AVOID ABERRANT FLIGHT PLAN ROUTES

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AGENDA

- What are aberrant routes?
- What is done today to avoid them?
- How can you help avoiding them?
WHAT ARE ABERRANT ROUTES?

- Extra-mileage routes
- Dangerous turns
- Yo-Yo flights
- Low RFL
**Definition:** inexplicably longer route than the usual ones

**Example:**

Extra-mileage planned route

[Map showing the usual route and extra-mileage planned route between Lisboa and Munich]
Extra-mileage routes

Consequences for aircrews

We prefer the most direct route, we ask for it on the frequency

Extra-mileage planned route

Usual route

Lisbon

Munich

Direction Générale de l’Aviation Civile

Ministère de la Transition écologique et solidaire
Extra-mileage routes

Consequences for ATCs

I have to check all new conflict points

I have to find and coordinate a new route with all involved sectors.

WORK OVERLOAD +
SECTORS LOAD CHANGED LATELY
**Definition:** Route containing an unusual turn potentially leading to a critical situation

**Example:**

- Usual route: Normally, aircraft take this route.
- Dangerous planned route: This route is planned in case of emergency and can be taken if necessary.
Dangerous turns

Consequences for aircrews

We prefer the most direct route, we ask for it on the frequency if we have detected this anomaly

Usual and preferred route

Dangerous planned route
Dangerous turns

Consequences for ATCs

We have to deal with:
- unexpected and critical trajectory
- unexpected conflict points
Yo-Yo flights

**Definition:**
Planned flight profile descends then climbs back to avoid a non-regulated sector

**Example:**

- Avoided sector (on FPL)
  - FL340
  - FL180
  - FL340
Yo-Yo flights

Consequences for aircrews

We prefer to fly at the highest FL, we ask for it on the frequency

OVERLOADED SECTOR

Preferred FL: 340

Planned FL: 180

FL340
Yo-Yo flights

Consequences for ATCs

Unexpected flight profile.
Sector loads modified at the last moment => unpredictable

Sector load
**Low RFL**

**Definition:** inexplicable lower route than the usual ones

**Example:**

![Diagram showing a flight path from Toulouse to Paris with a planned FL of 180, illustrating an A320 with a lower route than usual.]
Low RFL

Consequences for aircrews

We prefer to fly at the highest FL possible given by our FMS, we ask for it on the frequency

A320

Requested FL: 340

Planned FL: 180

Toulouse

Paris

A320
Low RFL

Consequences for ATCs

Keep this highspeed aircraft at a low and inadequate FL

OR

Coordinate a climb, implying a late sector load modification

WORK OVERLOAD
Aberrant routes lead to safety issues and flight inefficiencies, you should avoid them.
WHAT IS DONE TODAY TO AVOID THEM?

1. ATC detects aberrant route
2. ATC informs post-ops
3. Contact airliners
4. Apply RAD restrictions
5. Advise authorities
6. Find global solutions
How can you help avoiding them?

1. Do not deliberately create aberrant routes
2. Configure your CFSP software
3. Raise awareness among your aircrews
4. Communicate with ANSPs
   dsna-flight.planning-bf@aviation-civile.gouv.fr
HOW CAN YOU HELP AVOIDING THEM?

Do not deliberately create aberrant routes

Aircrews usually don’t want to use these routes. They also cause problems to ATCOs. Changing the route of an airborne flight spoils the whole ATS system.

Safety and ATFCM issues are raised
DO NOT HAVE BLIND TRUST IN YOUR CFSP SOFTWARE.

Here are some clues:

- Forbid FL change if the lower segment is shorter than 200 NM (to avoid yo-yo flights)
- Use pre-determined route that your software could pick in case of flight planning difficulties
HOW CAN YOU HELP AVOIDING THEM?

Raise awareness among your aircrews

Aircrews can still change their route, but the earlier the better.

Otherwise, they should be prepared to deal with an aberrant route.
HOW CAN YOU HELP AVOIDING THEM?

Communicate with ANSPs

For any question or comment regarding the ATS network.

Let’s improve it together, but not *via* inefficient communications on frequency.
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<td>ATCO</td>
<td>Air Traffic Controller</td>
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<td>ATFCM</td>
<td>Air Traffic Flow and Capacity Management</td>
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<tr>
<td>CFSP</td>
<td>Computer Flight plan Software Provider</td>
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<td>DSNA</td>
<td>Direction de Services de la Navigation Aérienne (French ANSP)</td>
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Thank you