



## GPS RAIM Prediction™ Customer Questionnaire

Company Name: \_\_\_\_\_

### Operational Information: (See Below for further clarifications)

<u>Tail No.</u>	<u>Aircraft Type</u>	<u>RAIM GPS Equipment*</u>	<u>Receiver Type**</u>	<u>Selective Availability***</u>
	Eg: CL300, G450	FD, FDE, FD Baro, or FDE Baro	TSO-C129a or TSO-C145a/146/a	Yes or No (If yes, On or Off)

Do you want a RAIM Prediction on all legs or by request only?

### \*RAIM GPS Equipment:

**Fault Detection (FD):** Part of the GPS receiver equipment that essentially measures the ability of a compliant [but general and conservative] receiver to detect the integrity of the satellites.

**Fault Detection and Exclusion (FDE):** GPS receiver equipment type that has the ability to exclude a satellite when it detects that a satellite is in error; a feature unavailable in the FD case.

**Baro Aiding (FD Baro or FDE Baro):** The availability of RAIM can be increased by using barometric height information by using the ground station to replace a satellite. Some configurations of GPS user equipment provide this feature. Therefore the RAIM Prediction can take account of the presence [or absence] of barometric aiding in the RAIM Prediction calculation.

#### Air Routing International



## **\*\*Receiver Type:**

**TSO-C129a:** A TSO-C129a receiver [based on DO-208 requirements]

**TSO-C145a/146/a:** A TSO-C145a/TSO-C146a receiver [based on DO-229 requirements]

## **\*\*\*Selective Availability:**

Selective Availability is the intentional degradation of the GPS signals to prevent enemies from using US satellites to navigate hostile missiles. Special GPS receivers are able to decode this pseudorandom error if it is updated with a daily key.

Selective Availability was turned off by President Clinton in May 2000. However, the assumption is that older receivers may have the ability to decode the scrambled signal. A different satellite error model is used in RAIM calculations therefore the RAIM Prediction must also take this difference into account. Also note that some TSO-C129a receivers have been upgraded [through firmware updates or otherwise] to take advantage of the SA off status. Therefore predictions for these receivers should be configured accordingly.

## **Online Resources:**

- [Advisory Circular \(AC\) 90-100A](#)
- [List of approved equipment](#)
- [GENNOT 09001](#)