

delayed, canceled, or re-routed where RAIM requirements can be met. Operators may satisfy the predictive RAIM requirement through any one of the following methods:

1. Operators may monitor the status of each satellite in its plane/slot position, by accounting for the latest GPS constellation status (for example, NOTAMs or NANUs), and compute RAIM availability using model-specific RAIM prediction software;
2. Operators may use the Service Availability Prediction Tool (SAPT) on the FAA en route and terminal RAIM prediction website;
3. Operators may contact a Flight Service Station to obtain non-precision approach RAIM;
4. Operators may use a third party interface, incorporating FAA/VOLPE RAIM prediction data without altering performance values, to predict RAIM outages for the aircraft's predicted flight path and times;
5. Operators may use the receiver's installed RAIM prediction capability (for TSO-C129a/Class A1/B1/C1 equipment) to provide non-precision approach RAIM, accounting for the latest GPS constellation status (for example, NOTAMs or NANUs). Receiver non-precision approach RAIM should be checked at airports spaced at intervals not to exceed 60 NM along the RNAV 1 procedure's flight track. "Terminal" or "Approach" RAIM must be available at the ETA over each airport checked; or,
6. Operators not using model-specific software or FAA/VOLPE RAIM data will need FAA operational approval.

**NOTE-**

*If TSO-C145/C146 equipment is used to satisfy the RNAV and RNP requirement, the pilot/operator need not perform the prediction if WAAS coverage is confirmed to be available along the entire route of flight. Outside the U.S. or in areas where WAAS coverage is not available, operators using TSO-C145/C146 receivers are required to check GPS RAIM availability.*

### **5-1-17. Cold Temperature Operations**

**a.** Pilots should begin planning for cold temperature operations during the preflight planning phase. Cold temperatures produce barometric altimetry errors, which affect instrument flight procedures. Currently there are two temperature limitations that may be published in the notes box of the middle briefing strip on an instrument approach procedure (IAP). The two published temperature limitations are:

1. A temperature range limitation associated with the use of baro-VNAV that may be published on an United States PBN IAP titled RNAV (GPS) or RNAV (RNP); and/or
2. A Cold Temperature Airport (CTA) limitation designated by a snowflake ICON and temperature in Celsius (C) that is published on every IAP for the airfield.

**b.** Pilots should request the lowest forecast temperature +/- 1 hour for arrival and departure operations. If the temperature is forecast to be outside of the baro-VNAV or at or below the CTA temperature limitation, consider the following:

1. When using baro-VNAV with an aircraft that does not have an automated temperature compensating function, pilots should plan to use the appropriate minima and/or IAP.

(a) The LNAV/VNAV line of minima on an RNAV (GPS) may not be used without an approved automated temperature compensating function if the temperature is outside of the baro-VNAV temperature range limitation. The LNAV minima may be used.

(b) The RNAV (RNP) procedure may not be accomplished without an approved automated temperature compensating function if the temperature is outside of the baro-VNAV temperature range limitation.

2. If the temperature is forecast to be at or below the published CTA temperature, pilots should calculate a correction for the appropriate segment/s or a correction for all the segments if using the "All Segments Method."

Pilots should review the operating procedures for the aircraft's temperature compensating system when planning