Attachment 9

to Operational Factors / Human Performance Group Factual Report

DCA011IA047

STEP 4 SIMULATOR PROFILE

Simulator profile

(IAD) STOIC TWO Departure, BARIN 1 Arrival. RNAV (RNP) Z RWY 19L. (DAL) DARTZ 1 Departure, RNAV (RNP) approaches RWY 31L.13L and 13R. (EO SID RWY 13R)

- **Thru-flight gate # B48 KIAD**. **ATIS:** information **ALPHA.** 1000' overcast, temp 15, visibility 3 miles, altimeter 30.01 departing **RWY'S 19L and 19R**. Complete all flows checklist and briefings. Ensure the crew briefs the departure and verifies the waypoints for the **STOIC TWO** departure on the legs page. After engine start advise the crew that you will reposition the aircraft to hold short of **RWY 19L** for departure. Normal Takeoff with a climb to **3000'** with vectors to **STOIC**. After passing **3000**' give the crew a right turn **heading 350** direct **STOIC when able climb and maintain 5000'.** After reaching **5000'** give the crew a right turn heading 010 for traffic and advise the crew that the departure is complete.

- Advise the crew that they are on position freeze for a demonstration of a single DU failure **(e.g. OUTBD, INBD, UPPER).** Fail the **Capt OUTBD DU** and demo the auto transfer of the **PFD to the INBD DU** and how to **recover the ND display** on the **lower DU.** Fail the **Capt INBD DU and demo how to recover the ND to the lower DU.** You can alternate failures between the Capt and FO. **Then Fail DEU No#1** which will give you the **DISPLAY SOURCE message below the airspeed tape on the PFD. Review the QRH and discuss the function of the display source switch (e.g. All on 1, Auto, All on 2)** After the demo is complete reposition them for the **BARIN 1** arrival via the TRING transition at **5000' 10 miles south of TRING intersection for the RNP Z RWY 19L approach.**

- Ensure the crew briefs the approach, FMC verification, required equipment, speed constraints **for RF legs, 210 at PERTE, setting of RNP values and minimums.**

- Once established and all briefings are complete, clear the crew for the **RNAV/RNP Z RWY 19L** approach. Observe proper callouts, **(LNAV, VNAV PATH,** proper speed control for the **RF leg 210 Kts at PERTE)** .This speed must be manually entered. Ensure the crew sets the MCP altitude to zero and manually enters the **RNP value 0.30.** Observe the proper use of **LNAV** and **VNAV.**

- **Set the weather to 1000' and 3 miles visibility.** This will be a missed approach at 100' due to a vehicle on the runway. **Fly the missed approach with a climb to 5000'** and advise the crew that the maneuver is complete. If you have a **CA/FO** crew transfer aircraft control and provide vectors outside **STAYO** for another approach to **RWY 19L**. If you have a **CA/CA** crew, swap seats after cleanup, and fly another approach to **RWY 19L** to a full stop landing.

- **REPOSITION to Dallas RWY 13R for the DARTZ 1 Departure**. (RNP Departures and approaches) Observe the Departure Briefing and ensure the crew briefs the branch point **AL506 for the EO SID.**

- . **Arm LNAV** for the departure prior to engaging **TOGA.** Fly the **DARTZ 1** climb and maintain **5000'**

- Once level at **5000'** Issue **Atis Bravo** 310@05KTS Vis 2 miles, Sky condition 500' OVC Temp/Dew point 15/10 Altimeter 30.01 Landing and Departing **RWY 31L and 31R. Vector the crew with a left turn heading 120** to intercept **5 miles south** of **AL 630** or **TILLA the (IAF).**

- Clear the crew for the intercept to **AL630 or direct to TILLA (IAF).** Once established on the arrival, clear the crew for the approach to **RWY 31L**. **RNP value 0.30, DA 726' and observe the MCP is set to zero and the call LNAV/VNAV PATH is made.**

- After passing **AL 624** while in the **RF turn** give the crew a **Dual GPS** failure and observe a missed approach. Observe the crews decision of the failure and proper use of **TOGA** and tracking while in the **RF turn**. Advise the crew to fly the missed approach procedure as published.

- After the missed approach provide vectors to **AL 462 or SLANT the (IAF)** for the **RNAV/RNP** approach to **RWY 13L,** set the weather to 900' OVC and 2 miles visibility. At the approaching minimums call advise the crew to go around due to a truck on the Runway. During the missed approach give the PM an FMC, IRS or CDU failure. **RNP value 0.30 DA 860'** Fly the published missed approach, climb and maintain **5000'**.

- After passing **5000'** on the missed approach run the QRH and clear the malfunction. Then give the crew a right turn **heading 360** with a climb to **13000'**
- **for the RNAV RNP RWY 13R approach**. **Weather is 300' OVC 1 mile visibility**. Reposition the crew 25 miles southwest of **DELMO** intersection at **13000'** for the **RNAV/RNP RWY 13R** approach. Advise the crew to precede direct **DELMO** and to cross **DELMO** at **210/7000'.** After established clear the crew for the approach. Observe that the crew manually enters the **RNP value of 0.10** prior to **DELMO (IAF).** Observe proper procedures and callouts and energy management skills. **RNP value 0.10 DA 728'**. This approach will be to a full stop.

- Reposition for takeoff **RWY 13R** on the **DARTZ 1 Departure.** Observe the crew briefing on the **EOSID and branch point.**

- Issue a takeoff clearance to **5000' RWY 13R. At V1** give the crew an engine failure and observe the **EOSID** procedure. Watch for proper callouts and tracking with the Flight Director and trend vector **"Noodle"**. **Callouts for EOSID** (e.g. PM **confirm EOSID,** PF calls execute) This maneuver is for familiarization, No need to run the QRH.

- After the procedure is complete clear the malfunction and repo back to the gate.