NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C.

Attachment 6 – 2013 CQ Workshop Presentation
(13 Pages)

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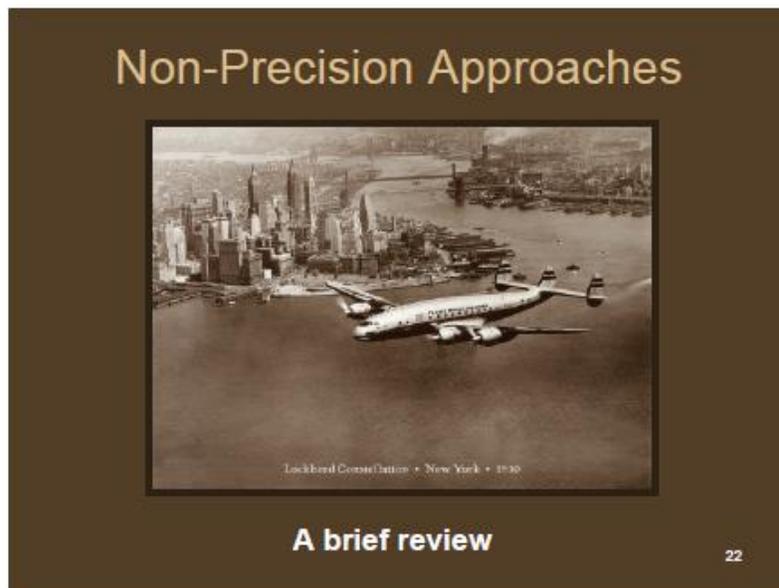Office of Aviation Safety
Washington, D.C. 20594

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OPERATIONAL FACTORS

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Intro slide to NPA review.

Slide is animated (1 click). As you move into the NPA discussion, give an overview of what's allowed and what is not. These charts along with the Ops Specs determine what we can and can't do. Have students locate matrix in their respective AOM's and follow along.

The following slides will elaborate and demonstrate each of the approaches that fall under the qualifying of a Baro DA, D-DA and MDA.

GPS approaches are only allowed in the U.S and Canada at this time! This includes San Juan!

Slide is animated with three different types of Profile approaches presented (6 clicks). . The order of the three follows the three approaches listed on the left page under determining DA or D-DA. Review each type of approach with students.

Can we shoot this approach in Profile? If so, to what minimums?

Slide is animated (1 click).

This approach may be flown in Profile to D-DA of 4730'. As we see it does not meet the required criteria for a Baro DA approach.

Also, if it comes up, the "LP" in the left minima block refers to an "LPV" approach. LPV stands for Localizer Precision wit Vertical guidance. It needs the support of the WAAS system for the ability to conduct this type of approach. We obviously do not have that.

Slide is animated (2 clicks).

Slide addresses the difference in the crossing altitude at the FAF. Notice the FAF crossing altitude is not coincidental with the GSIA altitude. Therefore, we have to roll the a/c over in vertical speed at the FAF prior to selecting Profile. Students should remember this as we just did this in CQ 2012 First Look.

Slide is animated (1 click).

Slide addresses the fact that a Baro DA is restricted to U.S. airspace only. This is an important point that is easily overlooked. The approach can be flown in Profile, but to a D-DA of 7950'.

Lastly, we need to complete the briefing guide, brief the approach and discuss its execution

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3. Load approach in FMC and accomplish the following:
   - Enter DA/D-DA on APPROACH page.
   - Verify database Vertical Path Angle agrees with approach chart within .1 degrees.
   - Adjust V$_{APP}$ on Approach page if necessary.
4. Accomplish Approach Briefing.
5. Activate FINAL APPROACH. ← **When?**
6. Select PROFILE and verify P/DES armed. (On ILS G/S OTS approaches or LOC approaches, where the VNAV path crosses the FAF below the FAF minimum altitude, start a 1000 FPM descent at the FAF and immediately select PROFILE to capture path from above.)

Do you have to be at the FAF altitude to select Profile?

No.

You can intercept the VPA from above the FAF altitude (similar to intercepting the ILS glideslope from above)

However, be aware that with Profile selected the a/c will slow to the Vapp speed in the FMC at VPA interception, no matter your configuration.

Slide is animated (5 clicks).

Slide addresses the fact that Profile can be activated whenever the crew determines they no longer need Profile Descent mode. (This was a change to the AOM in revision #24.) If students still do it the old way, activating Final Approach when cleared for the approach, that is perfectly fine.

If VPA is intercepted from above FAF altitude remind the crew that the speed will reduce to the Vapp in the FMC (or thanks to Speed Protection just down to the hook). May create a spacing problem at a busy airport.

Be sure to reiterate the potential gotcha with respect to selecting Profile when in ALT*. (Profile will automatically deselect when FMA switches from ALT* to ALT)

Slide is animated (1 click).

Slide addresses the two final actions which must be accomplished to fly a Profile Approach

The Vertical Speed Approach

Slide is animated (2 clicks).

Slide gives an overview of the V/S approach. Review as needed and stress the two points:

(1) All V/S approaches must be flown to conventional MDA's

(2) Raw data must be monitored on the approaches listed above in the slide.

Slide is animated (1 click).

Review the what we can's and what we cant's. Then following slides will review V/S NPA's.

Slide is animated (3 clicks).

Review the VOR appch to 28L in BOI. Ask the students to answer the four questions that are presented in the presentation. Make sure they have a strong understanding of how to conduct the approach.

The vertical mode that should be used to descend from "Zibor" to "Reway" is V/S. This concept applies to ANY NPA, whether it be a V/S or Profile approach. The reason is that V/S is the only mode that you have direct control over the fpm descent rate of the a/c. Per the AOM, LVL Change is allowed but not the optimum choice.