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# VATEIR SHANWICK CONTROLLER OPERATIONS MANUAL



PROVISIONAL EDITION, JULY 2010.

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## INTRODUCTION TO SHANWICK

Shanwick Radio is responsible for control and separation of aircraft in Shanwick OCA (Oceanic Control Area). Its name is derived from **Shannon**, which is located close to Ballygirreen in Clare, Ireland, where the radio operators for Shanwick operate from. The other half originates from **Prestwick** in Scotland, where the actual controllers for the OCA are based. This is indeed a unique setup, with the controller and the radio operator relaying clearances and position reports being located quite far from one another.

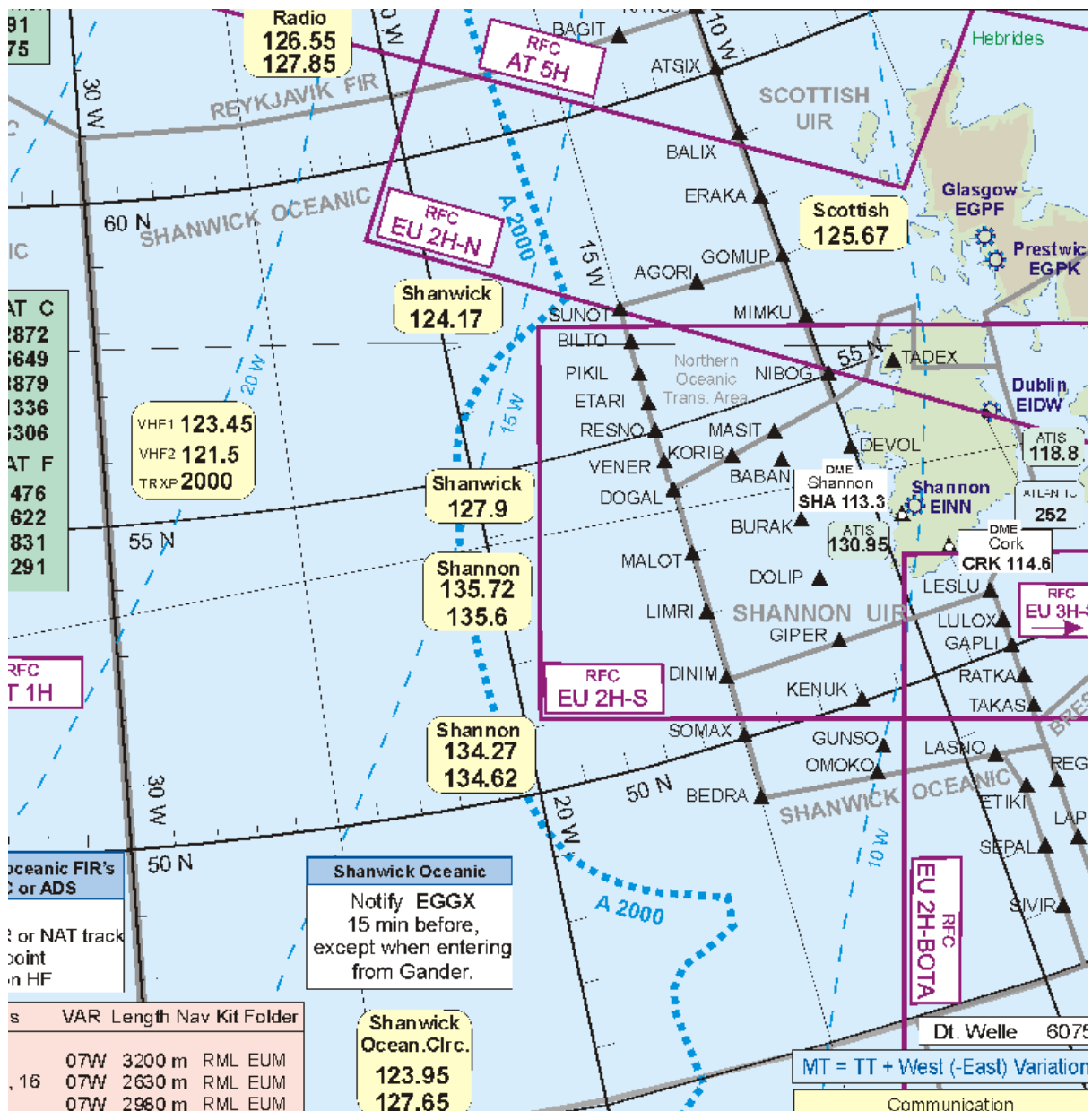
Shanwick utilises solely oceanic procedural control. This is for obvious reasons- There is no radar coverage over the Atlantic!

In depth information pertaining to various aspects is provided under each respective section in this manual.

On VATSIM, we try to simulate the realworld operation of Shanwick as closely as possible. Unfortunately for various reasons this is hindered in a few ways- Lack of controllers, lack of a “non-radar” client, pilot ignorance to procedures to name a few.

# AIRSPACE

(Chart courtesy planningchart.de)



As seen from this chart, the airspace of Shanwick borders 4 Domestic Sectors and 2 Oceanic Sectors. **From North to south-** from 30w to 10w, Reykjavik Control. At 10w, from RATSU to GOMUP, Scottish Control. Shannon Control's airspace extends to 15w, from SUNOT to BEDRA. Located at 8w are the three Brest Domestic fixes (ETIKI, SEPAL and SIVIR). Finally, to the south are 5 fixes bordering with Madrid- PASAS, PITAX, BERAS, DIXIS and BEGAS.

On VATSIM, Shanwick Oceanic covers the Shanwick Airspace depicted here, **plus- If Gander Oceanic is offline, the arrangement is for Shanwick to cover its airspace.** (and vice versa.)

## LISTEN TO SHANWICK ATC

Its now possible to listen to real-world Shanwick ATC on the liveatc.net website. It is indeed highly recommended that you do so at some stage; <http://www.liveatc.net/feedindex.php?type=international-eu>

## SEPARATION IN THE OCA

The current requirement is as follows

- **For aircraft flying the same route, at the same flightlevel, TEN MINUTES separation must be applied!**
- **Aircraft flying on the same route at different flightlevels are separated by RVSM requirements (1000 feet)**
- **Aircraft flying a route opposite to, or that intersects another route, 1000 feet (RVSM east-west) is adequate.**
- **Additionally, 60nm lateral separation should be maintained.**

## ROUTES THROUGH THE OCA.

- In general, an oceanic routing comprises of 1 or 2 domestic fixes, followed by a “lat/long” coordinate every 5 degree’s of latitude. There usually 2 fixes at re-entry to domestic airspace.
- Pilots may fly a random routing, or a NAT track.
- Contrary to popular belief, on VATSIM it does not make much of a difference which you fly, some pilots get hung up over NAT’s and will not fly a random routing. It does not make much of a difference.
- NAT’s are a set routing, and each route has a code, a letter. So, NAT A, NAT B etc. To identify what day’s nat it is, the day of the year is used as a TMI- track message identifier. A pilot may only put NATA or NATD etc in his flightplan if he provides the TMI also. If it is an outdated TMI for which the track data may not be readily available, the details should be provided. For a random routing, there is no TMI and all details of the route MUST be supplied by the pilot.
- NAT’s are generally only useful for Europe-to Eastern Seaboard USA/Central USA. Otherwise a great circle route would prove more economical and take less time. For eastbound flights to Europe a NAT usually is just as quick as a great circle route due to prevailing tailwinds.
- NAT’s are technically only valid within a specified timeframe, usually WESTBOUND from 1130z to 1900z, and EASTBOUND from 0100z to 0800z. Outside of this time the NAT may be filed but must be declared a random routing instead. On VATSIM we often ignore this rule for the sake of simplicity.
- There are two other “airways” through the OCA. These are the T9 and T16. Both are commonly used for flights to Spain, the Canaries and Portugal. The procedure is the exact same, but be aware that some pilots are not aware these routes actually pass through oceanic airspace!

Details of daily NAT’s are available on [www.blackswan.ch/nats/](http://www.blackswan.ch/nats/) or <https://www.notams.faa.gov/common/nat.html>

## OCEANIC CLEARANCE

The first interaction an oceanic controller has with a pilot is for **OCEANIC CLEARANCE**. This, is a clearance for the aircraft to enter into oceanic airspace, and instructions associated with this. That is, the flight level and speed to maintain.

- If there is a domestic controller online (Shannon, Scottish etc), they SHOULD (If they don't, PM them and politely request they do) send the aircraft over to your frequency for Oceanic Clearance.
- Below is a typical example of such a conversation...

P: "Shanwick, Shanwick, Good morning Sir Shamrock 125 with oceanic clearance request"

S: "Shamrock 125, Shanwick hello pass request"

P: "Shanwick Shamrock 125 requests clearance for Chicago, via NAT BRAVO, TMI055, estimates RESNO at 1145z, FL380 mach decimal 78"

At this point, you have the information required to see if required separation is available. How do you do this?

1. Check have are there any other aircraft estimating this waypoint within ten minutes of Shamrock 125's time
2. If there are, check is the flight level the same?

If no, then clearance may be granted with no restrictions.

S: "Shamrock 125, Shanwick clears you for Chicago via NAT B, from RESNO maintain FL380 mach .78, no time restrictions over RESNO"

P: "Roger cleared via NAT B, maintain FL380 and mach .78, 125"

S: "Readback is correct, switch to domestic"

At this point the pilot SHOULD switch back to the previous domestic controller. If he is new or does not understand give him the frequency again.

However, what if there IS a problem with the clearance, such as another aircraft too close?

There are several ways to achieve separation at this stage.

- Give a **time restriction** to the pilot. To avoid a change in route or FL, issue a time restriction so that the proceeding pilot is ten minutes or more behind. For example, you have an aircraft to cross at 1145z, another pilot estimates 1150z, same route same FL. Therefore issue a restriction to cross at 1155z, ten minutes apart. Such phraseology is "Cross RESNO not before time 1155z, not after time 1205z". The not after part is useful. This means the pilot can stay within the ten minute window and you can have another aircraft ten minutes behind by working out these restrictions systematically like that.
- Its up to the pilot and domestic ATC to meet this restriction, remember its not your problem!
- **Give a different flight level.** Offer a pilot a different flight level, where there is no other aircraft.
- **A different route.** Something not practiced too often, you can offer the pilot a different route away to other aircraft.

**If the pilot is flying a random route**, the entire route must be read out in the clearance! With a NAT, we assume the pilot will fly the published route (You can of course confirm with pilot if you have

doubts!). Therefore all that changes is the readback. Instead of "cleared via NAT B", readback the route "RESNO 51 north 20 west" etc etc.

## HANDOFF AND POSITION REPORTS

In general, if a domestic sector is present, they will hand the aircraft to you at the first oceanic waypoint and you will receive the position report. If there is no domestic sector, send a contact me/call aircraft on frequency.

Position reports are made by the pilot every waypoint, or 40 minutes in the NAT. As a controller, you use this information to make the separation between the pilots. Here is an example of a position report:

P: "Shanwick hello again, Shamrock 111 with position"

A: "111 hello again go ahead"

P: "Shamrock 111, over RESNO now at time 1203, FL380, M.80, estimating 55 north, 20 west at time 1245z, 55 north 30 west thereafter"

A" Shanwick copies position RESNO at 1203, FL380, M.80, estimating 55 north, 20 west at time 1245z, 55 north 30 west next"

P" Correct"

**You must readback the information supplied to ensure clarity.**

A technique used by many controllers here is to record this information in the VRC flightstrip bay. And then, arrange the strips from top to bottom i.e the next aircraft to call is at the top, therefore this will ensure separation and clarity in this regard.

**In general, domestic sectors at the end of the crossing like to have the aircraft right away.** Not just on VATsim, but in real-world too. Therefore, say, the last waypoint for an Eastbound aircraft is MALOT. At the end of their previous position report you should append "**Overhead MALOT contact Shannon Control on 136.500, with squawk 1234**". Therefore, when the aircraft is approaching the fix they can be handed over straight away to the domestic sector. The squawk is often issued in real-world by Shanwick, however you need not worry about this- just tell them who to call overhead the last fix. No need to take a position report generally.

**Important- For eastbound flights, Eurocontrol West is often online. Aircraft should only be handed to this sector ONLY IF SHANNON or BREST are OFFLINE. If these ACC's are online, then ignore EURW.** EURW does not cover Scottish at present- however a new Eurocontrol sector is being devised to include it.

Sectorisation for Gander and Montreal domestic varies- best to PM the controller to clarify the position.

### **Handoffs with adjacent oceanic ATC online**

- This is, in the case of Gander Oceanic being online. Aircraft at 30'west need to be handed to Gander. At the end of the previous position report append "**Position overhead 45north 30 west with Gander on 131.7, bye now**".

- *Santa Maria Oceanic deals with aircraft passing south of 45N, but only EAST of 40W. This is particularly true for the T16 airway. Append at end of previous position report "Position overhead 45N 16W with Santa Maria on xxx.xx bye"*
- *Iceland Radio/Sondestrom may deal with aircraft above 60North. This ATC is not regularly online, but its best to check with controller directly.*

## CHANGES

As would be expected, there will always be changes, or errors mostly on the pilots part when controlling Shanwick

- A pilot requests a change of flightlevel. This is common. You need to check, if the pilot does climb to the new flight level will there be any other aircraft now within 10 minutes. If there are not, you can clear the aircraft to the new FL. "Lufthansa 423 cleared to FL380, report level with any changes in estimate".
- A pilot reports a significant difference in crossing time. This may possibly affect separation between other aircraft. It is generally easiest to issue the aircraft behind with a speed restriction until the ten minutes is met again.
- Pop-up traffic is common- pilots who have disconnected earlier and reconnect in the midst of it all. They may not may not conflict with others. Once contact is made with them separation can be achieved with others.
- Similarly, traffic may disconnect and hence render much of your hard work void!

## CONCORDE TRAFFIC

Concorde traffic can often manifest itself to be a hindrance. Fortunately though, the *majority* of pilots who fly Concorde have a good command of the aircraft and what is required of them. The procedure is broadly the same for them as it is for conventional traffic across the ocean, only difference being you will usually only have a single Concorde, or 2 at most! Therefore separation is not a major worry, it's just another item. Concorde's have special supersonic NAT's across the ocean, it is intended for them to use these. Waypoints often include "SM15" etc, these are in the sector file. As said previously, you will usually only have the one Concorde- you are therefore only obliging them with a service, they won't get in anyone's way!

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