NAV CANADA to Publish More Canadian LPVs

Good news for Canadian operators – based on a positive business case and a level of service assessment, it appears that more Wide Area Augmentation System (WAAS) Localizer Performance with Vertical Guidance (LPV) procedures will be published in Canada.

Since WAAS coverage was expanded from the continental U.S. into Canada in September 2007, service at 36 airports with a total of 57 LPV approaches have been published in the country. NAV CANADA has recently announced that 180 approaches are pending design with publication at 92 airports over the next 12-18 months.

Why is this good news? LPV approaches are the highest-precision GPS/WAAS-enabled aviation instrument approach procedures available today that do not require specialized aircrew training requirements. From the pilot’s viewpoint, an LPV approach looks and flies like an Instrument Landing System (ILS) procedure, but the WAAS approach is more reliable. The main difference between ILS and LPV is that LPV is based upon WAAS positioning signals, rather than a ground-based localizer and glideslope transmitter. It provides vertical guidance to as low as 200 feet Above Ground Level (AGL).

Flying a WAAS LPV approach requires an aircraft equipped with a WAAS GPS receiver and Flight Management System (FMS). WAAS equipped users can fly area navigation (RNAV) and basic Required Navigation Performance (RNP) procedures, as well as Lateral Navigation (LNAV) only, LNAV/Vertical Navigation (VNAV) and LPV lines of minima listed on the approach chart. For more information about NAV CANADA, visit www.navcanada.ca.

Product News and Highlights

NVG-Compatible RCU Receives FAA TSO Approval

Defined by MIL-STD-3009, a Night Vision Imaging System (NVIS) is a system that uses image intensifier tubes to produce an enhanced image of a scene in light conditions too low for normal navigation and piloting. Universal Avionics’ products are modified with Night Vision Goggle (NVG)-compatible glass display panels, which changes the lighting output in such a way that the unit can be used in flight decks where the operators are wearing night vision goggles. Unmodified displays will effectively blind a pilot wearing night vision goggles, so NVG-compatibility is an important issue for nighttime operators.

Universal’s NVG-compatible Radio Control Unit (RCU) has received FAA Technical Standard Order (TSO) approval. In addition to the RCU, an NVG-compatible EFI-890R Flat Panel Display and EFI-890H Advanced Flight Display, and associated control panels are also available. In these products, NVG-compatibility is identified by a part number (P/N) variable that should be specified when the order is placed. The NVG-compatible RCU and other mentioned products are now available for order.

Love Us? Then Like Us to Win!

Like us on Facebook to win - it’s that easy!

During the month of July, those who “Like” Universal Avionics’ Facebook Page will be entered for a chance to win a leather bomber jacket. One lucky winner will be announced on Wednesday, August 1st.

Liking Universal’s Facebook Page not only enters you into the contest, but also provides instant access to Universal’s news and updates, photos, videos and more.

Don’t stop there, follow us on Twitter.
RNAV Approach Implementation Status in Europe

EUROCONTROL hosted the first Area Navigation (RNAV) Approach implementation Support Group (RASG) Meeting in Brussels, Belgium this past February. This was the first meeting for the group, who formerly met under the name, RNAV approach Task Force (RATF). The name change reflects its objective of supporting implementation; supporting stakeholders in the deployment of RNAV approach applications, holding forums and providing ad-hoc technical support.

At RASG 1, representatives from each member country presented the specific status of implementation of RNAV approaches in its region, discussed the challenges faced and shared best practices in order to promote adoption of RNAV throughout European airspace.

RNAV is a method of navigation which permits aircraft operation on any desired flight path within the coverage of station-referenced navigation aids or within the limits of the capability of self-contained aids, or a combination of these. RNAV procedures include RNAV (GNSS) approaches and RNAV (RNP) approaches and is supported by the European Geostationary Navigation Overlay Service (EGNOS) Satellite Based Augmentation System (SBAS) in European Airspace, Wide Area Augmentation System (WAAS) in North America and Multi-functional Satellite Augmentation System (MSAS) in Japan.

Meeting notes from RASG 1 reported the following information in regard to the number of RNAV approaches published or planned to be published by member countries in Europe:

<table>
<thead>
<tr>
<th>RNAV (GNSS) Approach to...</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNAV</td>
<td></td>
</tr>
<tr>
<td>LNAV/VNAV</td>
<td></td>
</tr>
<tr>
<td>LPV</td>
<td></td>
</tr>
<tr>
<td>Published</td>
<td>445</td>
</tr>
<tr>
<td>Planned to Be Published</td>
<td>649</td>
</tr>
</tbody>
</table>

Since the EGNOS satellites were first approved last year, 445 RNAV procedures have been published with implementation varying per country. Currently, another 649 are in the planning stage to be published.

The following are some highlights of this discussion:

**Austria**
Seven RNAV GNSS approach procedures with LNAV and LNAV/VNAV minima are currently published in Austria. This includes four in Vienna, one in Graz and two in Linz, along with one RNP AR APCH in Innsbruck. Austria's mountainous environment is often a challenging factor when it comes to publishing these approaches.

**Finland**
Finland reported that the deployment of LNAV/VNAV is nearing completion. Recently joining the EUROCONTROL Data Collection Network (EDCN), Finland aims to build experience with EGNOS. In addition, they have two SBAS LPV procedures planned.

**Sweden**
Twelve Approach Procedures with Vertical Guidance (APV) Baro procedures are planned for the near future in Sweden. APV Baro is an approach with barometric vertical guidance instead of GPS EGNOS vertical guidance, flown to the LNAV/VNAV Decision Altitude/Height (DA/H).

**France**
More than 60 new LPV procedures are planned in France for 2012. In addition, the publication of new LNAV approaches are also planned for this year. This is an ambitious plan as only five LPV procedures are currently published in the country.

Feedback
Your feedback is appreciated. Email your comments to: universalflyer@uasc.com.

Update
Receive The Universal Flyer by mail or email. Email universalflyer@uasc.com or call the Marketing department at (800) 321-5253 or (520) 295-2300 to update your profile.

Contact
Sales/Marketing/Support
3260 E. Universal Way
Tucson, AZ 85756 U.S.A.
Tel: (520) 295-2300 / (800) 321-5253
Fax: (520) 295-2395
Email: info@uasc.com
www.uasc.com
Software and Hardware Updates

**EFI-890R**

The amended TSO authorization letter for a minor part number change incorporating Night Vision Goggle (NVG) compatibility was received from the LAACO on June 1st. Shipments will begin now that TSO approval has been granted.

**CVFDR, CVR, FDR SCN 2000.0.X**

The ETSO data packages for the CVFDR family of products was submitted on May 16th, with approval expected within 60 days.

---

**Now View and Pay Invoices Online**

*Fast, Easy & Secure. Log on to UniNet today.*

Universal Avionics recently completed the deployment of the updated UniNet website. The updated look and feel of the website was designed to seamlessly integrate with Universal’s public-facing web pages, providing customers with a familiar set of navigation tools.

**Account Information**

By logging on to UniNet, customers can submit changes to their account information, including updates to billing, shipping, and NavData delivery addresses. For the first time, the customer can also change their password and email address online, and receive confirmation of the changes immediately via direct response email.

**Online Payment**

Another new feature is the ability for customers to view and pay outstanding invoices online, using a secure, third-party credit card payment processor to submit either partial or full payments. These payments are automatically authorized by the credit card vendor, and once processed successfully, the online status of the account is updated immediately.

Payments are processed into the accounting system on a daily basis, ensuring the status of the account is updated in near real-time.

**Security**

With the addition of credit card processing, Universal upgraded the security of the UniNet website to incorporate industry-standard data encryption using a trusted Certification Authority (CA) certificate. This means customers can be assured that transactions are processed consistent with the highest standard of security available on the web.

**Future**

These and many other UniNet improvements are just the beginning; the long-range plan for UniNet is to increase integration to support customer needs for responsive and comprehensive information about Universal Avionics accounts.

---

**Helpful Tools for Your Most Pressing Questions**

Is there an LPV or ILS published at your home airport? Or at your most frequent destination? Find the answers to this and other questions with new research tools available from Universal Avionics’ website.

**LPV Map**

An interactive map to help you locate a WAAS LPV approach procedure.

---

**What Operators Are Saying**

Find out what other operators think about their experience with Universal Avionics’ products.

**Video Library**

A library of Universal Avionics’ videos, allowing viewers to learn more about the company and its products.

**LPV/APV Payback Calculator**

Calculate the payback period of a WAAS/SBAS upgrade and find out how many flight hours, fuel and engine reserves might be saved each year with performance improvements from WAAS/SBAS LPV/APV.

---

**Software and Hardware Updates**

---

Helpful Tools for Your Most Pressing Questions

Is there an LPV or ILS published at your home airport? Or at your most frequent destination? Find the answers to this and other questions with new research tools available from Universal Avionics’ website.

**LPV Map**

An interactive map to help you locate a WAAS LPV approach procedure.

---

**What Operators Are Saying**

Find out what other operators think about their experience with Universal Avionics’ products.

**Video Library**

A library of Universal Avionics’ videos, allowing viewers to learn more about the company and its products.

**LPV/APV Payback Calculator**

Calculate the payback period of a WAAS/SBAS upgrade and find out how many flight hours, fuel and engine reserves might be saved each year with performance improvements from WAAS/SBAS LPV/APV.

---

**Software and Hardware Updates**

---
LPV Saves: Your Story

Northern Air Cargo: Saving $200,000 Per Aircraft Per Year

Northern Air Cargo (NAC) is an Alaska-based scheduled cargo airline with a fleet of Boeing 737-200 and -300 turbojet aircraft. It operates charter flights throughout Alaska, the Pacific Northwest and the rest of the Pacific Rim, offering a variety of options for air transportation.

There are many operational challenges when flying in Alaskan weather, particularly seasonal transitions bringing unpredictable fog and winter conditions. In addition, many airports are not served by ILS approaches.

“The addition of WAAS technology to NAC operations has effectively provided precision-like approach capability to most airports and runways system-wide,” says Timo Saarinen VP Flight Operations. “What this means is that there is greater reliability and flexibility for Dispatch, and the pilot can fly a precision-like approach with vertical guidance to any favored runway,” he added.

Operationally, the NAC flight crew is dependent on the WAAS system to ensure that the most complete flight planning and dispatch options are available, while maintaining the overall safety of the proposed flight. Economically, NAC estimates an operational savings (in fuel, time, etc.) of approximately $200,000 per aircraft per year as a result of WAAS equipage and use.

–Contributed by Timo Saarinen, VP Flight Operations, Northern Air Cargo

Send your story to universalflyer@uasc.com to be featured in this special section sharing LPV Saves.