

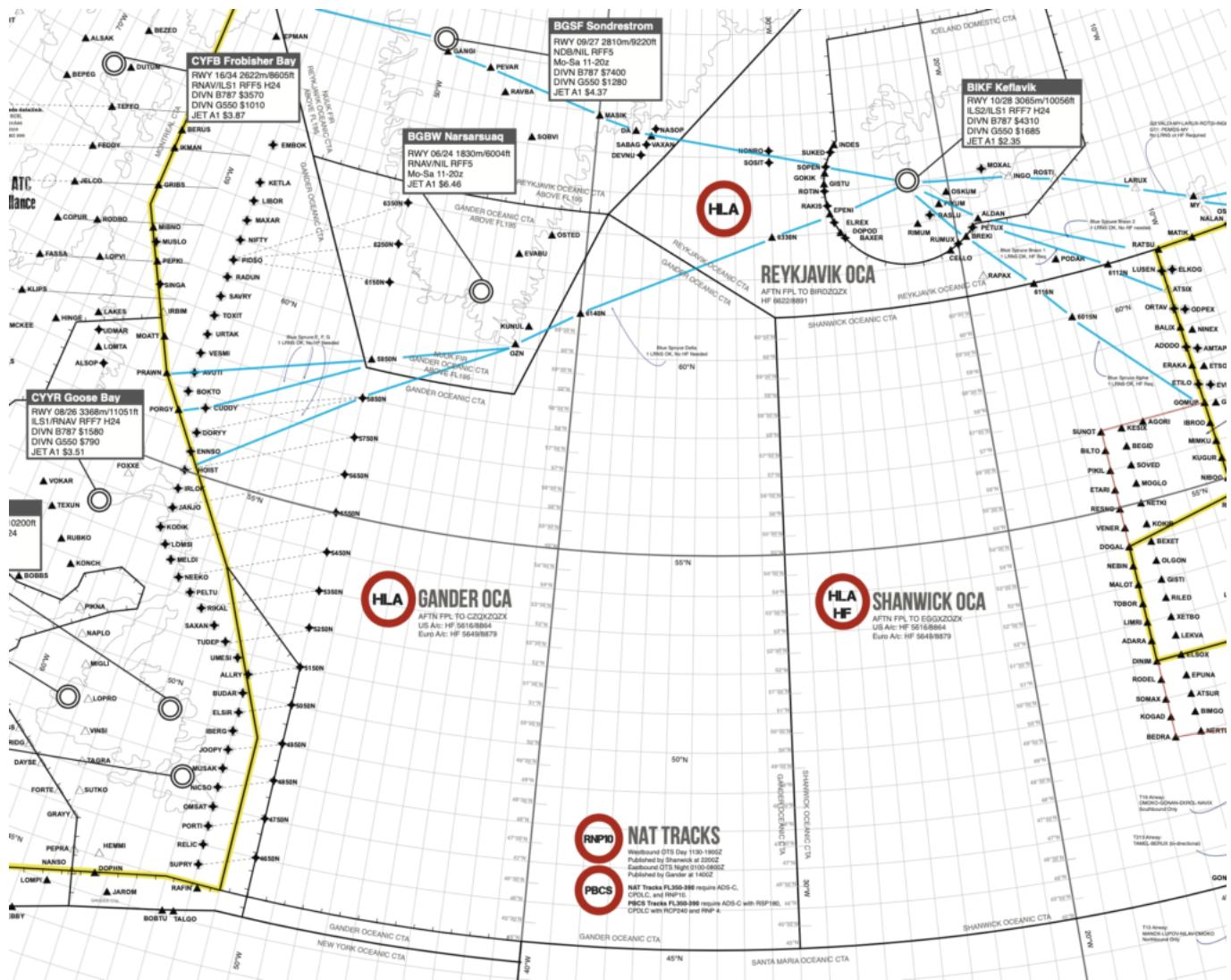
Planning for “ATC Zero” events in Oceanic Airspace

David Mumford
4 August, 2020



You're halfway across the Atlantic when **ATC declares that they are suspending all services**. TIBA procedures are now in effect. **Would you know what to do next?** As Covid infections impact ATC facilities, short notice closures are currently a constant risk. With the possibility of an entire oceanic ATC area being shut down due to Covid, there are some big questions to consider, and to factor in to your planning: Are you tankering enough fuel if you suddenly have to fly around large sections of oceanic airspace? Where are your ETPs? Do you have a wet footprint?

Back in 2011, there was an incident where transatlantic flights were not allowed to enter CYQX/Gander oceanic airspace due to a smoke situation in ATC control centre which meant that controllers had to be evacuated. They issued a Notam, but that wasn't much use to the traffic en-route at the time, which all had to be **re-routed around the CYQX/Gander Oceanic FIR** – a vast portion of oceanic airspace.



Fast forward to March of this year, where New York Air Route Traffic Control Center was forced to temporarily close due to **a controller testing positive for Covid-19**. The affected airspace restricted flights into New York area airports, with aircraft having to take longer routes in order to avoid closed sectors, as well as Oceanic airspace which stretches from New York past Bermuda and services flights heading to the Caribbean, Europe, South America, and Africa.

The New York ARTCC is not the only ATC center that has been affected over the past few months due to controllers coming down sick with coronavirus. Eleven sites across the US, including at major airports in New York, Chicago, and Las Vegas, have been **temporarily closed for cleaning**, affected flight operations. Some facilities have been **closed for several days** leaving inbound and departing aircraft left to their own devices for taxi, take-off, and landing.

NAT Doc 006 is the official go-to manual to check what happens during these **“ATC Zero” events** on the North Atlantic, but the spate of recent ATC shutdowns in the US led the FAA to re-examine the increased potential for these situations occurring during the Covid crisis, and in early July they published a SAFO as a result.

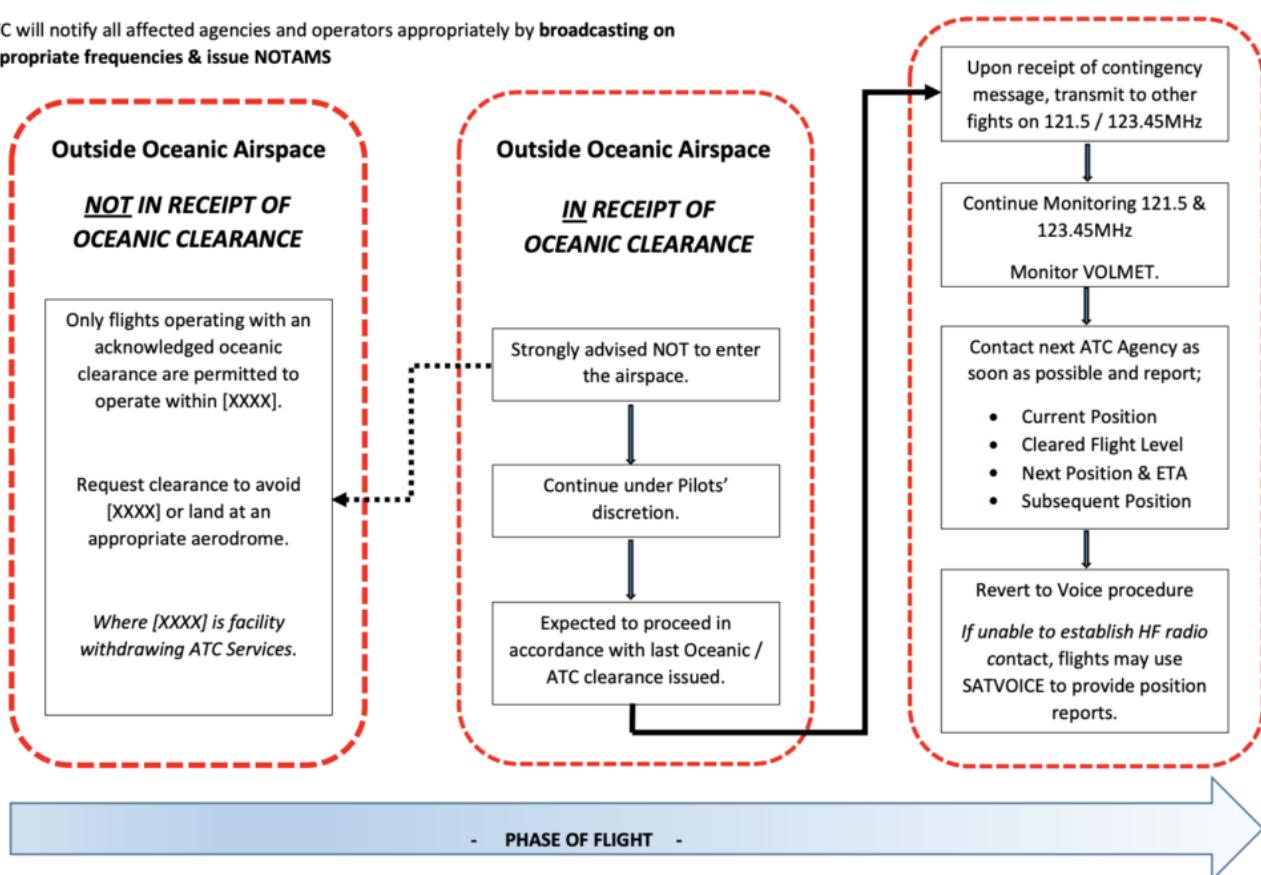
The NAT Doc 006 and the US SAFO are great resources, but here are **two more** which you might not know about!

Code7700.com has published an excellent **2-page crib sheet** with clear guidance for pilots on what to do in these situations. You can download it [here](#):

CONTINGENCY CONSIDERATIONS

GUIDANCE FOR PILOTS IN THE IMMEDIATE AFTERMATH OF A SUDDEN WITHDRAWAL OF ATC SERVICES IN OCEANIC AIRSPACE

ATC will notify all affected agencies and operators appropriately by **broadcasting on appropriate frequencies & issue NOTAMS**



CONTINGENCY CONSIDERATIONS

GUIDANCE FOR PILOTS IN THE IMMEDIATE AFTERMATH OF A SUDDEN WITHDRAWAL OF ATC SERVICES IN OCEANIC AIRSPACE

ICAO IN-FLIGHT BROADCAST BY AIRCRAFT (TIBA)

Broadcast on the last assigned frequency, 121.5 and 123.45 the following:

ALL STATIONS (call-sign),
FLIGHT LEVEL (number) (or CLIMBING/DESCENDING TO FLIGHT LEVEL (number)) (direction) (ATS Route) (or DIRECT FROM position) TO (position) AT (time)
ESTIMATING (next reporting point, or the point of crossing or joining a designated ATS route)
AT (time) (call sign) FLIGHT LEVEL (number) (direction)

TIBA calls should be provided at the following times:

- a. 10 minutes before entering the designated airspace;
- b. 10 minutes prior to crossing a reporting point;
- c. 10 minutes prior to crossing or joining an ATS route;
- d. At 20 minute intervals between distant reporting points;
- e. 2 to 5 minutes, where possible before a change in a flight level;
- f. At the time of a change in flight level; and
- g. At any other time considered necessary by the flight-crew.

SATVOICE

SATVOICE Numbers for ATC Centers and Radio Stations can be found on the Jeppesen enroute charts

LEVEL CHANGE WITH AN ACKNOWLEDGED CLERANCE

NOTE: Flight-Crews shall use extreme caution and all available means to detect conflicting traffic

The following procedures shall be applied when conducting any level change to **comply with an acknowledged clearance** within airspace affected by the sudden withdrawal of ATC services.

At least 3 minutes prior to the commencement of a climb or descent the flight should broadcast on the last assigned frequency, 121.5 and 123.45 the following:

- ALL STATIONS (call-sign) (direction) DIRECT FROM (position) TO (position) LEAVING FLIGHT LEVEL (number) FOR FLIGHT LEVEL (number) AT (distance) (direction) FROM (position) AT (time).

When the level change begins, the flight should make the following broadcast:

- ALL STATIONS (call-sign) (direction) DIRECT FROM (position) TO (position) LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number).

When level, the flight should make the following broadcast:

- ALL STATIONS (call-sign) MAINTAINING FLIGHT LEVEL (number)

REF: ICAO NAT DOC006, ICAO DOC 7030, (PAC Para. 9.3), FAA SAFO 20011

V1.0 JULY 2020

And 30WestIP.com have recorded a **video webinar** discussing this topic in more detail, which you can view [here](#):

My first North Atlantic Flight is tomorrow - NAT Ops Guide (Updated 2018)

Declan Selleck
4 August, 2020

NAT OPS

My first
NORTH ATLANTIC FLIGHT
is tomorrow ...



For the **latest changes and updates on the North Atlantic**, including our most recent **Guides and Charts**, use our NAT reference page at flightservicebureau.org/NAT.

Of all the hundreds of questions we see in OPSGROUP, one region stands out as the most asked about – the NAT/North Atlantic. So, we made one of our legendary guides, to get everything into one PDF. It's called "My first North Atlantic Flight is tomorrow" – **and now we've updated it for 2018!**

Contents:

- 1. What's different about the NAT?
- 2. Changes in 2018, 2017, 2016, 2015
- 3. NAT Quick Map – Gander boundary, Shanwick boundary
- 4. Routine Flight Example #1 – Brussels to JFK (up at 5.45am)

NAT Drawing procedures

NAT Non-Routine Flights

VFR Radio coverage at 1000, 2000, 3000, 4000, 5000, 6000, 7000, 8000, 9000, 10000, 11000, 12000, 13000, 14000, 15000, 16000, 17000, 18000, 19000, 20000, 21000, 22000, 23000, 24000, 25000, 26000, 27000, 28000, 29000, 30000, 31000, 32000, 33000, 34000, 35000, 36000, 37000, 38000, 39000, 40000, 41000, 42000, 43000, 44000, 45000, 46000, 47000, 48000, 49000, 50000, 51000, 52000, 53000, 54000, 55000, 56000, 57000, 58000, 59000, 60000, 61000, 62000, 63000, 64000, 65000, 66000, 67000, 68000, 69000, 70000, 71000, 72000, 73000, 74000, 75000, 76000, 77000, 78000, 79000, 80000, 81000, 82000, 83000, 84000, 85000, 86000, 87000, 88000, 89000, 90000, 91000, 92000, 93000, 94000, 95000, 96000, 97000, 98000, 99000, 100000, 101000, 102000, 103000, 104000, 105000, 106000, 107000, 108000, 109000, 110000, 111000, 112000, 113000, 114000, 115000, 116000, 117000, 118000, 119000, 120000, 121000, 122000, 123000, 124000, 125000, 126000, 127000, 128000, 129000, 130000, 131000, 132000, 133000, 134000, 135000, 136000, 137000, 138000, 139000, 140000, 141000, 142000, 143000, 144000, 145000, 146000, 147000, 148000, 149000, 150000, 151000, 152000, 153000, 154000, 155000, 156000, 157000, 158000, 159000, 160000, 161000, 162000, 163000, 164000, 165000, 166000, 167000, 168000, 169000, 170000, 171000, 172000, 173000, 174000, 175000, 176000, 177000, 178000, 179000, 180000, 181000, 182000, 183000, 184000, 185000, 186000, 187000, 188000, 189000, 190000, 191000, 192000, 193000, 194000, 195000, 196000, 197000, 198000, 199000, 200000, 201000, 202000, 203000, 204000, 205000, 206000, 207000, 208000, 209000, 210000, 211000, 212000, 213000, 214000, 215000, 216000, 217000, 218000, 219000, 220000, 221000, 222000, 223000, 224000, 225000, 226000, 227000, 228000, 229000, 230000, 231000, 232000, 233000, 234000, 235000, 236000, 237000, 238000, 239000, 240000, 241000, 242000, 243000, 244000, 245000, 246000, 247000, 248000, 249000, 250000, 251000, 252000, 253000, 254000, 255000, 256000, 257000, 258000, 259000, 260000, 261000, 262000, 263000, 264000, 265000, 266000, 267000, 268000, 269000, 270000, 271000, 272000, 273000, 274000, 275000, 276000, 277000, 278000, 279000, 280000, 281000, 282000, 283000, 284000, 285000, 286000, 287000, 288000, 289000, 290000, 291000, 292000, 293000, 294000, 295000, 296000, 297000, 298000, 299000, 300000, 301000, 302000, 303000, 304000, 305000, 306000, 307000, 308000, 309000, 310000, 311000, 312000, 313000, 314000, 315000, 316000, 317000, 318000, 319000, 320000, 321000, 322000, 323000, 324000, 325000, 326000, 327000, 328000, 329000, 330000, 331000, 332000, 333000, 334000, 335000, 336000, 337000, 338000, 339000, 340000, 341000, 342000, 343000, 344000, 345000, 346000, 347000, 348000, 349000, 350000, 351000, 352000, 353000, 354000, 355000, 356000, 357000, 358000, 359000, 360000, 361000, 362000, 363000, 364000, 365000, 366000, 367000, 368000, 369000, 370000, 371000, 372000, 373000, 374000, 375000, 376000, 377000, 378000, 379000, 380000, 381000, 382000, 383000, 384000, 385000, 386000, 387000, 388000, 389000, 390000, 391000, 392000, 393000, 394000, 395000, 396000, 397000, 398000, 399000, 400000, 401000, 402000, 403000, 404000, 405000, 406000, 407000, 408000, 409000, 410000, 411000, 412000, 413000, 414000, 415000, 416000, 417000, 418000, 419000, 420000, 421000, 422000, 423000, 424000, 425000, 426000, 427000, 428000, 429000, 430000, 431000, 432000, 433000, 434000, 435000, 436000, 437000, 438000, 439000, 440000, 441000, 442000, 443000, 444000, 445000, 446000, 447000, 448000, 449000, 450000, 451000, 452000, 453000, 454000, 455000, 456000, 457000, 458000, 459000, 460000, 461000, 462000, 463000, 464000, 465000, 466000, 467000, 468000, 469000, 470000, 471000, 472000, 473000, 474000, 475000, 476000, 477000, 478000, 479000, 480000, 481000, 482000, 483000, 484000, 485000, 486000, 487000, 488000, 489000, 490000, 491000, 492000, 493000, 494000, 495000, 496000, 497000, 498000, 499000, 500000, 501000, 502000, 503000, 504000, 505000, 506000, 507000, 508000, 509000, 510000, 511000, 512000, 513000, 514000, 515000, 516000, 517000, 518000, 519000, 520000, 521000, 522000, 523000, 524000, 525000, 526000, 527000, 528000, 529000, 530000, 531000, 532000, 533000, 534000, 535000, 536000, 537000, 538000, 539000, 540000, 541000, 542000, 543000, 544000, 545000, 546000, 547000, 548000, 549000, 550000, 551000, 552000, 553000, 554000, 555000, 556000, 557000, 558000, 559000, 560000, 561000, 562000, 563000, 564000, 565000, 566000, 567000, 568000, 569000, 570000, 571000, 572000, 573000, 574000, 575000, 576000, 577000, 578000, 579000, 580000, 581000, 582000, 583000, 584000, 585000, 586000, 587000, 588000, 589000, 590000, 591000, 592000, 593000, 594000, 595000, 596000, 597000, 598000, 599000, 600000, 601000, 602000, 603000, 604000, 605000, 606000, 607000, 608000, 609000, 610000, 611000, 612000, 613000, 614000, 615000, 616000, 617000, 618000, 619000, 620000, 621000, 622000, 623000, 624000, 625000, 626000, 627000, 628000, 629000, 630000, 631000, 632000, 633000, 634000, 635000, 636000, 637000, 638000, 639000, 640000, 641000, 642000, 643000, 644000, 645000, 646000, 647000, 648000, 649000, 650000, 651000, 652000, 653000, 654000, 655000, 656000, 657000, 658000, 659000, 660000, 661000, 662000, 663000, 664000, 665000, 666000, 667000, 668000, 669000, 670000, 671000, 672000, 673000, 674000, 675000, 676000, 677000, 678000, 679000, 680000, 681000, 682000, 683000, 684000, 685000, 686000, 687000, 688000, 689000, 690000, 691000, 692000, 693000, 694000, 695000, 696000, 697000, 698000, 699000, 700000, 701000, 702000, 703000, 704000, 705000, 706000, 707000, 708000, 709000, 710000, 711000, 712000, 713000, 714000, 715000, 716000, 717000, 718000, 719000, 720000, 721000, 722000, 723000, 724000, 725000, 726000, 727000, 728000, 729000, 730000, 731000, 732000, 733000, 734000, 735000, 736000, 737000, 738000, 739000, 740000, 741000, 742000, 743000, 744000, 745000, 746000, 747000, 748000, 749000, 750000, 751000, 752000, 753000, 754000, 755000, 756000, 757000, 758000, 759000, 760000, 761000, 762000, 763000, 764000, 765000, 766000, 767000, 768000, 769000, 770000, 771000, 772000, 773000, 774000, 775000, 776000, 777000, 778000, 779000, 780000, 781000, 782000, 783000, 784000, 785000, 786000, 787000, 788000, 789000, 790000, 791000, 792000, 793000, 794000, 795000, 796000, 797000, 798000, 799000, 800000, 801000, 802000, 803000, 804000, 805000, 806000, 807000, 808000, 809000, 810000, 811000, 812000, 813000, 814000, 815000, 816000, 817000, 818000, 819000, 820000, 821000, 822000, 823000, 824000, 825000, 826000, 827000, 828000, 829000, 830000, 831000, 832000, 833000, 834000, 835000, 836000, 837000, 838000, 839000, 840000, 841000, 842000, 843000, 844000, 845000, 846000, 847000, 848000, 849000, 850000, 851000, 852000, 853000, 854000, 855000, 856000, 857000, 858000, 859000, 860000, 861000, 862000, 863000, 864000, 865000, 866000, 867000, 868000, 869000, 870000, 871000, 872000, 873000, 874000, 875000, 876000, 877000, 878000, 879000, 880000, 881000, 882000, 883000, 884000, 885000, 886000, 887000, 888000, 889000, 890000, 891000, 892000, 893000, 894000, 895000, 896000, 897000, 898000, 899000, 900000, 901000, 902000, 903000, 904000, 905000, 906000, 907000, 908000, 909000, 910000, 911000, 912000, 913000, 914000, 915000, 916000, 917000, 918000, 919000, 920000, 921000, 922000, 923000, 924000, 925000, 926000, 927000, 928000, 929000, 930000, 931000, 932000, 933000, 934000, 935000, 936000, 937000, 938000, 939000, 940000, 941000, 942000, 943000, 944000, 945000, 946000, 947000, 948000, 949000, 950000, 951000, 952000, 953000, 954000, 955000, 956000, 957000, 958000, 959000, 960000, 961000, 962000, 963000, 964000, 965000, 966000, 967000, 968000, 969000, 970000, 971000, 972000, 973000, 974000, 975000, 976000, 977000, 978000, 979000, 980000, 981000, 982000, 983000, 984000, 985000, 986000, 987000, 988000, 989000, 990000, 991000, 992000, 993000, 994000, 995000, 996000, 997000, 998000, 999000, 1000000.

- **5. Non Routine-Flights:** No RVSM, No RNP4, No HF, 1 LRNS, No HLA, No ETOPS, No TCAS, No Datalink - what you can do and where you can go
- **6. Diversion Airports guide:** Narsarsuaq, Sondre, Kef, Glasgow, Dublin, Shannon, Lajes, Fro Bay, Goose Bay, Gander, St. Johns
- **7. Airport data**
- **8. Overflight permits - routine and special**
- **9. Special NAT procedures:** Mach number technique, SLOP, Comms, Oceanic Transition Areas, A successful exit, Screwing it up, Departing from Close Airports
- **10. North Atlantic ATC contacts** for Shanwick, Gander, Iceland, Bodo, Santa Maria, New York - ATC Phone, Radio Station Phone, AFTN, Satcom, CPDLC Logon codes; and adjoining Domestic ATC units - US, Canada, Europe.
- **11. NAT FPL Codes**
- **12. NAT Flight Levels**
- **13. Flight Plan Filing** Addresses by FIR
- **14. Links, Questions, Guidance**

NORTH ATLANTIC ATC CONTACTS

USEFUL LISTS AND CODES

REFERENCES AND FURTHER READING

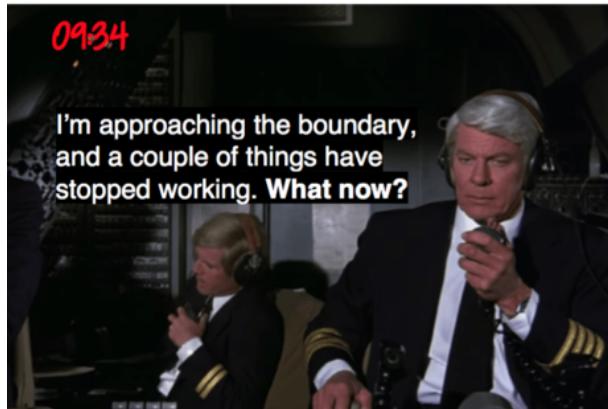
Excerpt from the Routine Flight #1:



Oceanic Clearance

NAT Doc 007, 4.1

- You need a specific clearance to enter Oceanic Airspace.
- Request it about 60 mins before entering, on CPDLC, VHF, or HF.
- When you get your clearance, **don't be a chump** and climb to your ocean level *without* a clearance from Domestic ATC. This happens pretty often, and will make you immediately unpopular. Your Oceanic Clearance is valid from the Oceanic Entry Point (OEP) only.



Equipment Failure before the boundary

NAT Doc 007, 6.6

- **HF fail:** Oceanic Clearance received – **fly the clearance**. Tell Domestic ATC. Use Satcom Voice, CPDLC, or VHF relay with other aircraft. **Don't revert to the filed flight plan**.
- **HF fail:** No Oceanic Clearance received, and no contact with Domestic ATC: You should enter the OCA **at the FPL requested Oceanic level and speed** but **not** execute any subsequent step climbs in the Flight Plan.
- **Datalink – affecting CPDLC or ADS-C.** Tell ATC. They will try to accommodate you within the Datalink mandated area (FL350-390), but you may be rerouted.
- **One LRNS failure** (of two) – request a reclearance below or above NAT HLA, or land and get it fixed.



Entering the Ocean

NAT Doc 007, 4.1

- Say goodbye to the radar controller, you're on your own now.
- Select an offset for **SLOP** – 1nm or 2nm right of track, your call.
- Logon to **EGGX**, and call Shanwick on HF for a radio check.
- Expect a "Confirm Assigned Route" message on CPDLC.
- Check next waypoint is correct, and that you're going there.
- Set 123.45 for turbulence complaints + baseball scores, and 121.5.
- **Squawk 2000**, 30 minutes after passing the OEP.

If you do have to make a voice position report, then do it like this:
Position, Swissair 100, RESNO at 1235, Flight Level 330, Estimating 56 North 020 West at 1310, 56 North 030 West Next.



Going around Weather

NAT Doc 007, 13.4

- Unless you've spotted the CB late, request a deviation from ATC. Otherwise, follow the **contingency deviation procedure**:
- Turn away from the tracks, turn on your lights
- Call on 121.5 and 123.45 to tell others
- If deviating >10nm, if **north of track** descend 300 feet; if **south of track** climb 300 feet, but only once you are 10nm off track.
- Once clear, and back within 10nm of track, return to level.

Buy a copy (\$20) Get it free – join OPSGROUP

To get your copy – there are three options:

1. **OPSGROUP Members**, login to the Dashboard and find it under "Publications > Guides". All

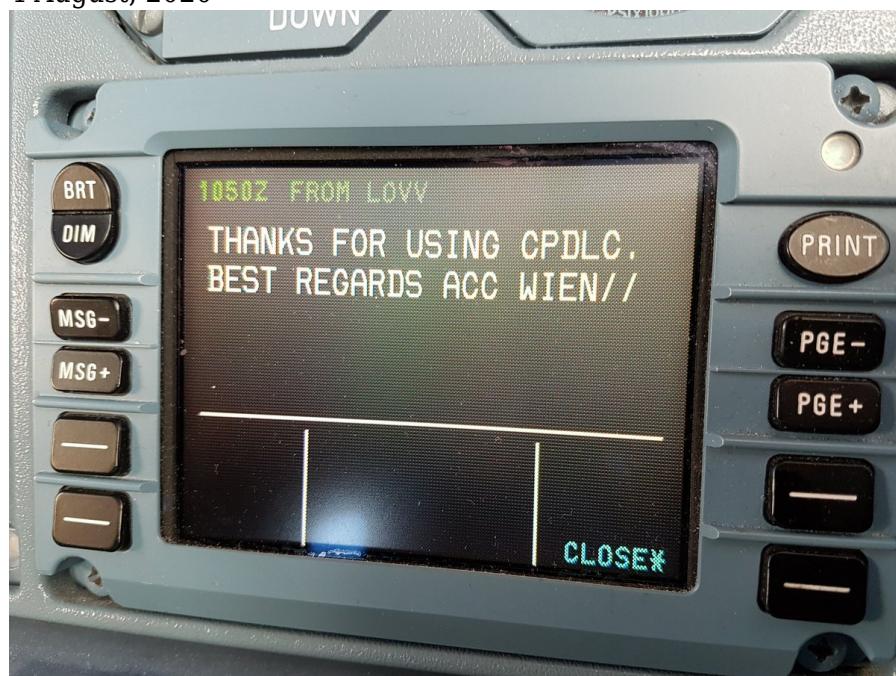
FSB content like this is included in your membership, **or**

2. **Join OPSGROUP** with an individual, team, or department/airline plan, and get it free on joining (along with a whole bunch of other stuff), **or**
3. **Purchase a copy** in the Flight Service Store!

Iridium Fault Fixed

David Mumford

4 August, 2020



Last week **we reported on an equipment issue with Iridium** satcom that prompted a ban by a number of Oceanic ATC agencies. Some aircraft were receiving massively delayed clearances sent by ATC via CPDLC - and one took the instruction and climbed 1000 feet, even though the message was meant for the flight the aircraft operated previously.

Here were the areas which had previously published Notams restricting the use of Iridium: Brazil Atlantico (SBAO), Auckland (NZZO), Chile (SCIZ), Japan (RJJJ), Anchorage (PAZA), Oakland (KZAK), New York (KZNY and KZWH).

However, all FIR's have now removed their notams which banned the use of Iridium for CPDLC and ADS-C. This has happened after tests were performed last week using Iridium SATCOM which confirmed that Iridium no longer queues CPDLC uplinks for more than five minutes.

Article header photo by @Zelgomat

Oceanic ATC's tell us their position on Iridium Satcom

David Mumford
4 August, 2020



Last week **we reported on an equipment issue with Iridium** satcom that prompted a ban by a number of Oceanic ATC agencies. Some aircraft were receiving massively delayed clearances sent by ATC via CPDLC – and one took the instruction and climbed 1000 feet, even though the message was meant for the flight the aircraft operated previously.

Today, we checked-in again with all the oceanic ATC centres, to see what their current policy is on the issue.

EGGX/Shanwick told FSB that they are aware of the issue, reviewed it, but have decided not to ban the use of Iridium for either CPDLC or ADS-C just yet. LPPO/Santa Maria have the same position. So, in this airspace, you can use Iridium, for now.

CZQX/Gander said they did a safety analysis of it, and decided not to ban it. They have all kinds of conformance alerts in place to prevent any problems from happening – so if aircraft deviate they get notified immediately.

BIRD/Reykjavik aren't that concerned about the issue – they use HF most of the time anyway.

Chile (SCIZ)
Japan (RJJJ)
Anchorage (PAZA)
Oakland (KZAK)
New York (KZNY and KZWY)

All these centres have published Notams instructing crews not to use Iridium for CPDLC **or ADS-C**. Until the fault is fixed, in those regions you'll have to either use HF for ATC comms, or use another SAT provider.

Auckland (NZZO) and **Brazil (Atlantico SBAO)** have applied the ban to CPDLC alone. Use ADS-C if you like.

From Iridium themselves, they told FSB: "We've updated their queue management system. Every minute,

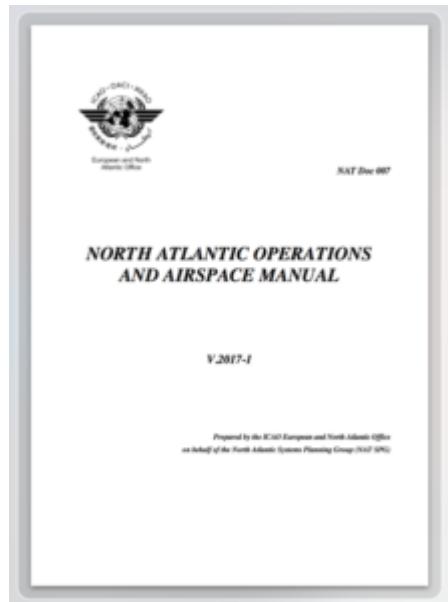
there is a queue check. If there is any message that is older than 4 minutes, it marks as timed out, and will not be delivered. This update was done at ground level, so it does not require any software updates by the user. We're still waiting on feedback from FAA workgroup on the fix and if it's sufficient to allow use of Iridium for CPDLC and ADS-C."

That's it for now! We'll keep you posted, or, even better - tell us below in the comment section if you hear news.

2017 Edition: NAT Doc 007 2017 - North Atlantic Airspace and Operations Manual

Declan Selleck
4 August, 2020

The 2017 version of NAT Doc 007, North Atlantic Airspace and Operations Manual, was published in January 2017 by ICAO/NAT SPG.



Download the original document [here](#) (PDF, 5mB), and see also:

- A **summary of the changes** in the 2017 edition
- The **OPSGROUP NAT Ops Guide** - "My First North Atlantic Flight is tomorrow"

Feb 15th, 2017 In the first six weeks of 2017 there have been some important changes on the NAT/North Atlantic. These are published in the latest edition of NAT Doc 007, January 2017.

- **TCAS 7.1:** From January 1st, 2017, TCAS 7.1 is required throughout the entire NAT region.
- **Cruising Level:** Effective 2017, you no longer need to file an ICAO standard cruising level in NAT airspace.
- **Gross Nav Error:** is now defined as greater than 10nm (used to be 25nm)
- **Contingency Procedure:** Published January 2017, a new turn-back (180) procedure is introduced - turn back to parallel previous track by 15nm.
- **Datalink Mandate Exemptions:** Announced January 2017, new exemptions for Phase 2B of the Datalink mandate, which will start on December 7, 2017 (FL350-390). Exempt: Tango Routes, airspace north of 80N, and New York OCA.



In the fewest number of words possible we will tell you what you need to know about crossing the North Atlantic.

If you have a couple of days to spare, then read the official ICAO North Atlantic Operations and Airspace Manual (NAT Doc 007). Otherwise, pay attention and you'll be an expert in 15 minutes.

So, what's different about the North Atlantic?

Basier than Best Buy on Black Friday.
There's a ton of traffic on the NAT. So, ATC squeezes most of it onto the "NAT Track" to make it easier for them to keep everyone apart. That doesn't mean it's easier for you.

Shawwick Shawwick
When you talk to "Shawwick Redline" it means you're not talking directly to ATC. So, when something major happens, know how to get off track safely without a clearance.

The rules keep changing.
As soon as you think you've got things figured out, the rules will change. So we'll start with "What Changed" ... need on.

Acronym leaves
HLA, RLR, CPOUC, RNP, NAT OTS, TMI, MNPS, OCA, DGP, SLOP. Know 10 out of 11? Good. There's more.

There's a lot of water.
And not many airports. So it pays to know which ones are suitable, and closest.

"It's complicated"
Normally, you can get airborne, read the paper, do what ATC says, yawn, and land again. Easy. On the NAT, things are a good deal more challenging. Read on...

Feb 15th, 2017: FSB published the full NAT Crossing Guide "**My first North Atlantic Flight is tomorrow**".

- What's different about the NAT, changes in 2017, 2016, 2015, NAT Quick Map
- Routine Flight Example #1 - Brussels to JFK (up at 5.45am)
- Non Routine-Flights: No RVSM, No RNP4, No HF, 1 LRNS, No HLA, No ETOPS, No TCAS, No Datalink - what you can do and where you can go

Take a look.



AIRCRAFT PLOTTING CHART NORTH ATLANTIC

Flight Service Bureau®
www.fsbureau.org

NOTICE TO USERS OF THIS CHART: You are kindly requested to inform us of any errors or omissions you may find in your operation while using this chart. No warranty is made as to the accuracy of information contained herein - check official sources before using for navigation. Corrections should be notified to charts@fsbureau.org.

North Atlantic Plotting Chart

\$19.00 \$25.00

Hi-Res North Atlantic Plotting/Planning Chart in PDF format showing North Atlantic Oceanic Airspace, Shanwick, Gander, Reykjavik, New York, Santa Maria, and adjoining domestic airspace, with Airspace entry requirements, FPL codes, Airport data and pricing.
Current chart: Effective 2016

[ADD TO CART](#)