140U	244	93.9%	95.5%	7	100.0%	100.0%
UNITED STATES	Gander	UPS	B748	N611UP	269	94.8%	95.2%	19	100.0%	100.0%
UNITED STATES	Shanwick	UPS	MD11	N273UP	252	94.1%	96.8%	10	100.0%	100.0%
UNITED STATES	Gander	UPS	MD11	N288UP	176	88.6%	92.6%	14	92.9%	92.9%
UNITED STATES	Gander	UPS	MD11	N289UP	150	94.7%	97.3%	10	100.0%	100.0%
UNITED STATES	New York		CL30	N766QS	230	75.7%	81.3%	7	71.4%	85.7%
UNITED STATES	New York		CL35	N763QS	150	94.7%	100.0%	17	100.0%	100.0%

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 * Results for airframes with low counts of messages/transactions may have skewed results. Request further analysis from data source POCs if needed.

State of Registry	Data Source (FIR)	3-letter ICAO Operator code (where applicable)	4-letter ICAO Aircraft Type	Registration Number	ADS-C downlink Message Counts	95% RSP 180 benchmark ASP <=90 sec	99.9% RSP 180 benchmark ASP <= 180 sec	CPDLC Transaction Counts	95% RCP 240 benchmark ACP <= 180	99.9% RCP 240 benchmark ACP <=210
UNITED STATES	New York		CL35	N765QS	150	94.7%	100.0%	16	100.0%	100.0%
UNITED STATES	New York		CL35	N769QS	178	94.4%	95.5%	22	100.0%	100.0%
UNITED STATES	New York		CL35	N776QS	124	90.3%	92.7%	12	100.0%	100.0%
UNITED STATES	New York		CL60	N200QS	149	94.0%	96.0%	11	90.9%	90.9%
UNITED STATES	New York		CL60	N217QS	106	86.8%	92.5%	9	100.0%	100.0%
UNITED STATES	New York		CL60	N225QS	149	94.6%	99.3%	12	100.0%	100.0%
UNITED STATES	Gander		CL60	N234QS	134	93.3%	97.0%	9	100.0%	100.0%
UNITED STATES	New York		CL60	N234QS	116	93.1%	98.3%	16	100.0%	100.0%
UNITED STATES	New York		F2TH	N200CR	204	93.6%	96.1%	14	100.0%	100.0%
UNITED STATES	Shanwick		F900	N5MV	138	94.9%	97.8%	8	100.0%	100.0%
UNITED STATES	New York		F900	N90GP	259	92.3%	97.7%	13	92.3%	100.0%
UNITED STATES	Gander		F900	N978PW	129	90.7%	96.1%	6	100.0%	100.0%
UNITED STATES	Shanwick		FA7X	N119NE	295	94.2%	96.6%	16	93.8%	93.8%
UNITED STATES	Gander		FA7X	N250LG	116	94.8%	99.1%	9	100.0%	100.0%
UNITED STATES	Shanwick		FA7X	N250LG	111	94.6%	100.0%	7	100.0%	100.0%
UNITED STATES	Shanwick		FA7X	N360PZ	143	93.7%	97.2%	7	100.0%	100.0%
UNITED STATES	Santa Maria		FA7X	N716CG	135	92.6%	94.8%	5	80.0%	80.0%
UNITED STATES	New York		GLST	N815PA	133	92.5%	97.7%	14	92.9%	92.9%
UNITED STATES	New York		GLEX	N151QS	156	92.3%	94.2%	11	90.9%	90.9%
UNITED STATES	Reykjavik		GLEX	N1AR	104	92.3%	100.0%	10	100.0%	100.0%
UNITED STATES	Santa Maria		GLEX	N302AK	138	94.2%	100.0%	6	83.3%	83.3%
UNITED STATES	New York		GLEX	N595E	272	94.9%	98.5%	19	94.7%	94.7%
UNITED STATES	New York		GLEX	N626JS	118	90.7%	100.0%	14	100.0%	100.0%
UNITED STATES	Santa Maria		GLEX	N683GA	514	94.9%	100.0%	32	96.9%	96.9%
UNITED STATES	New York		GLEX	N711SX	184	92.4%	99.5%	11	100.0%	100.0%
UNITED STATES	New York		GLEX	N789RR	116	94.8%	100.0%	11	100.0%	100.0%
UNITED STATES	Gander		GLEX	N797KK	117	94.9%	100.0%	9	100.0%	100.0%
UNITED STATES	New York		GLEX	N821AM	156	94.9%	98.7%	13	100.0%	100.0%
UNITED STATES	New York		GLEX	N838SC	127	94.5%	99.2%	7	100.0%	100.0%
UNITED STATES	Gander		GLF4	N400J	114	93.9%	97.4%	10	90.0%	90.0%
UNITED STATES	Shanwick		GLF4	N400J	103	94.2%	97.1%	5	100.0%	100.0%
UNITED STATES	Gander		GLF4	N425QS	138	92.8%	98.6%	7	100.0%	100.0%
UNITED STATES	Shanwick		GLF4	N425QS	126	89.7%	95.2%	6	83.3%	83.3%
UNITED STATES	Gander		GLF4	N435QS	119	95.0%	98.3%	6	100.0%	100.0%
UNITED STATES	New York		GLF4	N435QS	165	92.1%	97.6%	17	100.0%	100.0%
UNITED STATES	Shanwick		GLF4	N435QS	129	92.3%	99.2%	5	80.0%	80.0%
UNITED STATES	New York		GLF4	N445QS	125	94.4%	100.0%	13	92.3%	92.3%
UNITED STATES	New York		GLF4	N718PM	138	93.5%	95.7%	5	100.0%	100.0%
UNITED STATES	Shanwick		GLF5	N168NJ	116	94.0%	96.6%	3	100.0%	100.0%
UNITED STATES	New York		GLF5	N169SD	198	94.4%	98.5%	14	78.6%	78.6%
UNITED STATES	Gander		GLF5	N17RX	119	95.0%	96.6%	8	100.0%	100.0%
UNITED STATES	Gander		GLF5	N1878E	108	92.6%	99.1%	8	100.0%	100.0%
UNITED STATES	New York		GLF5	N1878E	178	93.3%	97.8%	10	100.0%	100.0%
UNITED STATES	New York		GLF5	N245TT	104	88.5%	98.1%	6	100.0%	100.0%
UNITED STATES	Gander		GLF5	N310TK	144	93.8%	95.8%	10	100.0%	100.0%
UNITED STATES	Gander		GLF5	N339JM	158	88.0%	91.1%	12	91.7%	91.7%
UNITED STATES	Shanwick		GLF5	N339JM	160	93.1%	95.0%	8	100.0%	100.0%
UNITED STATES	Gander		GLF5	N518QS	215	90.7%	96.3%	16	93.8%	93.8%
UNITED STATES	Shanwick		GLF5	N518QS	178	88.8%	97.8%	8	87.5%	87.5%
UNITED STATES	Shanwick		GLF5	N529QS	105	94.3%	95.2%	5	100.0%	100.0%
UNITED STATES	Gander		GLF5	N531QS	151	90.7%	95.4%	7	85.7%	71.4%
UNITED STATES	Shanwick		GLF5	N531QS	117	85.5%	94.9%	7	100.0%	100.0%
UNITED STATES	Gander		GLF5	N534QS	127	93.7%	97.6%	8	100.0%	100.0%
UNITED STATES	Shanwick		GLF5	N534QS	127	93.7%	98.4%	5	100.0%	100.0%
UNITED STATES	Gander		GLF5	N551PM	160	92.5%	97.5%	14	100.0%	100.0%
UNITED STATES	Gander		GLF5	N581D	114	92.1%	94.7%	8	100.0%	100.0%
UNITED STATES	Shanwick		GLF5	N581D	103	93.2%	94.2%	3	100.0%	100.0%
UNITED STATES	Shanwick		GLF5	N586G	101	87.1%	92.1%	4	75.0%	75.0%
UNITED STATES	Gander		GLF5	N599H	103	93.2%	97.1%	11	100.0%	100.0%
UNITED STATES	Gander		GLF5	N653MK	108	91.7%	96.3%	7	100.0%	100.0%
UNITED STATES	Shanwick		GLF6	N1454H	105	93.3%	99.1%	7	100.0%	100.0%
UNITED STATES	Gander		GLF6	N524EA	130	93.9%	99.2%	11	90.9%	90.9%
UNITED STATES	Gander		GLF6	N761LE	110	94.6%	100.0%	6	100.0%	100.0%
UNKNOWN	New York	MIL	DC10	50028S	119	71.4%	76.5%	2	100.0%	100.0%
UNKNOWN	Gander	VV5	GLF5	VV376	156	91.7%	98.1%	11	100.0%	90.9%
UNKNOWN	Santa Maria		DC10	40185S	107	91.6%	96.3%	4	100.0%	100.0%
UNKNOWN	Santa Maria		DC10	50028S	130	67.7%	75.4%	4	100.0%	100.0%
UNKNOWN	Shanwick		GLF5	VV376	201	89.1%	97.0%	12	91.7%	91.7%
UNKNOWN	Shanwick		GLF5	VV378	111	83.8%	87.4%	4	75.0%	75.0%

cpdlic mixed path

id	ASP <= 90s						ASP <= 180s						ACP <= 180s						ACP <= 210s					
	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL
FLW1/EUA1													97.5%					97.5%	98.6%					98.6%
EUA1/PDL1													94.9%					94.9%	95.7%					95.7%
FLW1/AME1													97.5%					97.5%	98.3%					98.3%
AME1/FLW1													96.4%					96.4%	97.0%					97.0%
EUA1/FLW1													90.6%					90.6%	92.3%					92.3%
PDL1/FLW1													96.5%					96.5%	96.5%					96.5%
FLW1/PDL1													96.5%					96.5%	96.5%					96.5%
VGO1/EUA1													97.3%					97.3%	98.2%					98.2%
TRE/SYY													98.6%					98.6%	98.6%					98.6%
SYY/TRE													96.9%					96.9%	97.3%					97.3%
XXN/H03													72.3%				90.1%	81.5%	80.2%				91.6%	86.1%
LCG/SCQ													97.3%					97.3%	97.3%					97.3%
AME1/EUA1													58.7%				85.8%	76.1%	65.7%				85.8%	78.6%
VEY/KEF													100.0%			98.4%		98.5%	100.0%			98.8%		98.8%
AME1/BDA2															89.1%			89.1%			90.2%			90.2%
BDA/XXH															95.3%			95.3%			95.7%			95.7%
BDA1/BDA2															97.3%			97.3%			97.3%			97.3%
XXH/H04															83.0%			83.0%			86.5%			86.5%
XXN/H04															81.7%			81.7%			86.2%			86.2%
FPO/XXH															91.5%			91.5%			94.3%			94.3%
IGW1/BDA															96.0%			96.0%			96.0%			96.0%
BDA2/AME1															93.8%			93.8%			93.8%			93.8%
KEF/VEY																98.8%		98.8%				98.9%		98.9%
REK2/EUA1																96.8%		96.8%				97.9%		97.9%
KUS/KEF																96.5%		96.5%				96.5%		96.5%
FAE/XXF																95.5%		95.5%				97.2%		97.2%
FAE/IG1																96.4%		96.4%				98.4%		98.4%
XXF/FAE																93.3%		93.3%				96.6%		96.6%
IG1/FAE																88.0%		88.0%				94.0%		94.0%
FAE/KEF																96.7%		96.7%				97.8%		97.8%
AES/XXN																98.0%		98.0%				98.7%		98.7%
EUA1/REK2																85.6%		85.6%				87.5%		87.5%
SYY/FAE																96.1%		96.1%				96.9%		96.9%
KEF/IG1																97.6%		97.6%				97.6%		97.6%
REK2/AOE2																95.7%		95.7%				96.6%		96.6%
FAE1/EUA1																89.5%		89.5%				94.7%		94.7%
LSI/SYY																97.2%		97.2%				98.1%		98.1%
YAY/XXH																	96.2%	96.2%					96.8%	96.8%
UAK2/AME1																	92.5%	92.5%					97.3%	97.3%
IGW1/YYT2																	97.0%	97.0%					97.0%	97.0%
XXH/XXF																	82.5%	82.5%					84.0%	84.0%
AME1/YHO1																	94.5%	94.5%					95.3%	95.3%
H03/AME1																	81.6%	81.6%					87.2%	87.2%
YYR/YHO																	98.4%	98.4%					98.4%	98.4%
UAK/XXN																	93.5%	93.5%					95.1%	95.1%

cpdlc mixed path

id	ASP <= 90s						ASP <= 180s						ACP <= 180s						ACP <= 210s					
	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL
UAK/IG1																	92.6%	92.6%					95.0%	95.0%
YYT/XXH																	96.6%	96.6%					97.5%	97.5%
YAY/XXN																	97.2%	97.2%					97.2%	97.2%
AME1/YYT2																	94.2%	94.2%					96.1%	96.1%
IGW1/YHO1																	90.2%	90.2%					96.1%	96.1%
XXH/H03																	92.0%	92.0%					92.0%	92.0%

media type

id	ASP <= 90s						ASP <= 180s						ACP <= 180s						ACP <= 210s						
	LPP0	EGGX	KZNY	BIRD	CZQX	TOTAL	LPP0	EGGX	KZNY	BIRD	CZQX	TOTAL	LPP0	EGGX	KZNY	BIRD	CZQX	TOTAL	LPP0	EGGX	KZNY	BIRD	CZQX	TOTAL	
SAT	97.1%	97.1%	97.9%	97.3%	97.4%	97.4%	99.0%	98.9%	99.1%	99.1%	99.1%	99.0%	98.7%	98.4%	98.9%	97.6%	98.7%	98.6%	99.1%	98.8%	99.2%	98.6%	99.0%	99.0%	99.0%
VHF/SAT													97.6%	77.8%	95.1%	95.3%	94.9%	94.1%	98.5%	79.3%	96.1%	96.8%	96.2%	95.3%	95.3%
SAT/VHF													93.4%	94.0%	91.0%	91.8%	93.7%	92.6%	95.3%	94.9%	91.9%	94.8%	95.0%	94.3%	94.3%
SAT/HF													70.1%	45.8%	81.0%		87.1%	78.0%	74.2%	64.6%	84.9%		89.1%	82.7%	82.7%
HF	55.2%	58.2%	57.7%	61.7%	55.1%	56.9%	72.4%	74.4%	74.4%	76.0%	70.4%	73.2%													
HF/SAT														74.3%	97.1%		82.7%	83.3%		80.0%	98.9%		87.8%	87.8%	87.8%

up elements

id	ASP <= 90s						ASP <= 180s						ACP <= 180s						ACP <= 210s						
	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	LPPO	EGGX	KZNY	BIRD	CZQX	TOTAL	
U20 U46 U129													98.3%			99.3%		98.6%	98.7%				99.5%		98.9%
U23 U46 U129													96.6%					96.6%	97.7%						97.7%
U23 U129													98.6%	98.9%	97.7%	99.2%		98.3%	99.1%	99.4%	98.5%	99.6%		98.9%	
U19 U22 U129													97.1%			98.8%		98.1%	97.1%				98.8%	98.1%	
U119														98.2%			98.7%	98.5%		98.6%			99.1%	98.9%	
U29 U129														98.8%	97.4%			98.0%		99.3%	98.2%			98.7%	
U137														0.0%				0.0%		0.0%				0.0%	
U123															98.4%			98.4%				98.8%		98.8%	
U26 U129 U169															98.2%			98.2%				98.3%		98.3%	
U28 U129															97.5%			97.5%				97.9%		97.9%	
U19 U21 U26 U129															97.9%			97.9%				98.9%		98.9%	
U28 U129 U166															96.7%			96.7%				97.5%		97.5%	
U77															97.4%			97.4%				97.7%		97.7%	
U28 U129 U169															96.1%			96.1%				96.4%		96.4%	
U27 U129 U166															97.0%			97.0%				98.2%		98.2%	
U68															97.4%			97.4%				97.4%		97.4%	
U106 U166															98.0%			98.0%				98.7%		98.7%	
U28 U129 U166 U169															95.1%			95.1%				96.5%		96.5%	
U19 U21 U26 U129 U166															96.5%			96.5%				97.4%		97.4%	
U19 U169															95.6%			95.6%				98.2%		98.2%	
U23 U129 U169															97.3%			97.3%				97.3%		97.3%	
U23 U129 U166															99.0%	98.0%		98.5%			99.0%	98.0%		98.5%	
U69 U127															98.1%			98.1%				98.1%		98.1%	
U20 U129 U148															94.1%			94.1%				96.1%		96.1%	
U123																97.4%		97.4%				98.3%		98.3%	
U23 U46 U129 U166																98.1%		98.1%				98.7%		98.7%	
U027 U129 U169																	97.2%	97.2%					98.3%	98.3%	
U113 U169																	98.4%	98.4%					98.7%	98.7%	
U111 U169																	97.5%	97.5%					98.3%	98.3%	
U029 U129 U169																	95.6%	95.6%					98.3%	98.3%	
U113 U027 U129																	96.0%	96.0%					96.0%	96.0%	

PBCS Monitoring - Filtering Summary - Jul-Dec 2018

ADS-C

CPDLC

Reykjavik

Messages filtered out for ADS-C ASP analysis	
no filter	1,078,944
outage	299
pos_unknown_or_over_n82	11,336
asp_negative	492
multiple_basc	3,502
duplicate	24,554
total filtered	38,979

Messages filtered out for CPDLC ACP analysis	
total	246,219
outage	20
pos_unknown_or_over_n82	1,850
not_wilco	75,967
negative_port	4,373
standalone_freetext	74,162
non_intv_route_msg	710
total filtered	80,361

Santa Maria

Messages filtered out for ADS-C ASP analysis	
Total	13,965
Duplicates	13,965
During identified outages	

Messages filtered out for CPDLC ACP analysis	
Total	-
response other than WILCO, UNABLE, STANDBY	-
non-intervention route messages	-
messages during observed outage periods	-
Timestamp issues (e.g. delayed MAS)	-

Gander

Messages filtered out for ADS-C ASP analysis	
Total	
Duplicates	-
During identified outages	239

Messages filtered out for CPDLC ACP analysis	
Total	
response other than WILCO (specifically UNABLE,STANDBY,ROGER)	243,942
non-intervention route messages	2,858
messages during observed outage periods	1
Timestamp issues (e.g. delayed MAS)	60,539

New York

Messages filtered out for ADS-C ASP analysis	
Total	19,665
Duplicates	19,179
During identified outages	486

Messages filtered out for CPDLC ACP analysis	
Total	99,752
response other than WILCO, UNABLE, STANDBY	57,837
non-intervention route messages	38,941
messages during observed outage periods	17
Timestamp issues (e.g. delayed MAS)	2,837

Shanwick

Messages filtered out for ADS-C ASP analysis	
Total	258

Messages filtered out for CPDLC ACP analysis	
Total	4

NAT AGGREGATE USAGE AND EQUIPAGE STATISTICS FROM JANUARY TO DECEMBER 2018

(Appendix E & F to the NAT IMG/54 Summary of Discussions – NAT IMG Decision 54/1 refers)

1.1 Data link usage and equipage reports for the 12-month period from 1 January to 31 December 2018 are provided in the common template format agreed by the NAT TIG for the OCAs: Gander, Reykjavik, Santa Maria, Shanwick, and the eastern portion of New York (**Attachments A to E** refer). The reports provide the most recently observed percentage of flights with AFN logons, using and filing ADS-C, CPDLC and ADS-B, and filing RNP4 and RSP180/RCP240, as recorded by the NAT service providers. The ADS-B filing statistics provided for Reykjavik are further broken down by ADS-B version – see **attachment E**.

1.2 Table 1 provides a summary of the data link usage and equipage statistics for Reykjavik, Santa Maria, Gander, New York (eastern oceanic only), and Shanwick as of the month of December 2018. The statistics are provided for all observed flights as well as for the subpopulation of flights using the NAT organized track system (OTS). Figure 1 provides the trends in usage and equipage during the past 18 months as reported by each ANSP. It should be noted that the fluctuations observed for the ADS-B usage in Gander reflect that the ADS-B equipped aircraft do not always operate within range of ADS-B stations. Reykjavik ADS-B usage and filing percentages are only for flights that flew within operating range of ADS-B stations.

Table 1. Usage and Equipage statistics for NAT ANSPs as of December 2018

FIR	ALL FLIGHTS									
	Total Flights	% AFN Logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/RCP240
Reykjavik (south of 82N)	13,431	72%	72%	73%	64%	73%	75%	97%	93%	39%
Santa Maria	12,169	79%	81%	82%	81%	82%	82%		84%	54%
Gander	34,469	90%	93%	95%	93%	96%	94%	87%	85%	65%
New York East	12,097	95%	95%	95%	94%	95%	92%		77%	66%
Shanwick	37,509	90%	90%	90%	89%	90%	90%		89%	63%
FIR	OTS FLIGHTS									
	% of Total Flights	% AFN Logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/RCP240
Reykjavik (south of 82N)	5%	99%	98%	100%	45%	100%	98%	99%	94%	68%
Santa Maria	5%	96%	98%	100%	99%	100%	97%		95%	79%
Gander	44%	97%	97%	99%	98%	99%	96%	92%	87%	73%
New York East	17%	98%	98%	99%	98%	99%	97%		83%	76%
Shanwick	42%	99%	99%	99%	99%	99%	98%		92%	77%

1. Flights are designated as "**OTS**" if they file a NAT route in their flight plan
2. **AFN logon** - any AFN messages is observed
3. **ADS-C usage** - at least one ADS-C position report was observed
4. **ADS-C filing** - "D1" was observed in field 10b of the respective ICAO flight plan
5. **CPDLC usage** - at least one CPDLC message was observed
6. **CPDLC filing** - either a "J2," "J5," or "J7," was observed in field 10a of the respective ICAO flight plan
7. **RNP4 filing** - "L1" was observed in field 18 of the respective ICAO flight plan
8. **ADS-B usage** - at least one ADS-B report was observed
9. **ADS-B filing** - "B1" or "B2" was observed in field 10b of the respective ICAO flight plan
10. **RSP180/RCP240 filing** - "P2" observed in field 10b **AND** "RSP180" observed in field 18 after "SUR/" of the respective ICAO flight plan

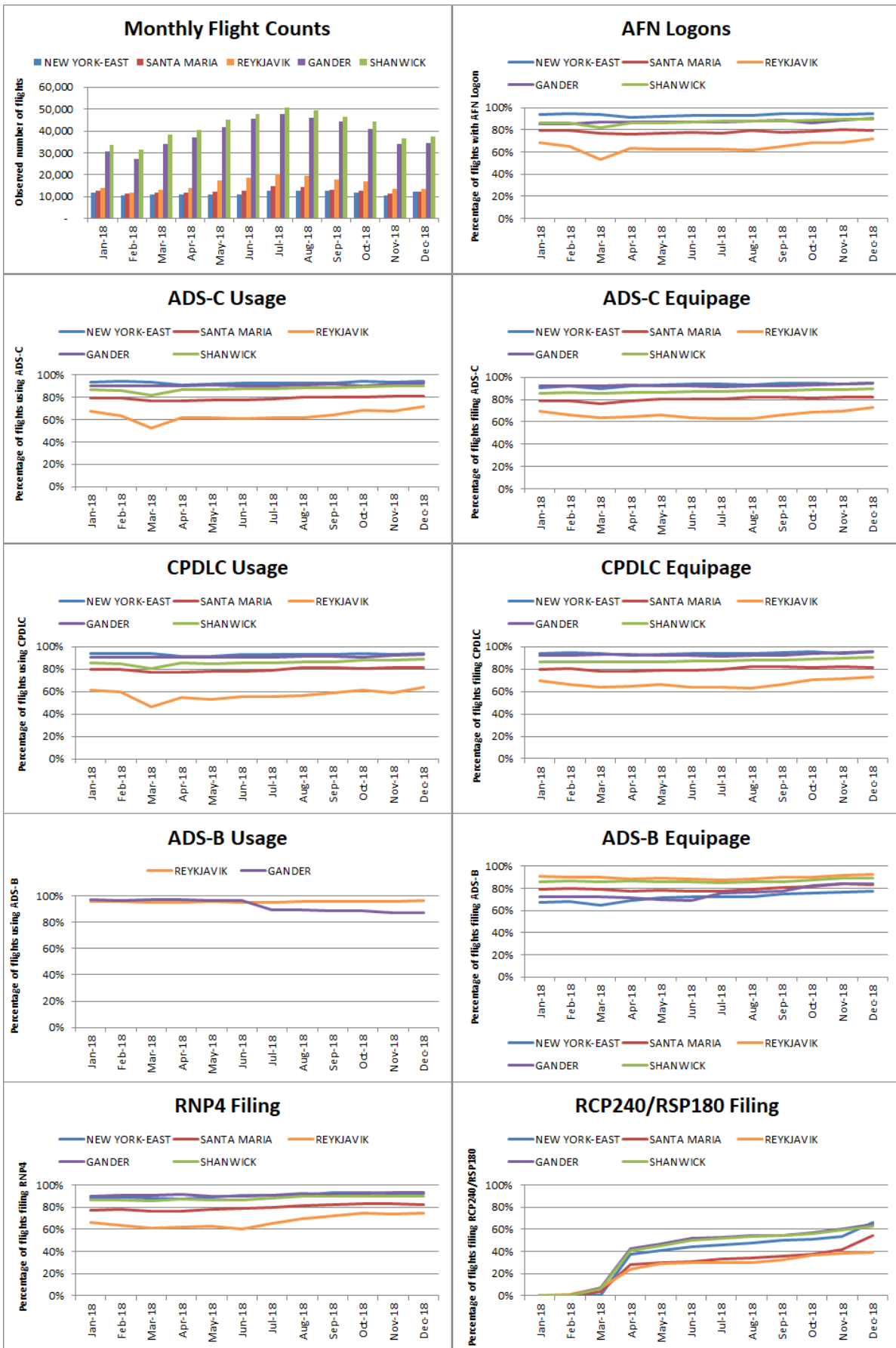


Figure 1. NAT Data link equipage and usage trends for Jan – Dec 2018

1.3 During the past 12 months, there has been a slight upward trend in the data link filing and usage, as well as in the ADS-B filing. There also continues to be an increase in filing related to “RNP4,” most notably in Reykjavik.

1.4 Higher rates of usage and filing of equipage continue to be observed within the flights using the OTS, approaching 100% in most categories.

1.5 Following the official 29 March 2018 implementation of PBCS, the filing of the RCP240 and RSP180 flight plan indicators for the use of performance-based separation minima rose steadily throughout the rest of the year, with higher rates observed in the OTS subpopulation.

1.6 **Attachment F** contains the combined equipage report by operator. It should be noted that the periods included in the analysis vary between ANSPs, with some capturing the period from July to December 2018 and some December 2018.

1.7 When reviewing the filing by operator, it was noted that some operators have a proportion of flights that appear to be filing only “P2” or “RSP180” but not both. These operators include:

- **AHO** (Air Hamburg, Germany) with a few flights in the NAT, but all are filing “RSP180” but no other codes indicating data link.
- **AIC** (Air India, India) with a higher percentage of flights filing “RSP180” than “P2”
- **AVA** (AVIANCA, Columbia) with a higher percentage of flights filing “P2” than “RSP180”
- **BOX** (Aerologic, Germany) with zero flights filing “RSP180” but a high percentage of flights filing “P2”
- **BVR** (ACM Air Charter, Germany) with a few flights in the NAT, some of which are filing “RSP180” but not “P2”
- **CEF** (Czech Republic) with zero flights filing “RSP180” but a high percentage of flights filing “P2”
- **CFG** (Condor Flugdienst, Germany) with a higher percentage of flights filing “P2” than “RSP180”
- **DCS** (Daimler Chrysler, Germany) with zero flights filing “P2” but a high percentage of flights filing “RSP180”
- **DCW** (DC Aviation, Malta) with a few flights in the NAT, some of which are filing “P2” but not “RSP180”
- **DHK** (DHL Air, UK) with zero flights filing “P2” but a high percentage of flights filing “RSP180”
- **GMA** (Gama, UK) with zero flights filing “RSP180” but a high percentage of flights filing “P2”
- **ISS** (Meridiana Fly, Italy) with a higher percentage of flights filing “RSP180” than “P2”
- **JTL** (Jetall Holdings, Canada) with a higher percentage of flights filing “P2” than “RSP180”
- **KQA** (Kenya Airways, Kenya) with a higher percentage of flights filing “RSP180” than “P2” in some FIRs
- **UZB** (Uzbekistan Airways, Uzbekistan) with zero flights filing “P2” but a high percentage of flights filing “RSP180”

1.8 It should continue to be emphasized to the flight plan filing community that:

- i. Operators should not file either “P2” in item 10 or “RSP180” in item 18 without State-issued approvals for RCP240 and RSP180, respectively.
- ii. Operators should file “P2” in item 10 **AND** “RSP180” in item 18 to indicate eligibility for application of performance-based separation standards once approval is obtained.

The following Attachments are provided with this Report:

- ATTACHMENT A – UNITED STATES REPORT ON EQUIPAGE IN NEW YORK-EAST OCA**
- ATTACHMENT B – PORTUGAL REPORT ON EQUIPAGE IN SANTA MARIA OCA**
- ATTACHMENT C – CANADA REPORT ON EQUIPAGE IN GANDER OCA**
- ATTACHMENT D – UNITED KINGDOM REPORT ON EQUIPAGE IN SHANWICK OCA**
- ATTACHMENT E – ICELAND REPORT ON EQUIPAGE IN REYKJAVIK OCA**
- ATTACHMENT F – COMBINED NAT REPORT OF FILING STATISTICS BY OPERATOR**

ATTACHMENT A – UNITED STATES REPORT ON EQUIPAGE IN NEW YORK-EAST OCA

United States FAA Reporting on Equipage in the New York - East OCA										
Period: Jan 01, 2018 to Dec 31, 2018										
Month	ALL FLIGHTS									
	Total Flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/R CP240
Jan-18	11,990	94%	93%	91%	94%	94%	88%		68%	0%
Feb-18	10,433	95%	94%	92%	94%	95%	89%		68%	0%
Mar-18	10,810	94%	94%	90%	94%	94%	89%		65%	0%
Apr-18	10,966	92%	91%	93%	91%	92%	88%		69%	38%
May-18	10,771	92%	92%	93%	92%	93%	89%		72%	41%
Jun-18	11,156	93%	93%	94%	93%	94%	91%		72%	44%
Jul-18	12,786	93%	93%	94%	93%	94%	91%		73%	46%
Aug-18	12,765	93%	93%	94%	93%	94%	91%		73%	47%
Sep-18	12,554	95%	93%	95%	93%	95%	93%		75%	50%
Oct-18	11,981	95%	94%	95%	94%	95%	94%		76%	51%
Nov-18	10,321	94%	93%	94%	93%	94%	92%		77%	54%
Dec-18	12,097	95%	95%	95%	94%	95%	92%		77%	66%
Month	OTS FLIGHTS									
	% of total flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/R CP240
Jan-18	19%	98%	98%	98%	98%	98%	97%		86%	0%
Feb-18	17%	98%	98%	98%	98%	98%	97%		86%	0%
Mar-18	15%	98%	97%	98%	98%	98%	97%		87%	0%
Apr-18	16%	97%	96%	97%	96%	97%	96%		84%	52%
May-18	18%	97%	97%	98%	97%	98%	98%		85%	60%
Jun-18	18%	98%	98%	98%	98%	98%	98%		87%	66%
Jul-18	20%	98%	98%	99%	98%	99%	98%		87%	67%
Aug-18	22%	98%	98%	98%	98%	98%	97%		86%	69%
Sep-18	25%	98%	93%	99%	93%	99%	98%		84%	69%
Oct-18	20%	97%	97%	98%	97%	98%	97%		85%	69%
Nov-18	15%	98%	98%	98%	98%	99%	97%		83%	73%
Dec-18	17%	98%	98%	99%	98%	99%	97%		83%	76%
Month	NON-OTS FLIGHTS									
	% of total flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/R CP240
Jan-18	81%	93%	92%	89%	93%	93%	86%		63%	0%
Feb-18	83%	94%	93%	91%	94%	94%	87%		65%	0%
Mar-18	85%	94%	93%	88%	93%	93%	87%		61%	29%
Apr-18	84%	91%	90%	92%	90%	91%	86%		66%	36%
May-18	82%	91%	90%	92%	91%	92%	88%		69%	37%
Jun-18	82%	92%	92%	93%	92%	93%	89%		69%	40%
Jul-18	80%	92%	91%	92%	91%	92%	89%		69%	40%
Aug-18	78%	92%	92%	92%	92%	93%	89%		69%	41%
Sep-18	75%	94%	93%	93%	93%	94%	92%		72%	44%
Oct-18	80%	94%	94%	94%	94%	95%	93%		73%	47%
Nov-18	85%	93%	93%	93%	93%	94%	92%		75%	50%
Dec-18	83%	94%	94%	94%	94%	95%	91%		76%	64%

ATTACHMENT B – PORTUGAL REPORT ON EQUIPAGE IN SANTA MARIA OCA

NAV Portugal Reporting on Equipage in the Santa Maria OCA										
Period: Jan 01, 2018 to Dec 31, 2018										
Month	ALL FLIGHTS									
	Total Flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/R CP240
Jan-18	12,730	79%	79%	79%	80%	80%	77%		79%	0%
Feb-18	11,475	80%	80%	79%	80%	80%	78%		80%	0%
Mar-18	11,992	77%	77%	77%	77%	78%	77%		79%	4%
Apr-18	11,929	76%	77%	79%	77%	78%	76%		77%	28%
May-18	12,288	77%	78%	80%	78%	79%	78%		78%	30%
Jun-18	12,671	78%	78%	80%	79%	79%	79%		77%	31%
Jul-18	14,622	77%	78%	81%	79%	80%	80%	-	78%	33%
Aug-18	14,536	79%	80%	82%	81%	82%	81%	-	79%	34%
Sep-18	13,111	78%	80%	82%	81%	82%	82%	-	81%	36%
Oct-18	12,769	79%	80%	82%	81%	82%	83%	-	82%	37%
Nov-18	11,205	80%	81%	82%	82%	82%	84%	-	84%	42%
Dec-18	12,169	79%	81%	82%	81%	82%	82%	-	84%	54%
Month	OTS FLIGHTS									
	% of total flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/R CP240
Jan-18	10%	95%	95%	97%	96%	97%	96%		91%	0%
Feb-18	7%	95%	95%	96%	95%	96%	96%		91%	0%
Mar-18	6%	95%	95%	97%	96%	97%	98%		94%	1%
Apr-18	5%	94%	94%	96%	96%	97%	97%		90%	52%
May-18	7%	95%	94%	99%	96%	98%	98%		90%	57%
Jun-18	6%	98%	98%	99%	98%	99%	99%		88%	63%
Jul-18	7%	95%	97%	99%	98%	99%	99%	-	90%	61%
Aug-18	8%	96%	97%	99%	99%	99%	99%	-	92%	69%
Sep-18	8%	90%	94%	100%	97%	100%	99%	-	91%	67%
Oct-18	8%	92%	93%	100%	98%	99%	98%	-	92%	68%
Nov-18	5%	99%	100%	100%	100%	100%	98%	-	95%	71%
Dec-18	5%	96%	98%	100%	99%	100%	97%	-	95%	79%
Month	NON-OTS FLIGHTS									
	% of total flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/R CP240
Jan-18	90%	78%	78%	77%	78%	78%	75%		78%	0%
Feb-18	93%	78%	78%	78%	79%	79%	77%		79%	0%
Mar-18	94%	76%	76%	75%	76%	77%	75%		78%	4%
Apr-18	95%	75%	76%	78%	77%	77%	75%		77%	27%
May-18	93%	76%	76%	79%	77%	78%	77%		78%	28%
Jun-18	94%	76%	77%	79%	77%	78%	77%		76%	29%
Jul-18	93%	76%	77%	80%	78%	79%	79%	-	77%	31%
Aug-18	92%	78%	79%	81%	80%	80%	80%	-	78%	31%
Sep-18	92%	76%	79%	81%	80%	80%	80%	-	80%	33%
Oct-18	92%	77%	79%	80%	80%	80%	82%	-	81%	35%
Nov-18	95%	79%	80%	81%	81%	81%	83%	-	83%	40%
Dec-18	95%	78%	80%	81%	80%	81%	82%	-	83%	53%

NAV CANADA Reporting on Equipage in the Gander OCA										
Period: Jan 01, 2018 to Dec 31, 2018										
Month	ALL FLIGHTS									
	Total Flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/R CP240
Jan-18	30,486	85%	90%	92%	91%	93%	90%	97%	72%	0%
Feb-18	27,010	85%	90%	92%	90%	93%	91%	97%	72%	0%
Mar-18	34,063	87%	91%	93%	91%	93%	91%	97%	72%	7%
Apr-18	36,827	87%	90%	93%	91%	93%	92%	97%	71%	43%
May-18	41,582	88%	91%	92%	91%	92%	90%	97%	70%	47%
Jun-18	45,517	87%	90%	92%	91%	92%	90%	96%	69%	52%
Jul-18	47,742	87%	90%	91%	91%	92%	91%	90%	76%	53%
Aug-18	46,009	88%	91%	92%	91%	92%	92%	89%	77%	54%
Sep-18	44,351	89%	92%	93%	92%	93%	92%	89%	77%	55%
Oct-18	41,079	87%	90%	93%	91%	94%	92%	88%	82%	57%
Nov-18	33,931	89%	92%	94%	93%	95%	93%	87%	84%	60%
Dec-18	34,469	90%	93%	95%	93%	96%	94%	87%	85%	65%
Month	OTS FLIGHTS									
	% of total flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/R CP240
Jan-18	43%	95%	96%	96%	96%	97%	95%	99%	75%	0%
Feb-18	42%	94%	96%	97%	97%	97%	95%	99%	75%	0%
Mar-18	43%	95%	96%	97%	96%	97%	96%	99%	75%	7%
Apr-18	47%	95%	96%	97%	96%	97%	96%	99%	73%	52%
May-18	47%	95%	97%	97%	96%	96%	95%	98%	71%	57%
Jun-18	46%	96%	97%	97%	97%	97%	95%	98%	70%	63%
Jul-18	46%	96%	97%	97%	97%	96%	95%	93%	78%	64%
Aug-18	47%	97%	97%	97%	97%	97%	96%	92%	79%	65%
Sep-18	47%	97%	98%	97%	98%	97%	95%	91%	80%	65%
Oct-18	46%	94%	95%	98%	96%	98%	95%	92%	85%	67%
Nov-18	45%	97%	98%	98%	98%	99%	96%	91%	86%	69%
Dec-18	44%	97%	97%	99%	98%	99%	96%	92%	87%	73%
Month	NON-OTS FLIGHTS									
	% of total flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/R CP240
Jan-18	57%	79%	86%	89%	87%	90%	87%	96%	70%	0%
Feb-18	58%	79%	86%	89%	86%	89%	88%	96%	70%	1%
Mar-18	57%	81%	86%	89%	87%	90%	87%	96%	70%	8%
Apr-18	53%	81%	85%	90%	86%	90%	88%	96%	70%	35%
May-18	53%	81%	86%	88%	86%	88%	86%	96%	69%	38%
Jun-18	54%	79%	85%	88%	85%	88%	85%	95%	68%	42%
Jul-18	54%	79%	85%	87%	85%	88%	87%	87%	75%	44%
Aug-18	53%	80%	86%	88%	86%	88%	89%	87%	75%	45%
Sep-18	53%	82%	87%	88%	87%	89%	89%	86%	75%	45%
Oct-18	54%	80%	86%	89%	87%	90%	89%	86%	79%	49%
Nov-18	55%	83%	88%	90%	88%	91%	91%	83%	82%	53%
Dec-18	56%	85%	90%	92%	90%	93%	92%	83%	83%	58%

ATTACHMENT D – UNITED KINGDOM REPORT ON EQUIPAGE IN SHANWICK OCA

United Kingdom (NATS) Reporting on Equipage & Usage in Shanwick OCA										
Period: Jan 01, 2018 to Dec 31, 2018										
Month	ALL FLIGHTS									
	Total Flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/R CP240
Jan-18	33,421	86%	87%	86%	85%	86%	86%		86%	0%
Feb-18	31,349	86%	86%	86%	85%	86%	86%		86%	0%
Mar-18	38,304	82%	82%	86%	81%	86%	86%		86%	6%
Apr-18	40,453	87%	87%	87%	85%	87%	87%		87%	41%
May-18	45,200	86%	87%	87%	85%	86%	87%		86%	45%
Jun-18	47,547	87%	87%	87%	86%	87%	87%		86%	50%
Jul-18	50,665	88%	88%	88%	86%	88%	88%		86%	52%
Aug-18	49,561	88%	89%	88%	87%	88%	90%		86%	54%
Sep-18	46,468	88%	89%	89%	87%	88%	90%		86%	54%
Oct-18	44,132	89%	90%	89%	88%	89%	90%		88%	56%
Nov-18	36,485	90%	90%	89%	89%	90%	90%		89%	59%
Dec-18	37,509	90%	90%	90%	89%	90%	90%		89%	63%
Month	OTS FLIGHTS									
	% of total flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/R CP240
Jan-18	40%	98%	98%	98%	98%	99%	97%		91%	0%
Feb-18	37%	98%	98%	99%	98%	99%	98%		91%	0%
Mar-18	39%	93%	93%	99%	93%	99%	98%		92%	7%
Apr-18	43%	99%	99%	99%	98%	99%	98%		92%	54%
May-18	44%	98%	99%	99%	97%	98%	97%		90%	60%
Jun-18	45%	99%	99%	99%	98%	99%	97%		91%	66%
Jul-18	45%	99%	99%	99%	98%	99%	97%		90%	68%
Aug-18	46%	99%	99%	99%	97%	98%	97%		91%	68%
Sep-18	46%	99%	99%	99%	98%	99%	98%		91%	69%
Oct-18	44%	99%	99%	99%	98%	99%	98%		92%	71%
Nov-18	42%	99%	99%	99%	99%	99%	98%		92%	73%
Dec-18	42%	99%	99%	99%	99%	99%	98%		92%	77%
Month	NON-OTS FLIGHTS									
	% of total flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180/R CP240
Jan-18	60%	78%	79%	78%	77%	78%	79%		82%	0%
Feb-18	63%	79%	79%	79%	77%	79%	80%		84%	0%
Mar-18	61%	75%	75%	78%	73%	78%	79%		82%	5%
Apr-18	57%	78%	78%	78%	76%	78%	79%		83%	31%
May-18	56%	77%	77%	77%	75%	77%	78%		82%	34%
Jun-18	55%	78%	78%	78%	76%	78%	79%		82%	38%
Jul-18	55%	79%	79%	78%	76%	79%	81%		81%	39%
Aug-18	55%	80%	80%	80%	78%	80%	84%		82%	41%
Sep-18	54%	80%	80%	79%	77%	80%	83%		82%	41%
Oct-18	56%	82%	82%	81%	80%	82%	84%		85%	44%
Nov-18	58%	83%	83%	82%	81%	83%	84%		87%	49%
Dec-18	59%	84%	84%	83%	82%	84%	85%		87%	53%

Isavia (Iceland) Reporting on Equipage in Reykjavik OCA															
Period: Jan 01, 2018 to Dec 31, 2018															
Month	ALL FLIGHTS														
	Total Flights	Total Flights south of 82N	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Filing RSP180/R CP240	Total Flights in ADS-B coverage	% Using ADS-B	% Filing ADS-B	% ADS-B DO-260	% ADS-B DO-260A	% ADS-B DO-260B
Jan-18	14,250	14,093	68%	67%	70%	62%	70%	67%	0%	13,104	96%	91%	61%	3%	36%
Feb-18	11,817	11,666	65%	64%	66%	60%	66%	64%	1%	10,847	96%	91%	60%	2%	37%
Mar-18	13,385	13,204	53%	52%	64%	46%	64%	61%	7%	12,601	95%	90%	59%	2%	39%
Apr-18	13,985	13,793	63%	62%	65%	54%	64%	62%	24%	13,153	95%	89%	58%	2%	40%
May-18	17,687	17,566	63%	62%	66%	54%	66%	63%	29%	16,420	96%	89%	55%	2%	43%
Jun-18	18,876	18,707	62%	61%	63%	56%	64%	60%	29%	17,868	95%	88%	54%	3%	43%
Jul-18	20,427	20,265	63%	62%	63%	56%	64%	66%	30%	19,279	95%	88%	54%	2%	43%
Aug-18	19,718	19,555	62%	61%	63%	57%	63%	70%	30%	18,651	96%	89%	54%	2%	43%
Sep-18	18,024	17,838	65%	65%	66%	59%	66%	72%	33%	16,782	96%	90%	54%	3%	43%
Oct-18	16,943	16,785	69%	68%	68%	61%	70%	74%	37%	15,860	96%	90%	52%	2%	46%
Nov-18	13,637	13,480	68%	68%	69%	59%	72%	74%	38%	12,673	96%	92%	51%	2%	47%
Dec-18	13,588	13,431	72%	72%	73%	64%	73%	75%	39%	12,677	97%	93%	50%	2%	48%
Month	OTS FLIGHTS														
	Total Flights	Total Flights south of 82N	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Filing RSP180/R CP240	Total Flights in ADS-B coverage	% Using ADS-B	% Filing ADS-B	% ADS-B DO-260	% ADS-B DO-260A	% ADS-B DO-260B
Jan-18	1,623	1,623	97%	97%	99%	68%	99%	97%	0%	1,467	99%	94%	66%	5%	29%
Feb-18	450	450	98%	97%	99%	59%	98%	96%	0%	333	100%	94%	68%	3%	29%
Mar-18	278	278	88%	88%	98%	13%	97%	97%	11%	276	97%	91%	71%	4%	25%
Apr-18	411	411	97%	96%	99%	40%	99%	99%	50%	360	95%	97%	62%	4%	34%
May-18	1,013	1,013	97%	96%	99%	39%	98%	97%	60%	686	99%	92%	61%	5%	34%
Jun-18	516	516	97%	97%	99%	58%	98%	97%	67%	452	99%	94%	55%	6%	39%
Jul-18	1,088	1,088	97%	97%	99%	44%	99%	99%	68%	844	99%	94%	59%	5%	36%
Aug-18	604	604	98%	97%	99%	43%	98%	98%	61%	427	99%	94%	59%	5%	36%
Sep-18	787	787	97%	97%	99%	46%	98%	98%	64%	541	98%	93%	56%	5%	39%
Oct-18	1,112	1,112	98%	98%	100%	44%	99%	98%	66%	964	98%	94%	51%	5%	44%
Nov-18	1,274	1,274	93%	93%	99%	38%	99%	98%	68%	1,095	99%	94%	50%	5%	46%
Dec-18	732	732	99%	98%	100%	45%	100%	98%	68%	615	99%	94%	50%	3%	46%
Month	NON-OTS FLIGHTS														
	Total Flights	Total Flights south of 82N	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Filing RSP180/R CP240	Total Flights in ADS-B coverage	% Using ADS-B	% Filing ADS-B	% ADS-B DO-260	% ADS-B DO-260A	% ADS-B DO-260B
Jan-18	19,339	19,177	61%	60%	61%	56%	62%	64%	28%	18,435	95%	88%	54%	2%	44%
Feb-18	19,114	18,951	61%	60%	62%	57%	62%	69%	29%	18,224	96%	89%	54%	2%	43%
Mar-18	17,237	17,051	64%	63%	64%	60%	65%	71%	31%	16,241	96%	90%	54%	2%	44%
Apr-18	15,831	15,673	67%	66%	66%	63%	68%	73%	35%	14,896	96%	90%	52%	2%	46%
May-18	12,363	12,206	66%	65%	66%	61%	69%	71%	35%	11,578	96%	91%	51%	2%	47%
Jun-18	12,856	12,699	71%	70%	71%	65%	72%	74%	37%	12,062	97%	93%	50%	2%	49%
Jul-18	19,339	19,177	61%	60%	61%	56%	62%	64%	28%	18,435	95%	88%	54%	2%	44%
Aug-18	19,114	18,951	61%	60%	62%	57%	62%	69%	29%	18,224	96%	89%	54%	2%	43%
Sep-18	17,237	17,051	64%	63%	64%	60%	65%	71%	31%	16,241	96%	90%	54%	2%	44%
Oct-18	15,831	15,673	67%	66%	66%	63%	68%	73%	35%	14,896	96%	90%	52%	2%	46%
Nov-18	12,363	12,206	66%	65%	66%	61%	69%	71%	35%	11,578	96%	91%	51%	2%	47%
Dec-18	12,856	12,699	71%	70%	71%	65%	72%	74%	37%	12,062	97%	93%	50%	2%	49%

ATTACHMENT F – COMBINED NAT REPORT OF FILING STATISTICS BY OPERATOR

FIR	Operator (3-ltr ICAO Code)	Total Flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180	% Filing RCP240	% Filing RSP180/R CP240
Shanwick	AAB	44	96%	96%	96%	96%	96%	96%		96%	0%	0%	0%
Gander	AAL	2,090	94%	97%	100%	98%	98%	100%	98%	95%	98%	99%	98%
New York	AAL	1,312	60%	57%	58%	58%	58%	58%	0%	65%	57%	57%	57%
Reykjavik	AAL	1,748	98%	94%	100%	69%	99%	100%	99%	87%	99%	84%	84%
Santa Maria	AAL	3,422	95%	97%	100%	99%	100%	100%	-	45%	98%	98%	98%
Shanwick	AAL	17,648	99%	99%	100%	98%	99%	100%		90%	98%	97%	97%
Shanwick	AAR	105	97%	97%	98%	96%	98%	100%		100%	0%	0%	0%
Santa Maria	ABD	96	98%	97%	100%	99%	100%	100%	-	1%	0%	0%	0%
Shanwick	ABD	351	98%	98%	100%	97%	100%	100%		100%	0%	0%	0%
Reykjavik	ABW	224	95%	95%	100%	88%	100%	100%	100%	100%	0%	0%	0%
Shanwick	ABW	339	93%	95%	100%	91%	100%	100%		100%	0%	0%	0%
Gander	ACA	1,430	96%	99%	100%	100%	100%	100%	89%	100%	30%	30%	30%
New York	ACA	271	59%	59%	59%	59%	59%	59%	0%	70%	7%	7%	7%
Reykjavik	ACA	3,828	99%	97%	100%	82%	100%	100%	100%	100%	5%	5%	5%
Santa Maria	ACA	470	97%	98%	100%	99%	100%	100%	-	7%	0%	0%	0%
Shanwick	ACA	10,062	100%	100%	100%	99%	100%	100%		100%	4%	4%	4%
Shanwick	ADB	46	0%	0%	0%	0%	0%	0%		78%	0%	0%	0%
New York	AEA	455	100%	100%	100%	100%	100%	100%	0%	98%	67%	68%	68%
Santa Maria	AEA	3,347	96%	98%	99%	98%	99%	99%	-	42%	11%	12%	11%
Shanwick	AEA	379	82%	83%	87%	81%	87%	87%		66%	9%	8%	8%
Gander	AFL	226	90%	97%	99%	97%	99%	99%	99%	100%	17%	17%	17%
Reykjavik	AFL	1,767	98%	98%	99%	98%	99%	99%	98%	100%	3%	3%	3%
Shanwick	AFL	492	96%	97%	100%	80%	100%	100%		100%	2%	2%	2%
Gander	AFR	1,404	94%	96%	100%	94%	100%	99%	98%	100%	71%	71%	71%
New York	AFR	853	99%	99%	100%	98%	100%	100%	0%	100%	87%	87%	87%
Reykjavik	AFR	1,407	99%	99%	100%	78%	100%	100%	100%	100%	68%	69%	68%
Santa Maria	AFR	4,588	96%	99%	100%	99%	100%	100%	-	68%	73%	73%	73%
Shanwick	AFR	12,114	99%	99%	100%	99%	100%	100%		100%	73%	73%	73%
Reykjavik	AHY	70	94%	94%	97%	94%	97%	100%	97%	100%	0%	0%	0%
Shanwick	AHY	49	100%	100%	100%	90%	100%	98%		98%	0%	0%	0%
Gander	AIC	201	77%	99%	100%	100%	100%	100%	91%	100%	10%	0%	0%
Reykjavik	AIC	1,328	99%	99%	100%	99%	100%	100%	98%	100%	9%	3%	3%
Shanwick	AIC	514	98%	99%	99%	92%	99%	99%		99%	21%	16%	16%
Gander	AMX	199	98%	99%	100%	98%	100%	100%	82%	100%	0%	3%	0%
New York	AMX	119	100%	100%	100%	100%	100%	100%	0%	100%	0%	3%	0%
Reykjavik	AMX	203	100%	100%	100%	74%	100%	100%	70%	100%	0%	2%	0%
Santa Maria	AMX	908	98%	96%	100%	100%	100%	100%	-	13%	0%	3%	0%
Shanwick	AMX	1,300	99%	99%	99%	99%	99%	99%		99%	0%	3%	0%
Reykjavik	ANZ	191	99%	99%	100%	90%	100%	100%	100%	100%	100%	100%	100%
Shanwick	ANZ	304	100%	100%	100%	100%	100%	100%		100%	100%	100%	100%
Shanwick	AOJ	35	66%	69%	26%	54%	57%	0%		23%	0%	0%	0%
New York	ARG	49	100%	98%	2%	98%	98%	98%	0%	2%	0%	0%	2%
Santa Maria	ARG	191	98%	99%	99%	99%	99%	99%	-	0%	0%	0%	0%
Shanwick	ASL	212	96%	97%	100%	93%	95%	100%		100%	0%	0%	0%
Reykjavik	ATN	51	0%	0%	0%	0%	0%	100%	88%	0%	0%	0%	0%
Gander	AUA	247	98%	100%	98%	99%	97%	100%	90%	100%	61%	61%	61%
Reykjavik	AUA	540	86%	86%	86%	77%	85%	86%	100%	87%	43%	43%	43%
Santa Maria	AUA	72	90%	96%	100%	99%	100%	99%	-	1%	100%	100%	100%
Shanwick	AUA	1,591	99%	99%	99%	97%	98%	98%		100%	80%	80%	80%
Reykjavik	AUI	208	49%	49%	50%	49%	50%	49%	50%	50%	0%	0%	0%
Shanwick	AUI	292	64%	64%	63%	64%	65%	62%		65%	0%	0%	0%
New York	AVA	471	95%	95%	95%	95%	95%	95%	0%	95%	87%	95%	87%
Santa Maria	AVA	2,332	97%	99%	99%	99%	99%	93%	-	33%	83%	93%	83%
Shanwick	AVA	420	97%	99%	98%	97%	98%	98%		38%	87%	98%	87%
Reykjavik	AWC	42	7%	7%	10%	5%	10%	0%	95%	14%	0%	0%	0%
Reykjavik	AYY	39	0%	0%	0%	0%	0%	0%	64%	62%	0%	0%	0%
Gander	AZA	324	94%	94%	100%	95%	100%	100%	99%	100%	70%	70%	70%
New York	AZA	131	100%	100%	100%	100%	100%	100%	0%	100%	75%	75%	75%
Reykjavik	AZA	183	99%	98%	99%	76%	99%	100%	100%	100%	19%	19%	19%
Santa Maria	AZA	585	95%	97%	100%	99%	100%	100%	-	9%	58%	58%	58%
Shanwick	AZA	2,797	99%	100%	100%	99%	100%	100%		100%	66%	66%	66%
Reykjavik	AZG	85	91%	91%	100%	86%	100%	100%	99%	100%	0%	0%	0%
Shanwick	AZG	60	93%	93%	97%	88%	97%	97%		97%	0%	0%	0%
Shanwick	BAF	36	69%	69%	75%	39%	47%	67%		0%	0%	0%	0%

FIR	Operator (3-ltr ICAO Code)	Total Flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180	% Filing RCP240	% Filing RSP180/R CP240
Gander	BAW	2,839	95%	97%	99%	97%	99%	100%	96%	99%	96%	97%	96%
New York	BAW	761	100%	99%	99%	99%	99%	100%	0%	100%	87%	87%	87%
Reykjavik	BAW	3,514	87%	87%	88%	70%	88%	89%	100%	91%	85%	85%	85%
Santa Maria	BAW	3,833	96%	98%	99%	98%	99%	99%	-	57%	70%	70%	70%
Shanwick	BAW	21,404	99%	99%	99%	98%	99%	100%		99%	88%	88%	88%
Reykjavik	BBD	261	0%	0%	0%	0%	0%	0%	89%	0%	0%	0%	0%
Shanwick	BBD	255	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%
Reykjavik	BEL	39	82%	82%	85%	28%	85%	100%	100%	0%	64%	64%	64%
Shanwick	BEL	804	98%	98%	100%	98%	100%	100%		0%	76%	76%	76%
Reykjavik	BFF	56	0%	0%	0%	0%	0%	0%	80%	41%	0%	0%	0%
New York	BOS	86	100%	100%	100%	100%	100%	100%	0%	40%	93%	93%	93%
Santa Maria	BOS	293	96%	98%	98%	98%	98%	99%	-	4%	94%	94%	94%
Shanwick	BOS	565	84%	84%	84%	83%	84%	84%		82%	81%	81%	81%
Gander	BOX	124	99%	100%	100%	100%	100%	100%	100%	100%	100%	0%	0%
Reykjavik	BOX	159	100%	99%	100%	74%	100%	100%	99%	100%	100%	0%	0%
Shanwick	BOX	672	100%	100%	100%	99%	100%	100%		100%	100%	0%	0%
New York	BPA	56	20%	20%	20%	20%	20%	7%	0%	7%	0%	0%	0%
Santa Maria	BPA	222	5%	5%	5%	5%	5%	2%	-	0%	0%	0%	0%
Shanwick	BPA	223	5%	5%	5%	5%	5%	2%		1%	0%	0%	0%
Reykjavik	BTI	85	0%	0%	0%	0%	0%	86%	93%	87%	0%	0%	0%
New York	BWA	352	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%
Shanwick	CAZ	50	96%	96%	96%	96%	96%	100%		100%	0%	0%	0%
Reykjavik	CES	57	100%	100%	100%	100%	100%	100%	88%	100%	0%	0%	0%
Reykjavik	CFC	200	38%	38%	48%	35%	48%	51%	34%	21%	2%	2%	2%
Santa Maria	CFC	90	60%	60%	68%	61%	67%	68%	-	0%	1%	1%	1%
Shanwick	CFC	129	70%	73%	78%	69%	78%	82%		15%	5%	5%	5%
Reykjavik	CFE	37	0%	0%	0%	0%	0%	0%	22%	0%	0%	0%	0%
Gander	CFG	243	79%	81%	99%	79%	98%	91%	75%	24%	85%	90%	85%
New York	CFG	409	97%	97%	100%	97%	99%	92%	0%	40%	85%	91%	85%
Reykjavik	CFG	894	90%	90%	85%	83%	85%	81%	100%	95%	73%	80%	73%
Santa Maria	CFG	1,094	94%	96%	98%	96%	97%	90%	-	16%	83%	89%	83%
Shanwick	CFG	2,530	93%	94%	92%	91%	92%	87%		98%	79%	86%	79%
Reykjavik	CHH	375	100%	100%	100%	100%	100%	100%	86%	100%	97%	97%	97%
New York	CJT	37	3%	3%	3%	3%	3%	100%	0%	0%	3%	3%	3%
Shanwick	CJT	127	94%	95%	97%	90%	97%	97%		56%	97%	97%	97%
Gander	CKS	107	95%	98%	99%	100%	99%	99%	89%	99%	0%	0%	0%
Reykjavik	CKS	84	95%	95%	100%	55%	100%	100%	66%	100%	0%	0%	0%
Shanwick	CKS	652	100%	100%	100%	99%	100%	100%		100%	0%	0%	0%
Reykjavik	CLU	92	92%	92%	100%	85%	100%	100%	100%	100%	0%	0%	0%
Shanwick	CLU	331	94%	95%	100%	91%	100%	100%		100%	0%	0%	0%
Gander	CLX	255	89%	93%	100%	95%	100%	100%	100%	100%	62%	62%	62%
New York	CLX	76	96%	96%	100%	96%	100%	100%	0%	100%	59%	59%	59%
Reykjavik	CLX	216	97%	97%	100%	75%	100%	100%	98%	100%	45%	39%	39%
Santa Maria	CLX	270	95%	96%	100%	98%	100%	100%	-	4%	46%	46%	46%
Shanwick	CLX	1,598	97%	97%	100%	97%	100%	100%		100%	53%	48%	48%
Reykjavik	CMB	104	51%	51%	52%	47%	52%	86%	84%	50%	11%	11%	11%
Santa Maria	CMB	165	88%	85%	90%	89%	90%	99%	-	2%	4%	3%	3%
Shanwick	CMB	469	78%	79%	78%	74%	78%	96%		78%	20%	20%	20%
Reykjavik	CNV	33	33%	33%	39%	33%	45%	39%	6%	6%	0%	0%	0%
Santa Maria	CNV	35	66%	60%	66%	66%	66%	63%	-	0%	6%	6%	6%
Shanwick	CNV	85	62%	62%	59%	61%	61%	60%		2%	1%	1%	1%
Reykjavik	CPA	905	99%	99%	100%	99%	100%	100%	99%	100%	3%	3%	3%
New York	CRL	114	100%	100%	100%	100%	100%	77%	0%	88%	74%	74%	74%
Santa Maria	CRL	677	95%	98%	99%	99%	99%	66%	-	10%	65%	65%	65%
Shanwick	CRL	792	99%	99%	99%	98%	99%	74%		74%	56%	56%	56%
Reykjavik	CSA	81	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%
Reykjavik	CSN	467	99%	99%	1%	99%	100%	100%	100%	100%	0%	0%	0%
Reykjavik	CTM	55	18%	18%	36%	18%	36%	71%	69%	36%	22%	22%	22%
Santa Maria	CTM	42	24%	29%	29%	26%	29%	74%	-	0%	2%	2%	2%
Shanwick	CTM	67	36%	37%	36%	36%	36%	78%		36%	16%	16%	16%
Santa Maria	CUB	88	14%	14%	14%	14%	14%	86%	-	0%	0%	0%	0%
Shanwick	CVK	38	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%
Reykjavik	CXA	38	97%	97%	100%	97%	100%	100%	100%	100%	0%	0%	0%
Reykjavik	DAF	141	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

FIR	Operator (3-ltr ICAO Code)	Total Flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180	% Filing RCP240	% Filing RSP180/R CP240
Santa Maria	DAH	38	100%	100%	100%	100%	100%	100%	-	1%	100%	100%	100%
Shanwick	DAH	273	99%	99%	99%	97%	99%	99%		4%	99%	99%	99%
Gander	DAL	2,729	97%	99%	100%	99%	100%	100%	97%	100%	81%	81%	81%
New York	DAL	1,698	47%	44%	67%	44%	67%	64%	0%	90%	55%	56%	56%
Reykjavik	DAL	3,768	96%	93%	98%	75%	97%	97%	100%	98%	69%	69%	69%
Santa Maria	DAL	3,084	96%	97%	99%	98%	99%	99%	-	46%	85%	85%	85%
Shanwick	DAL	22,232	99%	100%	99%	98%	99%	99%		99%	81%	81%	81%
Gander	DHK	129	99%	99%	100%	99%	100%	100%	100%	100%	100%	100%	100%
Reykjavik	DHK	70	99%	99%	100%	71%	100%	100%	89%	100%	67%	100%	67%
Shanwick	DHK	492	99%	99%	99%	99%	99%	99%		99%	64%	99%	64%
Shanwick	DJT	559	99%	100%	100%	99%	100%	100%		100%	0%	0%	0%
Gander	DLH	1,616	93%	97%	100%	96%	100%	100%	93%	100%	88%	88%	88%
New York	DLH	357	100%	100%	100%	100%	100%	100%	0%	100%	70%	70%	70%
Reykjavik	DLH	3,980	90%	90%	92%	77%	91%	92%	99%	93%	84%	84%	84%
Santa Maria	DLH	1,551	97%	98%	99%	99%	99%	100%	-	23%	68%	68%	68%
Shanwick	DLH	12,179	99%	99%	100%	99%	100%	100%		100%	87%	87%	87%
Reykjavik	DOD	550	8%	7%	11%	6%	11%	34%	14%	38%	1%	1%	1%
Shanwick	DUB	38	92%	92%	100%	92%	100%	97%		90%	0%	0%	0%
Reykjavik	DUK	45	0%	0%	0%	0%	0%	0%	60%	0%	0%	0%	0%
Shanwick	EDG	108	32%	32%	17%	28%	39%	24%		81%	2%	2%	2%
New York	EDW	103	100%	100%	100%	100%	100%	100%	0%	88%	100%	100%	100%
Reykjavik	EDW	233	94%	94%	94%	89%	94%	94%	100%	52%	94%	94%	94%
Santa Maria	EDW	431	98%	99%	100%	99%	100%	100%	-	6%	100%	100%	100%
Shanwick	EDW	850	99%	100%	100%	100%	100%	100%		54%	100%	100%	100%
Santa Maria	EGY	50	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%
Gander	EIN	858	98%	100%	100%	100%	100%	100%	87%	74%	100%	100%	100%
Reykjavik	EIN	714	99%	99%	100%	75%	100%	100%	100%	98%	100%	100%	100%
Santa Maria	EIN	558	6%	5%	6%	6%	6%	100%	-	4%	6%	6%	6%
Shanwick	EIN	9,695	59%	59%	60%	59%	60%	98%		45%	60%	60%	60%
New York	EJM	73	74%	70%	73%	73%	74%	48%	0%	67%	12%	15%	12%
Reykjavik	EJM	71	82%	82%	86%	75%	82%	45%	96%	79%	8%	0%	0%
Santa Maria	EJM	66	74%	79%	82%	80%	82%	62%	-	1%	12%	9%	9%
Shanwick	EJM	391	92%	93%	88%	86%	89%	53%		77%	11%	11%	10%
Gander	ELY	225	83%	84%	89%	84%	89%	89%	63%	89%	0%	0%	0%
New York	ELY	70	99%	99%	99%	99%	99%	99%	0%	99%	0%	0%	0%
Reykjavik	ELY	501	82%	82%	82%	79%	82%	83%	100%	83%	0%	0%	0%
Santa Maria	ELY	218	94%	92%	94%	94%	95%	94%	-	3%	0%	0%	0%
Shanwick	ELY	1,348	86%	86%	85%	84%	85%	86%		86%	0%	0%	0%
Gander	ETD	233	91%	99%	100%	99%	100%	100%	100%	25%	0%	0%	0%
New York	ETD	36	97%	97%	100%	97%	100%	100%	0%	25%	0%	0%	0%
Reykjavik	ETD	952	99%	99%	100%	98%	100%	100%	98%	100%	0%	0%	0%
Santa Maria	ETD	177	95%	98%	100%	99%	100%	100%	-	3%	0%	0%	0%
Shanwick	ETD	1,022	100%	100%	99%	97%	99%	100%		100%	0%	0%	0%
Gander	ETH	180	91%	91%	99%	94%	99%	99%	96%	36%	99%	99%	99%
New York	ETH	122	98%	98%	98%	98%	98%	100%	0%	64%	98%	98%	98%
Santa Maria	ETH	489	94%	95%	98%	96%	98%	100%	-	7%	98%	98%	98%
Shanwick	ETH	1,021	98%	99%	99%	97%	99%	99%		100%	99%	99%	99%
New York	ETR	41	24%	22%	29%	24%	27%	100%	0%	100%	0%	0%	0%
Santa Maria	ETR	178	11%	11%	12%	11%	12%	100%	-	3%	0%	0%	0%
New York	EVE	59	100%	100%	100%	100%	100%	3%	0%	0%	0%	0%	0%
Santa Maria	EVE	466	95%	97%	98%	97%	98%	9%	-	0%	0%	0%	0%
Gander	EWG	318	87%	87%	100%	86%	99%	100%	47%	47%	72%	72%	72%
New York	EWG	273	96%	96%	100%	96%	100%	100%	0%	79%	80%	80%	80%
Reykjavik	EWG	224	61%	61%	63%	45%	63%	63%	98%	88%	55%	55%	55%
Santa Maria	EWG	787	95%	98%	99%	99%	99%	100%	-	9%	81%	81%	81%
Shanwick	EWG	1,942	99%	99%	100%	99%	100%	100%		57%	74%	73%	73%
Santa Maria	EXS	2,019	3%	3%	3%	3%	3%	3%	-	18%	0%	0%	0%
Shanwick	EXS	4,522	3%	3%	3%	3%	3%	3%		53%	0%	0%	0%
Reykjavik	EZS	174	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%
Shanwick	EZS	83	0%	0%	0%	0%	0%	0%		100%	0%	0%	0%
Reykjavik	EZY	1,272	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%
Shanwick	EZY	1,493	0%	0%	0%	0%	0%	0%		100%	0%	0%	0%
Reykjavik	FBU	97	100%	100%	100%	91%	100%	100%	100%	1%	24%	24%	24%
Shanwick	FBU	105	100%	100%	100%	100%	100%	100%		0%	25%	25%	25%

FIR	Operator (3-ltr ICAO Code)	Total Flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180	% Filing RCP240	% Filing RSP180/R CP240
Gander	FDX	375	97%	98%	99%	98%	100%	100%	96%	100%	34%	33%	33%
Reykjavik	FDX	346	96%	96%	99%	58%	99%	100%	94%	100%	36%	36%	36%
Santa Maria	FDX	45	100%	100%	100%	100%	100%	100%	-	1%	29%	29%	29%
Shanwick	FDX	2,219	99%	99%	99%	98%	99%	100%		100%	36%	35%	35%
Reykjavik	FEI	2,239	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Gander	FIN	115	96%	100%	100%	100%	100%	100%	98%	100%	100%	100%	100%
Reykjavik	FIN	1,100	73%	73%	73%	73%	73%	100%	100%	94%	42%	42%	42%
Santa Maria	FIN	60	0%	0%	0%	0%	0%	100%	-	1%	0%	0%	0%
Shanwick	FIN	291	76%	76%	76%	63%	76%	99%		99%	52%	52%	52%
Reykjavik	FLI	1,637	0%	0%	0%	0%	0%	0%	99%	62%	0%	0%	0%
Reykjavik	FNA	586	0%	0%	0%	0%	0%	0%	48%	1%	0%	0%	0%
New York	FWI	352	98%	98%	99%	98%	99%	98%	0%	3%	93%	93%	93%
Santa Maria	FWI	1,994	97%	99%	100%	100%	100%	91%	-	10%	27%	27%	27%
Shanwick	FWI	1,434	100%	100%	100%	100%	100%	91%		1%	28%	28%	28%
Reykjavik	FXI	4,063	0%	0%	0%	0%	0%	0%	99%	85%	0%	0%	0%
Shanwick	GA	8,840	74%	74%	73%	71%	75%	64%		78%	11%	10%	9%
Reykjavik	GAF	37	38%	38%	62%	38%	62%	84%	76%	57%	0%	0%	0%
Shanwick	GAF	63	52%	52%	52%	51%	52%	83%		44%	0%	0%	0%
Gander	GEC	181	97%	99%	99%	99%	99%	99%	100%	99%	99%	99%	99%
Reykjavik	GEC	310	98%	98%	100%	80%	100%	100%	99%	100%	28%	28%	28%
Santa Maria	GEC	41	95%	98%	100%	100%	100%	100%	-	1%	54%	54%	54%
Shanwick	GEC	1,033	99%	100%	100%	98%	100%	100%		100%	33%	32%	32%
Santa Maria	GES	93	96%	97%	100%	98%	100%	27%	-	1%	18%	20%	18%
Shanwick	GES	68	99%	99%	100%	99%	100%	29%		91%	21%	24%	21%
Reykjavik	GMI	185	0%	0%	0%	0%	0%	0%	96%	100%	0%	0%	0%
Santa Maria	GMI	36	0%	0%	0%	0%	0%	0%	-	1%	0%	0%	0%
Shanwick	GMI	80	0%	0%	0%	0%	0%	0%		100%	0%	0%	0%
Reykjavik	GRL	2,526	0%	0%	0%	0%	0%	0%	90%	89%	0%	0%	0%
Shanwick	GTH	64	67%	67%	66%	64%	66%	34%		83%	2%	2%	2%
Gander	GTI	143	95%	97%	100%	97%	100%	100%	85%	86%	0%	0%	0%
New York	GTI	57	100%	100%	100%	100%	100%	100%	0%	93%	0%	0%	0%
Reykjavik	GTI	91	90%	90%	100%	54%	100%	100%	95%	100%	0%	0%	0%
Santa Maria	GTI	116	97%	99%	100%	100%	100%	100%	-	2%	0%	0%	0%
Shanwick	GTI	1,053	98%	98%	99%	97%	99%	100%		100%	0%	0%	0%
Reykjavik	HAE	42	0%	0%	0%	0%	0%	0%	48%	19%	0%	0%	0%
Reykjavik	HRT	31	6%	6%	6%	6%	6%	32%	42%	32%	3%	0%	0%
Shanwick	HRT	40	58%	60%	58%	53%	58%	78%		83%	20%	20%	20%
Shanwick	IAM	34	62%	65%	65%	62%	65%	65%		65%	21%	21%	21%
Gander	IBE	174	87%	90%	100%	96%	100%	100%	67%	78%	93%	93%	93%
New York	IBE	920	100%	100%	100%	99%	100%	100%	0%	63%	89%	90%	89%
Reykjavik	IBE	94	99%	99%	100%	95%	100%	100%	100%	96%	5%	5%	5%
Santa Maria	IBE	6,730	98%	100%	100%	100%	100%	100%	-	59%	14%	15%	14%
Shanwick	IBE	967	96%	98%	98%	96%	98%	98%		74%	12%	12%	12%
Gander	IBK	293	97%	98%	59%	99%	96%	0%	80%	79%	0%	0%	0%
New York	IBK	163	3%	3%	2%	3%	3%	1%	0%	100%	0%	0%	0%
Reykjavik	IBK	512	11%	10%	8%	7%	5%	0%	100%	97%	0%	0%	0%
Shanwick	IBK	2,140	51%	51%	26%	33%	36%	0%		92%	0%	0%	0%
Reykjavik	IBS	76	0%	0%	0%	0%	0%	0%	96%	0%	0%	0%	0%
Gander	ICE	522	20%	22%	23%	23%	23%	23%	74%	100%	0%	0%	0%
Reykjavik	ICE	15,134	12%	12%	13%	12%	13%	12%	100%	100%	0%	0%	0%
Santa Maria	ICE	82	0%	0%	0%	0%	0%	0%	-	1%	0%	0%	0%
Shanwick	ICE	3,176	13%	13%	13%	13%	13%	13%		98%	0%	0%	0%
Reykjavik	ICG	52	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shanwick	ICL	350	97%	98%	100%	97%	100%	100%		0%	0%	0%	0%
Shanwick	ICV	109	98%	98%	100%	98%	100%	100%		100%	50%	46%	46%
Reykjavik	IFA	155	1%	1%	1%	1%	3%	3%	45%	25%	0%	0%	0%
Shanwick	IFA	106	22%	22%	0%	13%	18%	27%		32%	0%	0%	0%
New York	ISS	52	100%	100%	100%	100%	100%	100%	0%	94%	100%	100%	100%
Santa Maria	ISS	186	84%	87%	89%	88%	89%	100%	-	2%	88%	88%	88%
Shanwick	ISS	593	94%	94%	94%	93%	94%	100%		88%	93%	93%	93%
Reykjavik	ITAF	43	14%	12%	16%	12%	16%	16%	21%	16%	0%	0%	0%
New York	JAF	83	95%	95%	95%	95%	95%	78%	0%	78%	69%	69%	69%
Santa Maria	JAF	400	83%	84%	85%	84%	85%	80%	-	6%	77%	77%	77%
Shanwick	JAF	574	96%	96%	97%	94%	97%	93%		96%	91%	91%	91%

FIR	Operator (3-ltr ICAO Code)	Total Flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180	% Filing RCP240	% Filing RSP180/R CP240
Reykjavik	JAI	52	92%	92%	92%	50%	92%	92%	100%	100%	0%	0%	0%
Shanwick	JAI	360	97%	98%	100%	98%	100%	100%		100%	0%	0%	0%
Shanwick	JAS	56	93%	96%	98%	88%	98%	95%		98%	13%	9%	9%
New York	JBU	3,106	43%	42%	43%	42%	43%	0%	0%	5%	1%	1%	1%
Shanwick	JET	31	100%	100%	100%	90%	100%	100%		100%	0%	0%	0%
Shanwick	JME	44	98%	98%	93%	93%	100%	84%		93%	0%	0%	0%
Shanwick	JTG	36	0%	0%	0%	0%	0%	0%		75%	0%	0%	0%
Shanwick	KAC	366	96%	96%	100%	96%	100%	0%		0%	0%	0%	0%
Gander	KLM	1,027	92%	94%	100%	93%	100%	100%	94%	100%	73%	73%	73%
New York	KLM	546	99%	99%	100%	98%	100%	100%	0%	100%	78%	78%	78%
Reykjavik	KLM	1,974	99%	99%	100%	80%	100%	100%	100%	100%	71%	71%	71%
Santa Maria	KLM	2,979	97%	99%	100%	99%	100%	100%	-	44%	81%	81%	80%
Shanwick	KLM	8,316	100%	100%	100%	99%	100%	100%		100%	74%	74%	74%
New York	KQA	43	98%	98%	100%	98%	100%	98%	0%	98%	98%	98%	98%
Santa Maria	KQA	108	100%	100%	100%	100%	100%	97%	-	2%	97%	83%	82%
New York	KTK	95	28%	26%	12%	26%	32%	45%	0%	0%	0%	0%	0%
Reykjavik	KTK	254	9%	9%	3%	9%	9%	53%	81%	31%	0%	0%	0%
Santa Maria	KTK	175	5%	5%	6%	5%	6%	41%	-	0%	0%	0%	0%
Shanwick	KTK	377	6%	6%	1%	6%	8%	47%		19%	0%	0%	0%
Santa Maria	LAN	106	99%	100%	100%	100%	100%	0%	-	2%	0%	0%	0%
Shanwick	LCO	127	5%	5%	0%	0%	0%	0%		0%	0%	0%	0%
Santa Maria	LNE	155	90%	88%	90%	89%	93%	51%	-	2%	0%	0%	0%
Gander	LOT	249	95%	100%	100%	100%	100%	85%	57%	18%	85%	85%	85%
Reykjavik	LOT	1,519	98%	98%	99%	98%	99%	98%	100%	71%	40%	40%	40%
Shanwick	LOT	1,062	97%	97%	97%	77%	97%	81%		73%	33%	33%	33%
New York	LPE	80	73%	73%	33%	73%	80%	68%	0%	0%	0%	0%	0%
Santa Maria	LPE	540	83%	82%	83%	83%	85%	80%	-	8%	0%	0%	0%
New York	LXJ	61	3%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%
Reykjavik	LXJ	38	16%	16%	16%	16%	3%	16%	95%	29%	0%	0%	0%
Shanwick	LXJ	109	23%	26%	28%	6%	4%	31%		55%	0%	0%	0%
Shanwick	MHV	40	23%	23%	25%	23%	25%	25%		0%	0%	0%	0%
Reykjavik	MMD	48	85%	85%	96%	81%	96%	96%	96%	96%	42%	0%	0%
Shanwick	MMD	126	94%	94%	96%	91%	96%	99%		96%	36%	36%	36%
New York	MPH	39	100%	100%	100%	100%	100%	100%	0%	72%	0%	0%	0%
Santa Maria	MPH	134	99%	99%	100%	99%	100%	100%	-	2%	0%	0%	0%
Shanwick	MPH	345	99%	100%	99%	99%	99%	99%		73%	0%	0%	0%
Reykjavik	MSR	115	99%	98%	100%	90%	100%	100%	100%	100%	0%	0%	0%
Santa Maria	MSR	83	98%	99%	100%	100%	100%	100%	-	1%	0%	0%	0%
Shanwick	MSR	464	99%	99%	100%	98%	100%	100%		100%	0%	0%	0%
Reykjavik	MYA	965	0%	0%	0%	0%	0%	0%	91%	86%	0%	0%	0%
Gander	NAX	746	93%	98%	93%	98%	93%	86%	35%	93%	85%	85%	85%
New York	NAX	124	100%	98%	98%	98%	98%	96%	0%	98%	94%	94%	94%
Reykjavik	NAX	2,454	85%	85%	85%	81%	86%	98%	100%	90%	84%	84%	84%
Santa Maria	NAX	486	97%	98%	99%	98%	99%	90%	-	7%	87%	87%	87%
Shanwick	NAX	3,941	95%	96%	88%	87%	89%	84%		93%	79%	79%	79%
Reykjavik	NJE	79	33%	32%	37%	30%	37%	0%	62%	46%	0%	0%	0%
Santa Maria	NJE	62	90%	90%	90%	90%	90%	2%	-	1%	0%	0%	0%
Shanwick	NJE	184	97%	98%	98%	96%	98%	0%		74%	0%	0%	0%
Santa Maria	NOP	2,704	44%	46%	51%	48%	50%	54%	-	23%	5%	6%	5%
New York	NOS	72	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	0%
Santa Maria	NOS	219	97%	97%	99%	98%	99%	1%	-	2%	0%	0%	0%
Shanwick	NOS	203	99%	99%	99%	98%	99%	1%		1%	0%	0%	0%
Gander	NRS	493	95%	97%	100%	97%	100%	80%	40%	80%	80%	80%	80%
New York	NRS	98	99%	100%	100%	99%	100%	71%	0%	72%	71%	71%	71%
Reykjavik	NRS	635	99%	99%	100%	81%	99%	96%	100%	100%	96%	96%	96%
Santa Maria	NRS	342	97%	98%	100%	99%	100%	90%	-	5%	90%	90%	90%
Shanwick	NRS	3,176	99%	100%	100%	99%	100%	89%		100%	88%	88%	88%
New York	NWS	43	98%	98%	100%	98%	100%	100%	0%	0%	0%	0%	0%
Reykjavik	NWS	223	96%	96%	97%	96%	99%	100%	96%	41%	0%	0%	0%
Santa Maria	NWS	77	96%	97%	99%	97%	97%	100%	-	1%	0%	0%	0%
Shanwick	NWS	215	95%	96%	97%	82%	99%	100%		43%	0%	0%	0%
Reykjavik	OAE	52	88%	88%	100%	71%	98%	100%	100%	100%	6%	6%	6%
Shanwick	OAE	426	97%	97%	97%	96%	97%	97%		100%	20%	20%	20%
Santa Maria	OBS	217	97%	99%	99%	99%	99%	81%	-	0%	0%	0%	0%

FIR	Operator (3-ltr ICAO Code)	Total Flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180	% Filing RCP240	% Filing RSP180/R CP240
New York	ONE	62	50%	34%	100%	34%	50%	0%	0%	100%	0%	0%	0%
Shanwick	PAC	91	97%	98%	100%	96%	100%	100%		100%	0%	0%	0%
Reykjavik	PAL	86	98%	98%	100%	98%	100%	100%	100%	100%	100%	100%	100%
Reykjavik	PCH	84	0%	0%	0%	0%	0%	77%	89%	68%	0%	0%	0%
Shanwick	PEG	101	7%	7%	7%	7%	20%	97%		16%	0%	0%	0%
Reykjavik	PIA	205	95%	95%	100%	95%	99%	100%	98%	100%	0%	0%	0%
Santa Maria	PLM	238	94%	99%	100%	98%	100%	0%	-	0%	0%	0%	0%
Reykjavik	PRI	83	30%	30%	33%	11%	33%	37%	97%	0%	33%	33%	33%
Santa Maria	PRI	69	13%	13%	13%	13%	13%	7%	-	0%	7%	7%	7%
Shanwick	PRI	813	88%	88%	88%	87%	88%	82%		10%	79%	78%	78%
Reykjavik	PRW	227	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%
Santa Maria	PRW	78	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%
Shanwick	PRW	204	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%
New York	PUE	53	70%	70%	72%	70%	72%	100%	0%	42%	0%	0%	0%
Santa Maria	PUE	300	45%	47%	49%	47%	49%	100%	-	2%	0%	0%	0%
Reykjavik	QID	31	48%	35%	100%	35%	100%	100%	0%	0%	0%	0%	0%
Shanwick	QQE	34	97%	97%	97%	94%	97%	97%		94%	74%	74%	74%
Gander	QTR	799	91%	96%	100%	97%	100%	100%	70%	0%	100%	100%	100%
New York	QTR	217	100%	100%	100%	100%	100%	100%	0%	4%	100%	100%	100%
Reykjavik	QTR	2,072	99%	99%	100%	96%	99%	100%	100%	100%	100%	100%	100%
Santa Maria	QTR	458	93%	97%	100%	98%	100%	100%	-	7%	100%	100%	100%
Shanwick	QTR	3,540	99%	100%	99%	97%	99%	100%		100%	99%	99%	99%
New York	RAM	95	99%	96%	100%	96%	100%	100%	0%	100%	81%	81%	100%
Santa Maria	RAM	1,048	82%	84%	85%	84%	85%	81%	-	16%	84%	84%	84%
Shanwick	RAM	130	60%	61%	65%	47%	65%	65%		93%	65%	64%	64%
Gander	RCH	271	81%	89%	90%	90%	90%	90%	6%	24%	0%	0%	0%
New York	RCH	63	97%	95%	97%	95%	97%	97%	0%	30%	0%	0%	3%
Reykjavik	RCH	358	68%	68%	73%	56%	73%	76%	28%	27%	0%	0%	0%
Santa Maria	RCH	534	81%	83%	86%	85%	86%	86%	-	2%	2%	0%	0%
Shanwick	RCH	1,905	90%	90%	91%	89%	91%	91%		19%	0%	0%	0%
Gander	RJA	113	81%	99%	100%	99%	100%	100%	99%	100%	5%	5%	5%
Reykjavik	RJA	292	100%	100%	100%	92%	100%	100%	100%	100%	3%	3%	3%
Shanwick	RJA	550	95%	96%	96%	92%	96%	96%		100%	3%	3%	3%
New York	ROU	383	55%	54%	58%	54%	55%	55%	0%	72%	0%	0%	0%
Reykjavik	ROU	608	99%	99%	100%	83%	100%	100%	99%	100%	0%	0%	0%
Santa Maria	ROU	636	96%	99%	100%	100%	100%	100%	-	9%	0%	0%	0%
Shanwick	ROU	2,677	99%	99%	100%	98%	100%	100%		100%	0%	0%	0%
Reykjavik	RRR	48	56%	56%	58%	52%	58%	75%	68%	58%	0%	0%	0%
Santa Maria	RRR	77	34%	35%	39%	36%	39%	90%	-	1%	0%	0%	0%
Shanwick	RRR	182	34%	34%	34%	34%	34%	91%		32%	0%	0%	0%
Santa Maria	RZR	1,725	0%	0%	0%	0%	0%	0%	-	26%	0%	0%	0%
Shanwick	RZR	2,530	0%	0%	1%	0%	0%	1%		100%	0%	0%	0%
New York	RZO	68	96%	96%	99%	96%	99%	99%	0%	99%	0%	0%	0%
Santa Maria	RZO	3,566	20%	21%	28%	23%	24%	33%	-	17%	0%	0%	0%
New York	SAA	120	100%	100%	100%	100%	100%	100%	0%	28%	0%	0%	0%
Santa Maria	SAA	716	99%	99%	100%	100%	100%	100%	-	11%	0%	0%	0%
Shanwick	SAM	61	95%	93%	97%	93%	97%	95%		18%	13%	13%	13%
Gander	SAS	392	93%	100%	100%	100%	100%	100%	99%	100%	100%	100%	100%
Reykjavik	SAS	3,868	73%	73%	74%	73%	74%	74%	100%	98%	74%	74%	74%
Shanwick	SAS	1,231	99%	100%	99%	83%	99%	100%	100%	100%	100%	100%	100%
Reykjavik	SDM	45	84%	62%	100%	62%	98%	100%	100%	0%	0%	0%	0%
Shanwick	SDM	93	90%	90%	100%	63%	100%	100%		0%	0%	0%	0%
Gander	SIA	160	99%	100%	99%	100%	99%	99%	91%	99%	85%	85%	85%
Reykjavik	SIA	66	100%	100%	100%	52%	100%	100%	100%	100%	97%	97%	97%
Shanwick	SIA	822	100%	100%	100%	100%	100%	100%		100%	85%	85%	85%
Santa Maria	SLM	191	95%	99%	100%	99%	100%	0%	-	3%	0%	0%	0%
Shanwick	SLM	140	100%	100%	94%	100%	100%	0%		100%	0%	0%	0%
Reykjavik	SOO	76	97%	97%	100%	84%	100%	100%	100%	99%	0%	0%	0%
Shanwick	SOO	354	99%	99%	100%	98%	100%	100%		100%	0%	0%	0%
Gander	SVA	152	97%	96%	100%	98%	100%	100%	99%	0%	0%	0%	0%
Reykjavik	SVA	165	94%	93%	99%	79%	99%	38%	100%	90%	0%	0%	0%
Santa Maria	SVA	38	95%	92%	100%	97%	100%	24%	-	0%	0%	0%	0%
Shanwick	SVA	905	96%	97%	98%	95%	98%	37%		84%	0%	0%	0%
Shanwick	SVW	77	88%	88%	90%	84%	90%	97%		44%	0%	0%	0%

FIR	Operator (3-ltr ICAO Code)	Total Flights	% AFN logon	% Using ADS-C	% Filing ADS-C	% Using CPDLC	% Filing CPDLC	% Filing RNP4	% Using ADS-B	% Filing ADS-B	% Filing RSP180	% Filing RCP240	% Filing RSP180/R CP240
New York	SWG	395	0%	0%	85%	0%	0%	7%	0%	15%	0%	0%	0%
Gander	SWR	578	96%	97%	100%	97%	100%	100%	96%	100%	80%	80%	80%
New York	SWR	165	100%	100%	100%	100%	100%	100%	0%	100%	72%	72%	72%
Reykjavik	SWR	497	97%	97%	98%	85%	97%	99%	100%	100%	12%	12%	12%
Santa Maria	SWR	389	97%	97%	100%	100%	100%	100%	-	6%	75%	75%	75%
Shanwick	SWR	3,826	100%	100%	100%	99%	100%	100%	-	100%	79%	79%	79%
Santa Maria	SWT	34	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%
Reykjavik	SYB	86	21%	21%	28%	21%	77%	95%	94%	99%	12%	0%	0%
New York	TAM	96	99%	98%	98%	99%	100%	99%	0%	16%	0%	0%	0%
Santa Maria	TAM	502	99%	99%	100%	99%	100%	100%	-	7%	0%	0%	0%
Shanwick	TAM	292	97%	99%	99%	96%	98%	100%	-	100%	0%	0%	0%
Gander	TAP	104	89%	90%	100%	100%	100%	100%	99%	78%	0%	0%	0%
New York	TAP	189	99%	99%	99%	98%	100%	90%	0%	86%	0%	0%	0%
Santa Maria	TAP	5,000	60%	61%	61%	61%	61%	58%	-	74%	0%	0%	0%
Shanwick	TAP	510	89%	89%	89%	88%	89%	89%	-	86%	0%	0%	0%
Shanwick	TAR	144	100%	100%	100%	100%	100%	100%	-	100%	0%	0%	0%
Shanwick	TAY	144	92%	93%	95%	90%	95%	95%	-	95%	0%	0%	0%
Santa Maria	TCV	47	36%	36%	36%	36%	36%	0%	-	1%	0%	0%	0%
Gander	TCX	119	92%	93%	99%	93%	99%	100%	98%	100%	46%	46%	46%
New York	TCX	116	100%	99%	99%	99%	99%	100%	0%	100%	74%	74%	74%
Reykjavik	TCX	287	97%	97%	96%	82%	96%	100%	99%	99%	61%	61%	61%
Santa Maria	TCX	1,312	39%	39%	41%	41%	43%	99%	-	17%	28%	29%	28%
Shanwick	TCX	3,579	67%	67%	64%	67%	68%	99%	-	74%	43%	43%	43%
Gander	TFL	105	89%	88%	99%	85%	100%	91%	94%	88%	71%	71%	71%
New York	TFL	169	99%	100%	100%	99%	100%	87%	0%	82%	63%	63%	63%
Santa Maria	TFL	827	89%	90%	92%	91%	91%	88%	-	11%	22%	23%	22%
Shanwick	TFL	1,071	96%	96%	97%	96%	97%	94%	-	89%	25%	25%	25%
Reykjavik	THT	165	99%	99%	100%	85%	100%	100%	100%	100%	100%	100%	100%
Shanwick	THT	178	100%	100%	100%	100%	100%	100%	-	100%	100%	100%	100%
Gander	THY	613	92%	95%	99%	97%	99%	99%	97%	100%	0%	0%	0%
New York	THY	171	99%	99%	100%	99%	100%	100%	0%	100%	0%	0%	0%
Reykjavik	THY	1,951	98%	98%	99%	96%	99%	99%	100%	100%	0%	0%	0%
Santa Maria	THY	583	97%	97%	100%	98%	100%	100%	-	9%	0%	0%	0%
Shanwick	THY	2,919	99%	100%	100%	97%	100%	100%	-	100%	0%	0%	0%
Gander	TOM	226	82%	81%	97%	77%	97%	97%	82%	95%	96%	96%	96%
New York	TOM	297	100%	100%	100%	100%	100%	100%	0%	95%	100%	100%	100%
Reykjavik	TOM	129	42%	40%	43%	34%	43%	43%	100%	94%	41%	41%	41%
Santa Maria	TOM	1,806	72%	73%	76%	74%	75%	75%	-	24%	72%	72%	72%
Shanwick	TOM	3,647	74%	74%	79%	73%	74%	74%	-	89%	72%	72%	72%
Santa Maria	TOW	95	100%	100%	100%	100%	100%	100%	-	1%	0%	0%	0%
Shanwick	TOW	96	100%	100%	100%	100%	100%	100%	-	100%	0%	0%	0%
Gander	TSC	214	95%	94%	98%	99%	98%	99%	100%	86%	0%	0%	0%
New York	TSC	414	46%	44%	46%	45%	46%	88%	0%	47%	0%	0%	0%
Reykjavik	TSC	794	98%	97%	98%	79%	98%	100%	99%	41%	0%	0%	0%
Santa Maria	TSC	753	94%	92%	99%	98%	99%	100%	-	10%	0%	0%	0%
Shanwick	TSC	4,740	98%	98%	97%	95%	98%	100%	-	75%	0%	0%	0%
Reykjavik	TVF	56	0%	0%	0%	0%	0%	0%	100%	93%	0%	0%	0%
Reykjavik	TVS	157	0%	0%	1%	0%	1%	64%	96%	97%	0%	0%	0%
Shanwick	TVS	98	0%	0%	0%	0%	0%	48%	-	66%	0%	0%	0%
Reykjavik	TWY	60	70%	70%	82%	67%	77%	77%	89%	83%	27%	12%	7%
Shanwick	TWY	164	87%	87%	84%	84%	87%	77%	-	81%	37%	38%	36%
Gander	UAE	729	92%	97%	100%	97%	100%	100%	91%	100%	98%	98%	98%
New York	UAE	196	100%	100%	100%	100%	100%	100%	0%	100%	99%	99%	99%
Reykjavik	UAE	2,442	99%	99%	100%	97%	100%	100%	100%	100%	98%	98%	98%
Santa Maria	UAE	601	98%	99%	100%	100%	100%	100%	-	9%	95%	95%	95%
Shanwick	UAE	3,238	99%	100%	100%	97%	100%	100%	-	100%	94%	94%	94%
Gander	UAL	3,068	96%	99%	100%	100%	100%	100%	98%	78%	87%	87%	87%
New York	UAL	1,620	33%	31%	33%	31%	33%	100%	0%	60%	26%	26%	26%
Reykjavik	UAL	5,692	99%	99%	100%	85%	100%	100%	99%	89%	86%	83%	82%
Santa Maria	UAL	2,056	95%	98%	100%	99%	100%	100%	-	19%	42%	42%	42%
Shanwick	UAL	21,377	99%	99%	100%	98%	100%	100%	-	74%	68%	68%	68%
Shanwick	UKL	36	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%
Shanwick	ULC	39	100%	100%	100%	95%	100%	100%	-	100%	77%	77%	77%
Gander	UPS	279	99%	99%	99%	100%	99%	99%	97%	100%	67%	67%	67%

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New York	UPS	52	100%	100%	100%	100%	100%	100%	0%	100%	17%	17%	17%
Reykjavik	UPS	193	96%	96%	99%	74%	98%	98%	97%	100%	41%	41%	41%
Shanwick	UPS	1,814	100%	100%	99%	99%	99%	99%		99%	52%	52%	52%
Reykjavik	UZH	118	100%	100%	100%	99%	100%	100%	100%	100%	99%	0%	0%
Reykjavik	VDA	53	0%	0%	0%	0%	0%	0%	87%	64%	0%	0%	0%
Shanwick	VDA	43	0%	0%	0%	0%	0%	0%		72%	0%	0%	0%
Gander	VIR	1,166	95%	97%	100%	97%	99%	99%	93%	94%	74%	74%	74%
New York	VIR	479	100%	100%	100%	100%	100%	100%	0%	90%	46%	46%	46%
Reykjavik	VIR	1,462	99%	98%	100%	91%	100%	100%	100%	90%	83%	83%	83%
Santa Maria	VIR	1,438	96%	97%	100%	99%	100%	100%	-	19%	32%	32%	32%
Shanwick	VIR	9,236	100%	100%	100%	99%	100%	100%		92%	67%	67%	67%
New York	VJT	49	98%	98%	98%	98%	98%	98%	0%	100%	96%	96%	98%
Reykjavik	VJT	125	90%	90%	94%	82%	94%	95%	97%	94%	31%	25%	25%
Santa Maria	VJT	130	96%	96%	100%	98%	99%	98%	-	2%	48%	46%	46%
Shanwick	VJT	469	95%	96%	98%	95%	96%	98%		98%	40%	37%	37%
Santa Maria	VKG	378	30%	30%	31%	30%	31%	100%	-	5%	31%	31%	30%
Shanwick	VKG	479	32%	32%	32%	32%	32%	100%		87%	32%	31%	31%
Reykjavik	VLG	104	0%	0%	0%	0%	0%	93%	100%	0%	0%	0%	0%
Shanwick	WGN	52	0%	0%	0%	0%	0%	100%		65%	0%	0%	0%
Shanwick	WGT	33	100%	100%	100%	97%	100%	100%		100%	0%	0%	0%
New York	WJA	315	5%	4%	10%	4%	8%	3%	0%	57%	0%	0%	0%
Reykjavik	WJA	468	99%	99%	99%	92%	99%	0%	100%	100%	0%	0%	0%
Shanwick	WJA	1,623	95%	95%	91%	78%	79%	13%		98%	0%	0%	0%
Gander	WOW	443	91%	94%	95%	94%	95%	100%	75%	100%	0%	0%	0%
Reykjavik	WOW	9,915	62%	59%	59%	59%	64%	91%	100%	100%	0%	0%	0%
Santa Maria	WOW	123	46%	46%	47%	46%	47%	95%	-	2%	0%	0%	0%
Shanwick	WOW	4,133	57%	57%	51%	56%	59%	90%		99%	0%	0%	0%
Reykjavik	WUK	44	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%
Reykjavik	WZZ	1,140	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%
New York	XLF	74	100%	100%	100%	100%	100%	100%	0%	85%	100%	100%	100%
Reykjavik	XLF	65	98%	98%	100%	86%	100%	100%	100%	3%	100%	100%	100%
Santa Maria	XLF	357	73%	75%	75%	75%	75%	99%	-	3%	74%	74%	74%
Shanwick	XLF	730	84%	84%	84%	84%	84%	99%		63%	83%	83%	82%