NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

March 17, 2014

Attachment 1 – Interview Summaries

OPERATIONAL FACTORS

CEN16MA036

Contents

A. INTERVIEW SUMMARIES

1.0 Interview: Jason G. Edwards - Certificated Flight Instructor, American Winds Aviation and Milan V. Milosevic – Instrument Rating Student

Interview date: November 12, 2015
Time: 1345 Eastern Standard Time (EST)
Location: Akron Fulton International Airport (AKR) Operations Conference Room
Present were: David Lawrence, Shawn Etcher - NTSB; John Drago –FAA.

Represented by: Denise Hobart – Chief Flight Instructor American Winds Aviation

In the interview the Mr. Edwards stated the following:

They departed earlier in the day and flew the same three (3) approaches as they did in the afternoon.

Their instrument flight rules flight plan was a round trip flight from AKR to Akron-Canton Regional Airport (CAK) to Portage County Airport (POV) and back to AKR. They had no intent of landing at either of the first two airports.

They departed about 1400 EST (1900 UTC).

Their first practice approach was the ILS 19 at CAK. They began that approach about 1410 EST (1910 UTC). They descended on that approach via the glideslope and broke out of the clouds about 300 feet above ground level. As part of their lesson they performed a missed approach. The CFI also provided a PIREP to the controller on the height of the ceilings.

Their next approach was the VOR-A at POV. At the conclusion of this approach their intent was to perform a practice circle to land and missed approach. During the circling approach the visibility was at or near the minimums required for the circling maneuver.

Their last planned approach was the LOC25 at AKR. They monitored the ASOS for AKR between 1430 (1930 UTC) and 1440 (1940 UTC). The visibility was 1 ½ miles and 500 overcast with a variable ceiling of between 300 feet above ground level (agl) and 900 feet agl. During their approach they recalled hearing the accident airplane on the frequency. After their flight was cleared for the approach they announced their intentions on the common traffic advisory frequency (CTAF) and activating the frequency 7 time in order to activate the runway and precision approach path indicators (PAPI). During the approach they broke out of the clouds 40 feet above the minimum descent altitude (MDA) and leveled at the MDA about 3.0 miles as indicated on the distant measuring equipment (DME), the pilots reported having visual contact with the ground and forward visibility; however, the runway environment was not able to be seen until about 2.3 miles, as indicated on the DME, which their first visual reference was the PAPI.

After landing they cleared the runway at taxiway Delta and called approach on the RCO frequency to cancel their flight plan. They elected to stop on the taxiway in order to watch the incoming airplane on the approach after it broke out of the clouds. The CFI announced to the accident flight over the CTAF that they "broke out at minimums" which was acknowledged by one of the accident pilots. Shortly after they heard what sounded like screaming and an "aaahhhh" over the CTAF. They were not sure where that transmission originated but they transmitted over CTAF that the last transmission was not understood. There was no response nor did they see the accident flight.

The runway lights were still illuminated after they landed and while they were still on the movement area of the airport. They reported that the lights seemed normal and the PAPI was accurate for the approach.

They further reported the ceilings at CAK and AKR were the same above mean sea level. AKR is in a bowl type terrain and is about 200 feet lower than CAK when it comes to above mean sea level.

The interview concluded at 1411 EST

1.1 AWA Statement

Statement as to the accident of flight EFT1526:

November 11, 2015

To Whom It May Concern,

On November 10, 2015 we, Jason Edwards (Assistant Chief Pilot/Flight Instructor) and Milan Milosevic (Instrument Student Pilot), departed KAKR on a local training flight in N4291S. The aircraft we flew is a PA28-161 Piper Warrior. Jason is employed by American Winds Aviation

at KAKR and Milan is an Instrument Rating student. Additionally onboard for observation was Donald Reid, another American Winds Instrument Rating student. The weather at the time of departure was above IFR approach/landing minimums for our eventual return to KAKR, however an alternate was necessary and filed as KCLE.

We took off around 1400 local time and flew a series of three instrument approaches for training. The first approach into KCAK was an ILS 19 and we broke out around 300-400' AGL (this put the lowest cloud layer approximately 1500-1600' MSL), we recall this because the controller queried us as to whether or not we broke out when we announced our missed approach.

We were then vectored onto the VOR-A approach into KPOV. On this approach we were able to break out around 1800' MSL however there was another broken layer around us that was 100-300' below our altitude. We discussed how a circling approach would be difficult given the varying visibility and cloud layers and then executed the missed approach.

Lastly we received radar vectors onto the final approach course on the LOC 25 approach for a full stop landing at KAKR. This was around 1440 local time. We checked the ASOS at KAKR which indicated visibility at 1 ½ SM and a ceiling of 500' OVC. We discussed that this approach would likely be at or near minimums as the tail end of the ASOS indicated a ceiling variable between 300-900'. After being cleared for the approach we were instructed to change to advisory frequency and to report our cancellation in the air on the approach control frequency or on the ground via the remote (RCO). The controller also asked us to cancel our IFR as soon as possible as there was jet traffic to follow us. We advised him we would comply as requested, however it would likely not be until on the ground.

After crossing the AK LOM we descended as published to the straight in landing MDA of 1540' MSL and began looking for the airport. Milan was flying and focused on maintaining altitude and Jason was looking out the window for the runway environment while monitoring Milan's flight path as well. While monitoring the approach Jason was announcing DME to keep Milan abreast of our position relative to the missed approach point. Around 2.2-2.3 DME we saw the runway coming into view and the PAPI on the left hand side of the runway was the first lighting to be distinctly visible (which would indicate our flight path visibility to be 1.1-1.2 statute miles). At that point we commenced a descent from MDA and landed on runway 25. Upon coming to a stop Jason contacted Akron Canton on the RCO and advised cancellation of our IFR flight plan, which was immediately acknowledged.

Within a short timeframe we heard "Hawker Jet on a 10 mile final localizer 25". We pulled off of runway 25 and had parked just off of taxiway "Delta" where we cleared facing East. We discussed watching the Hawker come in off of the approach since they would likely break out of the clouds and it would be a learning experience from the opposite perspective that we just flown. Jason advised the Hawker on the CTAF that we were the aircraft that had just preceded them into Fulton and that we broke out right at minimums. The Hawker pilot acknowledges this transmission with a "thanks for the update". Within what feels to be in the timespan of 30 seconds to a minute we heard the squelch break on the CTAF frequency. The transmission that followed was very eerie. You could hear what sounded like a male attempting to speak in the foreground which turned into an "AHHHHHHH" and screaming in the background. It sounded

as though he was trying to speak to say something but whatever it was never clearly came out and then became the "AHHHHHH".

We looked at each other and discussed what we had just heard and even said I hope that's not someone joking around because it's certainly not funny. At that point Jason queried on the CTAF frequency "Hawker repeat your last transmission", there was silence. Jason tried to raise them on CTAF twice and received no response. Jason looked down at the approach plate to ascertain the time they would be on the approach in a Category C aircraft and we discussed that this time had since elapsed. We discussed that the aircraft should be here and discussed how to contact Akron Canton Approach. Jason didn't want a possible accident notification to go out over the air and decided to call the direct line into the TRACON at (330) 492-3828. At that point Jason took his headset off as Milan taxied, parked and shut down the aircraft we were in. Jason identified himself to the controller who answered the phone and asked if they were still talking to the Hawker who was on approach behind us into KAKR. He indicated that they were waiting on his IFR cancellation. Jason again asked if they were talking to him and additionally if they still had him on radar and if they had gone missed. The controller spoke aloud to someone else and asked if they were still tracking him. The controller advised that the Hawker had not gone around. It was at this time that Jason made it clear to them that the Hawker was NOT on the ground at KAKR. The controller asked for confirmation that he hadn't landed. Jason told him that we had parked to watch their arrival and no one had come into KAKR after us. The controller then asked for Jason's contact information, which was provided, and thanked us for the information. Around this same time Milan, a State Trooper in the aviation unit for Ohio, got a page indicating a downed aircraft at Davenport Park. We could hear the sirens for responding units at that time.

Contact information is as follows:

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Instrument Rating Student/Observer on flight

All of the above individuals may be contacted through the office at American Winds Aviation.

2.0 Interviewee: Ron Huckins, CAE SimuFlite Hawker Instructor

Date/Time: January 19, 2016; 0905 CST
Location: CAE Training Center - DFW
Present: David Lawrence, Shawn Etcher – National Transportation Safety Board (NTSB); Donnie Shackleford – Execuflight; John Drago – Federal Aviation Administration (FAA).
Representative: Richard R. Shiarella, CAE

During the interview, Mr. Huckins stated the following:

His name was Ronald Gene Huckins, and he was 68 years old. His current title was Hawker instructor, and he had been instructing on the Hawker 11 years. Previously, he was with FlightSafety International (FSI) for17.5 years, 3 years as a Hawker instructor in Wichita. He had been flying for 55 years, considered it a career, and had an aeronautical engineering degree. He was a Beech, Cessna and Lear test pilot for 15 years, woke up one day and said "I'm done," and pursued other avenues like sales. After about 2 years with that, he then looked into the training industry.

His primary role was ground school and simulator instructor, only on the Hawker. He was a Part 142 DPE (designated pilot examiner) and PE (program evaluator), which allowed him to "QA" their own pilots and instructors.

He held an ATP, with type ratings on the BAE125, BE400, CE500, HS125, and MU300. He estimated his total pilot time at 26,000+ hours. He estimated his total Hawker time at close to 5000 hours, and did some contract flying in the Hawker. He stated he was current on the Hawker. When asked if Simuflite required it's instructors to have flying time in the airplane (Hawker in this case) in order to instruct in it, he said they liked for them to have time, but it was not a requirement. Simuflite did require its instructors to be typed.

He was one of their designated trainers for Execuflight, but was not sure how many other designated instructors they had. He was qualified to train class, conduct simulator and checkrides.

He conducted training and checking of Execuflight pilots "when they show up." He had done about one or two in last year. Last in June, he did a 135 initial new hire S7 simulator session recommendation ride for a Part 135 check. That was for Oscar Chavez. He was already typed in the Hawker. He did the recommendation ride for him, but did not remember who the co-pilot was, if it was an Execuflight pilot or a CAE right seat qualified pilot. He was allowed to conduct a pilot's training, and even their S7 recommendation ride, but then could not conduct the check ride for the S8 session. They were not allowed to do all of the last 3 simulator sessions.

Before every training series, they got the company's GOM (general operating manual) including checklists, and they would adhere to that 135 operator's checklist. They went through them before he got in the simulator, and followed their own checklists and procedures. They would get those from the IP assistants in folders. If the operator chooses to you their own checklists, the

instructors would teach from those. He did not recall if there were any differences in the Hawker procedures and the Execuflight procedures for the Hawker. Execuflight checklists were challenge and response, but he did not remember if they had any silent checklists.

He said he found the Execuflight pilots as "outstanding pilots."

They had a grading process based on "c's, cp's or p's." P's meant proficiency, cp's meant they needed additional instruction, c's meant "you can't do it." Those are dealt out in the first 3 simulator sessions. He would then address that with the program manager, and also inform the client of any difficulties. He'd talk to the client directly, then to the manager. It was his manager's responsibility to contact the operator. The operator would then determine how to handle the situation.

When asked if he ever encountered an Execuflight pilot having training difficulties, he said "no," not in his experience. He's had other Hawker pilots have training difficulties, and has had to bust a pilot before since for an S8 check ride, he actually works for the FAA as a DPE. He did not know if CAE monitored the bust rates on the Hawker program, and that information was not shared with the instructors.

For the accident captain, he just remembered his name, not the particular ride. The session he gave required 2 precision and 2 non precision approaches. Typically one was an RNAV, and one VOR approach, and also ILS approaches. They typically shot the approaches at JFK and LGA, and that was approved for use with the simulator for checking. They ask the first non-precision approach to be flown to be manually, an RNAV straight in. The Hawker was not capable of flying using vertical nav. The VOR approach was to a circle to land, and could be used on autopilot, and then hand flown during the circle portion.

Typically pilots would fly the non-precision approaches on the autopilot to the MDA (minimum descent altitude). For the approaches, they used flight directors using vertical speed to descend.

He did not remember if he took notes during the simulator sessions, but if he did, he would tear up the notes afterwards, they did not go out of the simulator. He remembered Oscar's basically going smoothly.

He did not recall if there were any language difficulties experienced during the Execuflight simulator sessions. He said they had to all be English proficient, and he adhered to that.

The simulator sessions were typically 2 hours for each pilot. For seat support, they'd only get pilot flying duties, and not pilot monitoring duties unless they were being directed by the pilot flying on what to do.

For an initial, they saw the same approaches for the 6 training sessions, and for the 2 recurrent training sessions.

Oscar was doing an initial training even though he was typed since he was an initial new hire. He may or may not do multiple training sessions during an initial. The pilots were exposed to at

least two non-precision approaches per session, and not the same type of approaches. They exposed them to the different approaches that could be used on a check ride. They also used PHX or TUS airport approaches for the hot weather training.

For non-precision approaches, the pilot would have to look at the approach plate, determine the minimums and timing, and the descent rate based on airplane speed. The Hawker was a class D airplane for speeds, and non-precision were flown with flaps 25 only until landing assured. In their training recommendation, landing assured meant when the wheels touched the runway. He trained it so that they remained flaps 25 until they touched down and could bring the thrust levers to idle. They would then bring flaps 45 on landing rollout and then raise the lift dump and use maximum braking. On a non-precision approach, there was no time that the pilot would have flaps 45, and that was how they were supposed to be trained. The only time they should be flying flaps 45 on an approach was on a 2-engine ILS at glideslope intercept. He said part of the reason non-precision approaches only used flaps 25 this was in the event of a go-around they had the performance to climb out.

He stated that the Hawker had a lot of drag when flaps were extended beyond 20 degrees, and it would take quite a bit of power to maintain straight and level at Vref+10 approach speed with the gear down at flaps 45. He taught to maintain airspeeds using specific fuel flows in the Hawker.

For cockpit set up on non-precision approaches, the pilot would select the decision height in the selector in the ADI based on the agl (above ground level) altitude for the MDA on the approach, and that would be "the decision height." That would be the above ground altitude for the MDA. Their altimeters also had a "bug" on it for referencing the MDA. The altimeter would be what they used to determine the MDA based on msl (mean sea level), and also used the decision height based on agl. They would select the msl altitude in the altitude selector, and there was a tone that would sound 1000 feet above that altitude, then a tone or light when 250 feet above the msl altitude. The radar altimeter only brings up a light that you are at "DH." If the MEL (minimum equipment list) said the decision height was inoperative, it would tell you what approaches you could use. If the decision height was broken, you'd have to go to the MEL to determine if you could do the approach. For non-precision approaches, you set the decision height to agl, and use the altimeter to descend to the MDA. You would then compare the agl decision height altitude to the msl altimeter.

All non-precision approach vertical guidance was done using vertical speed and a step down approach.

For the descent rate, they recommended no more than 1000 feet per minute, and no more than 1100 a minute on autopilot because the autopilot may not level off at MDA, which was a systems limitation. The autopilot would level the airplane at the altitude the altitude selector had.

He personally taught a constant descent rate to the MDA. He was familiar with CDFA (Constant Descent Final Approach) and did teach it, it was recommended, but if client wants to conduct step down approaches, they could. He added that he did not believe in dive and drive, one reason was if you pitch the nose up at MDA to level off, the nose may be in the clouds. Constant angle was discussed in the briefing, but the pilots could fly it how they wanted.

They had some information regarding CDFAs and how to fly them. It was in the advanced courses programs for clients, and was an hour long course available for free to the clients. Some went through the course and some did not. Most instructors taught CDFA in the simulator.

CRM (crew resource management) was evaluated on every simulator session. There was an advanced course that trained on CRM and was a menu item the clients could attend. He did not know if the Execuflight pilots went through that training. It was a free course during ground school, an afternoon class.

When asked what standard he was using to evaluate a pilot's CRM, he said the PTS standard, and it was strictly subjective. If they were not in compliance working together based on CRM, if one guy was doing everything and the other was not participating, that was a failure in CRM. It was objective, especially on a check ride. They trained CRM by discussion, challenge and response, had to work together. It was also discussed in a de-brief, what responsibilities took place during that operation and if they were helping each other. He found that most professional crews had CRM experience, and was not an issue, but it could be and was graded. He did not see much difference between the CRM for the crews that had an in-house CRM training versus the ones who took their course.

The "sporty knob" on altimeter was an adjustable ring on the altimeter, and used as a reminder to callout altitudes on the approach.

They work in a specific simulator, and they train in a specific simulator, and he assumed they go back to their company and train on their own airplane. The Hawker 800's were basically all built the same, and prior to that, there were many configurations of the -700 airplane. Part 135 guys needed a -299 ride in the actual airplane, and that was when they learned specifics about their own airplane. Occasionally he would see pilots in the simulator have difficulty learning where everything was in the simulator. He said the first day in the simulator, they would familiarize the pilot with the differences in the simulator versus their own airplane, and generally had not been a problem with the pilots. He had not seen Execuflight pilots have difficulty locating switches in the simulator since their airplane may be different.

Regarding EFBs (electronic flight bags), he said if company required it, they used it. He did not remember if Execuflight pilots had EFB's.

Some companies have representative sit in on training, but he could not remember if Execuflight management ever sat in on one of his simulators. He sees the FAA maybe twice a year sitting in his simulator.

When asked about stabilized approach criteria, he stated that meant within 10 knots of target speed, 1000 feet per min based on requirement for the descent, and outside those tolerances they would stop and discuss it.

For the simulator, most approaches would normally have the weather set within 100 feet of the MDA. They are set based on FAA 8900.1 requirements for checking. They also let them fly visual approaches with no vertical guidance.

CAE did train for the right seat pilot to shoot a non-precision down to minimums during initial trainings for SICs. It was based on whatever the companies GOM said. They want to make sure the right seat pilot was capable of doing of flying the approach.

If the TCA (training check authorization) said to shoot the approach to minimums for checking, they would do that for the right seat pilot. They adhered to their GOM for what they want trained, based the C52 form.

He said he was a Part 142 TCE, and technically also a check airman for Execuflight. He was authorized to provide them type rides under Part 135.

The C52 form, the training authorization checking form, came from the company. As TCE, he would evaluate to the PTS minimums, those were the minimums, but he personally expected more.

On the circle approach, he expected them to fly manually based on the level of automation for the airplane. The altitude alerter was on the upper part of the glare shield. He said he recommended the pilot to use that for a level off on a climb to an altitude, and also on descent to the MDA.
CAE also had SOPs to fly the Hawker for Part 61 and Part 91, and companies provided them with their own specific SOPs.

Callouts were critical for a non-precision approach in the Hawker. They included a 1000 feet above the msl MDA, 500 feet above MDA, 100 calls until MDA. Callouts were critical from the SIC. It required 2 qualified pilots to fly the Hawker. If briefed properly a pilot could level off at any altitude above the MDA on a non-precision approach. He had never seen a pilot "blow an MDA" or not apply enough power to maintain altitude at MDA.

Interview concluded at 1032.

3.0 Interviewee: Lynn Lanning, CAE SimuFlite Hawker Instructor

Date/Time: January 19, 2016; 1312 CST
Location: CAE Simuflite, DFW
Present: David Lawrence, Shawn Etcher – National Transportation Safety Board (NTSB); Donnie Shackleford – Execuflight; John Drago – Federal Aviation Administration (FAA).
Representative: Richard R. Shiarella – CAE

During the interview, Mr. Lanning stated the following:

Is name was Lynn Alexander Lanning, and he was 71 years old. His title was Instructor Pilot (IP) on the Hawker. He gave check rides, and though he had not done so in a few years, as of

April 2015 he became a DPE. He gave proficiency checks and type rides. He started flying in Nevada in 1969 at a flight school, and then became a state police officer. He flew for the US Customs Service, and , and then came to CAE, where he had been for 27 years.

He held an ATP certificate with type ratings on the H-125, BAE25, King Air 350, Dornier 225, and Citation 500. He estimated his total flying time between 5000 and 8000 hours. He had about 100 hours in the Hawker, all in the right seat providing pilot services. CAE does not require instructors to have time in the aircraft, but they must have a type rating on the aircraft to teach.

CAE instructors received a Part 135 check ride once a year, with the FAA observing them operate the simulator. All instructors have to be observed by the FAA. Instructors initially received CRM training, but were not trained on a regular basis.

He had provided recurrent and initial training to Execuflight pilots, but had not given checkrides. He trained their pilots when they show up, but was not sure how many times he had trained Execuflight pilots. He did not remember the accident pilots. He did accident SIC's S7 which was a prep session for the check ride. He could not remember how he did, but he did sign him off and thought he did fine. The S7 was in JFK taxi out to 31R with the SCORE 3 departure to 5000 feet, and then 10000 feet for air work. He could not remember if the GPS 4L was to a balked landing, published missed to a hold to the VOR 4L, circle 31R and landing. They departed with minimums of 500 or 600 RVR (runway visual range) and then an engine roll back, engine relight, two engine ILS to a missed approach to an single engine ILS 13L hand flown. They then departed with a V1 cut repositioned, and then an ILS to 31R and with a zero flap landing. He could not remember if the other pilot was an ExecuFlight pilot or not in the simulator. He had trained Execuflight pilots as a single crewmember and as a crew. He stated that there were challenges when training a single pilot, particularly for the 135 pilots. Each pilot must do their own operators SOP. Sometimes the two pilots were from different operators using their respective checklist. A lot of the SOPs were compatible and similar to CAE SOPs, but not always. For two 135 pilots from different companies, he watched one guy at a time. Single pilots going through training did not get pilot monitoring SOPs in their training.

They had to look at the company procedures before they got into the simulator. He tended to know if a guy was doing his job. They had access to the company SOPs through their "z-files." Sometimes he would review their SOPs 2-3 hours before he put them in the simulator. Most operators did the same things; SOPs and callouts may be different, but were similar. He did not recall if Execuflight checklists were challenge/response, nor if they used any silent checklists.

He did not recall Renato having any language difficulties. He remembered hearing about the accident, and initially thought it was a different pilot involved. If there was a need, they could utilize an interpreter for the foreign pilots. He did not think there had been any US operators that needed that. Comparing Execuflight Hawker pilots to other pilots, he stated that "they are pretty good aviators." Individually, he'd have to look at their records to see how he graded them.

Their grading system was based on being proficient and not being proficient. He did not think he busted an Execuflight pilot on the Hawker, but had busted other pilots, maybe about 10%, but had not given checkrides for the last 5 years. He was not aware of CAE monitoring bust rates.

For a sub-standard event, He would go to his program manager if he's not going to make it through training, and possibly get the pilot more training. If on a check ride the pilot was not within PTS standards, that item had to be redone. The pilot had the option to continue the ride and complete the remaining items. For a Part 135 check ride, if the pilot's performance was not with in standards, he could take his FAA hat off, put his CAE hat on and give additional training before continuing a check ride. Training difficulties sometimes happen each week.

He might take notes during the training session to talk to the pilots about later, but did not retain those notes. Simulator sessions were 4 hours, 2 hours for each pilot. Seat support training would be a 3-hour simulator session.

He did not recall seeing an Execuflight official observe a simulator session. He had that happen before with other companies. He would not call it an audit, but just watching the training. The FAA did come out as well, and would observe the training and instructor. It could be unannounced.

The Hawker instructors did have safety meetings and stand-downs, and they had some instructors with former Hawker test pilot time, but he did not recall if Hawker test pilots participated in stand-downs. The stand-downs occurred about every 60-90 days, he guessed. It varied based on the instructor's schedule.

During training, they would change the airports they shot non-precision approaches to, but primarily it was at JFK and LGA. He also used TUS and PHX for hot/heavy training.

For recurrent training, they did and S15/S16 recurrent session. For an initial, it was S1-S8, except for an S3, which was their designation for a LOFT. During an initial training, a pilot would see at least a couple of non-precision approaches, including localizer approaches. He stated that the Execuflight non-precision approach procedures were identical to the CAE Hawker procedures.

For a non-precision approach, he would tell his clients specific power settings to help them while they were shooting the approach. Before the approach, level flight was about 700 pounds (#) fuel flow per engine. Turning inbound to the course, they selected flaps 15. About 1-2 miles before the final approach fix, they went gear down, flaps 25, and started looking for Vref+20 for speed and 1000# fuel flow. Crossing the final approach fix, they would set 400# of fuel flow, nose down to Vref +20, which should give them about a 1000 fpm (feet per minute) descent. If they had to level off at the MDA, they would need to go back to the 1000# of fuel flow to maintain their altitude. Once they descended and went to flaps 45, their speed should be Vref+10 knots. He was not sure what the pitch attitude was for level flight gear down and flaps 25, or what they would pitch to for the 1000 fpm descent. He taught no more than a 1200 foot descent rate, and to maintain at least a 1000 fpm rate of descent to MDA.

When asked what the CAE stable approach criteria was, he was not sure what the CAE stable approach criteria was, and was told by the FAA that more than 1200 fpm on the approach was unstable.

They do not train pilots to fly a non-precision approach at flaps 45 from the final approach fix inbound. He did not know of any situation in the training program where a pilot was taught to fly level at flaps 45 in level flight. He stated he would never do that, was not even sure what the power setting would be, it would be "nuts" to do that since it would involve a lot of power, with a lot of drag, and if you were not paying attention to your speed, it could slow and stall the airplane. The only time a pilot would be descending on an approach at flaps 45 would be on an ILS. He was not familiar with the stall characteristics of the Hawker, but was told by pilots that each airplane was different, and some stalled straight and some would roll to one side or another.

They are trained to use the radar altimeter on non-precision approaches as another instrument to determine they were getting closer to the ground. They set the radar altimeter, the barometric altimeter, and there was a voice that sounded when arriving at minimums. He was not sure what the source was for that aural alert. After referencing the Jeppesen LOC25 approach chart for KAKR, he stated the altitude selector would be set for MSL (mean sea level), and for KAKR that would be 1600 feet since they could not set 1540 in the selector window. The radar altimeter would be set to 473, or to the next highest altitude available. For a pilot to know he had arrived at MDA, he stated that he would have to look at his altimeter. Radar altitude was not the primary means to decide the MDA. Some altimeters had bugs to mark for the MDA, but he was not sure if they had one in the simulator.

Full flaps on a non-precision approach occurred when the pilot was visual to the runway and landing was assured. The pilot did not have to land at flaps 45, and could land at flaps 25 if desired. His personal meaning for "landing assured" was if he lost both engines and needed to dead-stick the airplane to the runway, that would be runway assured. He had practiced that in the simulator. When asked if CAE or Hawker had anything that stated an altitude that flaps full needed to be selected, he said it was probably in the maneuvers section of the manual.

There was no vertical navigation ability, other than the glide slope, available on the Hawker. Vertical guidance on a non-precision approach was by vertical speed. For the vertical speed, the pilot would roll it over [vertical speed knob on glare shield for pitch] until just prior to seeing a 1000 fpm descent, and then stop it to hold that vertical speed.

For training, they required the pilots to both hand fly and fly auto-pilot on non-precision approaches. For the check ride, they had to conduct one of each. Generally it was up to the pilot whether they want to use the automation or not.

He did not train for constant descent final approach (CDFA) on non-precision approaches. He did not teach "dive and drive," but rather a constant descent rate to the MDA, which may result in a level off at MDA. On their zero flap landing, they did calculate a 3 degree glide path. He had not received training on CDFA, and did not know if there was a class for clients on CDFA.

CRM (crew resource management) was evaluated according to the operator's requirement. The grading was the standard developed by the operator and the operator's POI. He had received CRM training at CAE, which was internally generated training with the FAA coming in to discuss also. Generally speaking, CRM was a scenario that would be a crew talking to each other. If they were talking to each other and accomplishing items, then their CRM was good, even if the two pilots being trained were not from the same company. His evaluation was based on his experience and training he had received from CAE and the FAA. He also briefed and de-briefed the pilots on their CRM. If they were communicating, then he considered they were doing the correct thing.

When asked if he ever busted a pilot for lack of CRM, he said if they did not measure up to what he had been trained on for CRM, he might not send them up for the check ride. He had that on occasion, but usually by the S7 simulator session, they were doing well.

Generally it took at least one simulator session for crews to get used to the simulator and the differences from their own airplanes. The simulator was also more sensitive than the actual airplane. He did not think Execuflight required its pilots to train from the right seat for their recurrent program.

As instructors, they talk with each other all the time, as well as during the safety stand downs.

The fuel flow numbers they taught in the simulator worked on the airplane. The fuel flow might change a little with engine anti-ice turned on.

When asked how far from the runway "landing assured" was, based his definition that he could dead stick to the runway, he was not sure, but maybe about a mile. He stated that the Hawker glided well at flaps 25, but not at flaps 45. If he had time in the simulator, he would demonstrate a loss of both engines.

The flap lever had a gate at the flap 15 position for go-arounds from landings at flap 25 or 45.

Before his training sessions, he reviewed the company files in their "e-records" to see what the company wanted the instructors to do for their pilot's training. He would then go to the "z-file" to pull out the company's operating procedures and training program. That would take about an hour to review the information before beginning to train.

He stated that he kept track of his pass/fails that he provided to the FAA as a check airman for a Part 135 operation.

Interview concluded at 1443.

4.0 Interviewee: Catherine Rossi, CAE SimuFlite Hawker Instructor

Date/Time: January 19, 2016; 1503 CST
Location: CAE Training Center - DFW

Present: David Lawrence, Shawn Etcher – National Transportation Safety Board (NTSB); Donnie Shackleford – Execuflight; John Drago – Federal Aviation Administration (FAA).
Representative: Richard R. Shiarella, CAE

During the interview, Ms. Rossi stated the following:

Her name was Catherine Emily Rossi, and she was 60 years old. Her title was Instructor Pilot (IP) on the Hawker. She had been a CAE instructor for 9 years; 7 on the Citation and 2 on the Hawker.
Her role at CAE was to facilitate a positive learning experience for the pilots. She had just received her letter of authorization for the 800XP to do proficiency checks. For the Hawker, she only conducted simulator training. She had actually never flown or ridden in the Hawker.

She held an ATP with type ratings on the Citation 500, 560XL, 650, G3, SIC on the G5, and HS125. She estimated her total time at 4800 hours, with about 9000 hours in the simulator. She did not have any actual flight time in the Hawker.

She was not aware of any allowance to obtain any flight experience in the aircraft in which she taught in the simulator. There was no program at CAE for them to get flight time in the Hawker. She would talk to Hawker pilots, including CAE instructors, about their line experience in the Hawker.

She had trained Execuflight pilots. Execuflight pilots had their own SOP's, she but could not recall how often she trained Execuflight pilots. She could not recall the last pilots for Execuflight she trained, and could not recall specifically the accident pilots.

After reviewing the training records, she recalled that she trained both accident pilots. The accident captain was trained in May of 2015. He met the standards according to the Practical Test Standards (PTS). She did the S1, S4, S5, and S6 simulator sessions him, which were part of his initial training. The last time she trained him was on May 30, 2015. She did not remember anything out of normal with him. Nothing in his records stood out, and he met the PTS standards.

The accident second in command was trained by her on S1, S2, S4, S5, and S6 in June 2015. On his third simulator session, a few items were marked as CP's, which meant the pilot failed the event on the first try and they retrained to PTS standard. That was for the engine failure training day. The CP's were on the single engine instrument approach, CRM, workload management, distraction avoidance, maneuvers and SOP's. She could not recall specifically what the CRM issues were. She could not recall any specifics on his distraction avoidance. That was not a common occurrence that she could recall the specifics.

His piloting skills were satisfactory to her standards, and were to PTS standards. He was not below other Hawker pilots. She felt he may have been looking for avionics differences, but was not sure. On the S4, the workload went up as there was a lot they may not have seen and she was trying to get them to fly the profile was critical. He trained by himself, with Monica, David, and Owen from CAE in right seat support. All of his time was pilot flying. He was in the left seat

for all of his training the entire time. All initials were in the left seat, and he was on his initial new hire training. He did perform as SIC on S5 an S6, which required a takeoff and landing from the right seat. He did get some pilot monitoring duties from the right seat.

They used Execuflight callouts and procedures. The callouts and procedures were similar to CAE's, but could not recall specifics. On a missed approach, Execuflight called out heading and altitude. The checklist was challenge and response, with no silent checklists.

She stated that Execuflight pilots were "standard" compared to other pilots.

She stated that if a pilot was below standard, she would review their SOPs make them redo the event. She felt that was a rarity. If a pilot was unable to proceed she would talk to the pilot and then to her manager. She had done that before in both Citation and Hawker, but could not recall if it was with an Execuflight pilot. Her most recent was about a month ago where the pilot failed on an S2. Usually the pilot would then be reassigned to another instructor if the operator would allow.

She was not sure what the "bust rate" was for the Hawker at CAE. She was not sure how many pilots she has trained on the Hawker, and had probably given a substandard on maybe 10. She likely had trained more than 100 pilots but less than 200.

On a non-precision approach when entering into the airport environment, they flew Vref plus 50 knots, checked speed and flaps 15. Approaching the FAF, the procedure was gear down, flaps 25, and then descent to MDA.

She knew some instructors trained fuel flows for speed, but she preferred to target airspeed. She did that so they would pay attention to their airspeed. Fuel flow and airspeed was in the profile. She focused on airspeed since the fuel flow gauges were located on the forward panel requiring a big person to duck down to see them under the glareshield.

Pilots would set the MSL (mean sea level) altitude minimums for the approach on the altitude selector, and then set the radar altimeter to the AGL (above ground level) number on the approach plate. In the case of KAKR they would put 1600 in the preselect and 480 on the radar altimeter. There was a bug to set for MSL on the copilot side only but not sure why it was not on the captain’s side. The radar altimeter had an aural "minimums" for an ILS, but did not call anything on a non-precision. The pilot should be looking at their altimeter as their primary information on MDA. She had not seen a pilot use the radar altimeter as the primary means to determine MDA.

Pilots would select flaps 45 when landing was assured, which would be when they broke out of the clouds, on a stabilized approach, and with the runway insight. There were variables to defining landing assured. She taught the same as other instructors. She would not go flaps 45 at a high elevation because it destabilized the airplane, and changed the pitch “if you aren’t ready for it.” She stated flaps also slowed down the airspeed so power had to be increased. At level flight, flaps 45 degrees slowed the airplane quickly because they are like "barn doors." Flaps 45

on a non-precision approach landing assured was at the pilots discretion based on a number of variables.

She did not teach, nor had she seen flaps 45 in level flight since it was only a landing configuration.

There was no vertical guidance on the airplane. To descend via the flight director or autopilot, it would be vertical speed. She trained both manually flown and autopilot flown non-precision approaches. They were also required to perform 2 ILS approaches; one hand flown and one coupled. The GPS approach would be hand flown. The VOR 4L circle was on autopilot until they broke out and began the circle.

Pilots generally used the autopilot for approaches unless told otherwise. She could not recall any difficulties with either pilot on their non-precision approaches.

When asked about the stable approach criteria she trained, she stated that 3 degrees per 100 feet was the stable approach criteria. The airspeed was also defined from FAF Vref plus 10 knots minimum, and over the threshold they must be at Vref with the wings level. It was defined in the Part 142 curriculum.

She was not familiar with CDFA on a non-precision approach, and was not sure if CAE provided training on CDFA to pilots.

She evaluated CRM based on challenge and response, setting up profiles, running checklists, and talking back and forth as a crew. CAE did have a CRM course, but was not a mandatory course. She utilized CAE standards to evaluate the crew on CRM. Execuflight CRM was what they would hold the pilots to. She evaluated single pilots by how to lead the copilot; the airspeed, etc., without too much prompting from the pilot monitoring. All instructor pilots were similar. She would take notes during simulator session to be able to show crew where they are weak. The notes were not retained.

On average missed approaches were conducted on S2 (1), S4 (2 or more), S5 (more), S6, S7, S8. Close to 50% of approaches were flown to a missed approach.

Weather in the simulator would be set at 50 feet above MDA except on circle to land which was 100 feet.

She had received students who have been reassigned to her that failed an S2, the most recent she also failed S2 on the same individual. That occurred on the Citation but not on the Hawker. The FAA had done observations on some of her simulator sessions, including her LOA in October.

The accident SIC was compliant with her instructions. She did not have him on the S7 nor S8 simulator session.

Interview concluded at 1608.

5.0 Interviewee: Barrie Springer, CAE SimuFlite Hawker Instructor

Date/Time: January 20, 2016; 0814 CST
Location: CAE Simuflite, DFW
Present: David Lawrence, Shawn Etcher, Jim Silliman – National Transportation Safety Board (NTSB); Donnie Shackleford – Execuflight; John Drago – Federal Aviation Administration (FAA).
Representative: Richard R. Shiarella, CAE

During the interview, Mr. Springer stated the following:

His name was Barrie Hyde Springer, and he was 71 years old. His current title was contract instructor, and he went part time a year and half ago. He was the former team lead, and an active PE (pilot examiner) and TCE (training center evaluator) on the Hawker.

He was retired military after 24 years with the Air Force and Army, including, two combat tours. He was the former Director of Training and Chief Pilot for Rio Airways, flew for Atlantic Southeast Airlines, and delivered CRJ's for Mesa Airlines in 1995. It was his 18th year at Simuflite, and he was the first and only DPE (designated pilot examiner) on the Hawker for Simuflite, but that stopped 7 years. He stated his roles and responsibilities included instructor for initial and recurrent simulator training, teaching on the 800A, an instructor in all Hawker platforms and examiner on all Hawker platforms. He was instructor and examiner, oversaw the programs, training and mentoring the instructors coming into the program. He also monitored the new instructors entering the program.

He held an ATP with type ratings on the HS125, BAE125, EMB110, BE190, BE300, and had commercial privileges single engine land, and a helicopter instrument certification. He estimated his flying time as 18,200 hours, and had about 20 hours in the Hawker 700. They used to get the flight time when it was required annually, but now satisfied that by getting a LOFT. His last flying in the Hawker was a 1000 series about 2 years ago. For currency as an instructor, they received 2 annual checkrides and 2 orals on the -700 and -800/800XP. He also had annual observations from the FAA, including no-notice observations.

He had not flown the actual 700 in 10-12 years. He could be a contract pilot, but currently was not flying. There was no requirement to have flight time in the actual aircraft to instruct on the Hawker.

He was one of Execuflight's contract check airmen. The last time he conducted training for an Execuflight pilot was on the day of the accident when they had 2 initial clients at CAE for the 700; one was lady for a type rating, and one was for a PIC upgrade. During the briefing, they found out that there had been an accident. He believed it was either a first training session or he was observing. That was the extent of what he knew about the accident.

He said he trained Execuflight pilots frequently, but thought there are only two check airmen on their certificate, but was not sure. If there was a TCE on their certificate they could conduct training, but the evaluation had to be done by one of the certificate holder's contract check airman.

He recalled that Execuflight "usually" brought pilots into CAE training as singles and not as a crew. CAE would then provide a right seat Part 135 qualified support pilot. The Part 135 PM (pilot monitoring) duty was to be the pilot monitoring, in accordance with the company SOPs. When asked if single pilots in training got PM training, he said yes, they would get some right seat training, and with CRM, they would transfer control to the right seat pilot to review approaches. There was not much PM training when a single pilots was being trained.

The procedures they trained Execuflight pilots on were close to the same as CAE's. As an instructor, it would take hours to become familiar with a Part 135 operator's procedures. They got information about an operator's training program from their support personnel. An individual company's procedures were provided to the instructor prior to training. In that process, they also received the company's TCA (training/checking letter of authorization) specifically stating details of the operator, and the training the pilots were to receive.

Challenges to the instructor included different approved weight and balance methods used by different operators compared to the Part 142 standard. They also had a briefing sheet for additional training requests from the operator, which may be something related to the OpSpecs (Operations Specifications) like RNAV or LNAV training. On their C52 form, they had 10 categories of approaches, including the LOC B/C and an NDB approach, which they received in training. The checking must satisfy the PTS standards.

When there were two separate Part 135 operators, the biggest difference was if there was an in-house (company) checklist, but otherwise he felt they all were very similar. When the Part 135 pilot came to CAE, they were trained based on their company's approved training program.

The Execuflight checklist was a challenge and response worked with a flow. To his knowledge, none checklist were done silently. If it was done though, he would assume the completion would be verbalized with a complete.

He recalled having the accident pilots in training, possibly in a classroom, but did not remember having them in the simulator. He was not briefed prior to the interview regarding his training or checking of the accident pilots, and was not familiar with the accident. He said he was the examiner on record after he checked his records. When asked specifically what he recalled about the skills of the accident pilots he trained or evaluated, he said "they met the standards."

Execuflight pilots were like everybody else, and were onboard with their company procedures and policies, and exhibited that when they were being trained or evaluated. He did not remember an Execuflight pilot having a training or evaluation difficulty. In general, if an individual had a problem, it had to be dealt with at the individual's level, not everyone trained at the same rate. CAE gave the training they signed up for. He did not recall if he had ever busted any Hawker 700 pilot, but it may have been a few. He had busted pilots on other aircraft, but could not recall the number. He did not know if CAE monitored the bust rates of pilots.

As TCE, when a ride was completed, he had to send in a PTRS entry to the POI. As far as if the FAA were maintaining a bust rates, he did not know.

When asked if any Execuflight pilots exhibited language difficulties, he said that everybody that had come to CAE were usually very good since they held an English proficient on their certificate. Sometimes in general, when foreign pilots came in, there were times when they had problems with sentences, but not aviation terminology. If he saw a need to raise a concern about a pilot's English proficiency, he would raise that with the FAA. If there were two pilots having difficulty communicating with each other because of their languages, they would separate them and provide seat support. He did not recall that being the case with any Execuflight pilots.

Execuflight non-precision profiles mirrored CAE's profiles. On day one of recurrent (S15) training, they got 2 precision approaches, 2 non-precision approaches, and a visual no flap approach time permitting. One would be a GPS approach and one a VOR circling approach. He used several airports during training, most likely the evaluation ride was at JFK. Others during training were JFK, LGA, PHK, TUS, SFO, and DEN. It would varied.

For teaching a non-precision approach, he said that speed was important. It was 180-200 knots for profile coming toward the airport. At the initial approach fix or on radar vectors, it was imperative to know the weather, whether they were Part 91 or 135. The pilots had to communicate between each other, the right seat pilot, who was the PM, was going to set up the approach, then verbally brief the approach. He would then transfer control to the PF (pilot flying), and then he could look at the approach plate, frequency, minimums, etc. They both needed to understand what the minimums were.

When being vectored in, they would maintain 200 knots, flaps 15 Vref+25 for a Category C approach. At the final approach fix, it would be gear down, flaps 25 Vref+20. From the final approach fix to the MDA (minimum descent altitude), he looked for a descent rate of not more than 1200 fpm per the AFM (airplane flight manual), and was essentially a dive and drive approach. The approach needed to be stabilized. When asked if they trained CAE's stabilized approach criteria or the company's, he said basically both were the same. Stabilized approach meant the power was set, either by fuel flow or N1. If on speed up to the final approach fix, the aircraft would decelerate to the appropriate speed.

To determine the MDA on a non-precision approach, the primary means was the barometric altimeter. They did have a radar altimeter that the pilot could use. He always taught to use the barometric altimeter to the msl (mean sea level) altitude for determining MDA, not the agl (above ground level) altitude, and the radar altimeter was only a tool. The radar altitude was not required, but a tool, on non-precision approaches. Some airplanes may or may not have a bug on the altimeter, and he was not sure about the CAE simulator.

CAE used Jeppesen charts. For the LOC25 approach to KAKR, the MDA would be 1540 feet. The airplane may or may not have a bug on the altimeter. The radar altimeter comes up with a "DH" light. PF should be being briefed on the altitude callouts, and the callouts were based on the barometric altimeters. The altitude horn came on 1000 feet prior or deviations of 300 feet from the selected altitude.

Pilots do both coupled and hand flown for precision and on non-precision and they were evaluated on both conditions. He could not recall if Execuflight pilots preferred hand flying or autopilot. Generally, pilots were going to let the autopilot fly the approach.

Thrust settings were more of a technique, but he left the power management up to the pilot. If the pilot was new, they would use what would help the most. Most pilots used fuel flow and/or N1 to set thrust.

The airplane should be configured crossing the FAF (final approach fix) with gear down flaps 25, Vref plus 20 down to MDA. Some operators will do flaps 15 Vref plus 25. Flaps 45 was selected when landing was assured. Calls for flaps 45 was dependent upon the conditions. Landing assured was based on visibility and runway conditions, in his opinion. There was no set definition for "landing assured." When asked if a pilot could consider "landing assured" from 5000 feet on an approach in visual conditions, he said no he would not. He said he would question configuring the airplane at 5000, but it could be called landing assured.

There was no condition in normal operations where a pilot would be gear down, flaps 45 and in level flight. They might experience that in training during approaches to stalls, but that was only for stall training. Flaps 45 was very aerodynamically dirty, and in a go-around with a flap asymmetry, the airplane could be beyond its capabilities.

They just started training for CDFA. It was relatively new, and for something like an LNAV approach, it would be a dive/drive, but if you had a choice, it would be better to do a constant angle descent. They trained both methods, constant descent and dive and drive. If you did a dive and drive, like in the NY area, you might get an erroneous alert from EGPWS. There was no real ground school course that taught CDFA. It was taught as an alternative in the simulator. When shown the KAKR LOC25 approach plate and asked if a CDFA could be conducted, he said "not likely" because of the angle to the MDA.

When asked what standard he used to evaluate CRM, he said he was looking for a professional transfer of information, and determining who had positive control of the airplane; complete communication. He said CRM was the professional transfer of information.

He had not been trained in CRM, and said he "picked it up the day I started flying." CAE did CRM training as part of their annual training. He had never seen any hostility between Execuflight crewmembers.

On the non-precision approach to KAKR, going to a 1540 feet MDA, he would select 1600 feet on the altitude selector, bug 1540 on the barometric altimeter, and back it up with the radar altimeter. If the pilot wanted, he could use the pitch sync feature to fly from the 1600 feet down to the 1540 MDA.

Some operators do not want to have more than one or two check airmen from a training center as approved check airman. He said he or one of the other check airmen would do the S8 check.

He believed the Execuflight pilots used EFBs, but did not remember.

On a non-precision approach, he would expect a pilot to go missed approach if they lost situational awareness, there was an abnormality with the airplane, a loss of communications with ATC, or unexpected weather. He said +/- 5 degrees lateral deviation was the PTS standards that would require a missed approach. They definitely trained missed approaches, including from further out on the approach. He could not remember if he trained Execuflight pilots on missed approaches early in the approach.

He wanted to instill professionalism during a pilots training, but after they left training he had no control over the pilot.

Interview concluded at 0953.

6.0 Interviewee: Jerry Tewalt, CAE Simuflite Hawker Instructor

Date/Time: January 20, 2016; 1150 CST
Location: CAE Simuflite, DFW
Present: David Lawrence, Shawn Etcher, Jim Silliman – National Transportation Safety Board (NTSB); Donnie Shackleford – Execuflight; John Drago – Federal Aviation Administration (FAA).
Representative: Richard R. Shiarella, CAE

During the interview, Mr. Tewalt stated the following:

His name was Jerome Charles Tewalt, and he was 75 years old. His current title was instructor on the Hawker 700, 800 and 800XP simulator. He got out of the service in 1965, and his first flying job was with Southern aviation flying Barons , 310's, Beech 18's. He flew Grumman Mallards, King Airs and the Hawker 700 for Texaco in 1967. He then worked for Tact Air in Arkansas flying the King Air and Hawker 700. He went to Indonesia and flew the Grumman Mallard for Air Fast, and then came to CA in 1997. He described his roles and responsibilities as training Parts 91 and 135 clients, giving type ratings and maintaining currency for pilots.

He held an ATP with type ratings on the Mallard, King Air 300, HS125 and BAE1000. He estimated his total time at 17,000 hours, and had about 300 hours in the Hawker. The last time he flew a Hawker was the 400 back in 1968, and had not flown any airplane since he was 68 years old. As instructors, they were trained and checked by the FAA twice a year, and the company also checked them. They also got "QA" observation once a year. Once a year, the company trained instructors with changes in training and regulations; a type of safety stand-down. For Part 135 instructors, they had to go through recurrent training and two check rides per year.

Following a review of the training records, he stated he was involved in the accident captain's S2 training on May 27, 2015. He also provided an 800 differences training to the accident SIC in ground school on June 9, 2005. It was not unusual to have different instructors in training since company's had only a set number of check airmen on their certificates, and it was difficult to schedule one instructor for the whole crew. CAE would like to have one instructor all the way

through, but there was no policy. The accident captain's 2nd day of training was similar to the 1st day with the addition of start malfunctions and 2 non-precision approach. He could not recall specifics, but his records indicated he "did a real good job." He could not recall anything else about the accident captain, and could not recall any language issues during training.

He was not sure how often he trained Execuflight pilots, but nothing stood out with Execuflight pilots going through initial or recurrent training. When he trained the accident pilot, it was just the accident pilot and not another Execuflight pilot. He could not recall if there was seat support with CAE or another Part 135 pilot. Normally, a CAE employee that was qualified on the Hawker would sit in the right seat. Sometime during the training period, the single trained pilot would get pilot monitoring duties from the right seat. Reviewing the records, it looked like the accident captain was trained with another Part 135 pilot. Some companies require their pilots going through initial training to receive their training in the left seat, and also get a right seat qualification.

The Execuflight procedures and callouts were identical to CAE's, and their checklists were challenge and response. He could not recall if there were any silent checklists.

For PM (pilot monitoring) training, the seat support guy may be another Part 135 guy and they would get PM training when they swapped seat. For some companies, in their TCA, it required the pilot to fly from the right for their right seat qualification.

For the KAKR LOC25, prior to the localizer they should be flaps 15, and have already briefed the approach. He would want to make sure there was someone flying the airplane during the approach. With the approach briefed, when intercepting the localizer, the PM would acknowledge when on the localizer. At least a few miles from the FAF, they would go gear down, flaps 25, Vref +20. When inbound to the final approach fix, they should be at 2300 feet [msl]. At the final approach fix, they would start their descent. They had callouts at 1000 feet above minimums, and then 500, 200 and 100 above minimums. The PF (pilot flying) would call visual and the PM would continue to monitor the instruments. During the approach the PM looked for the airport environment. Once visual, PF would go visual and PM will stay on the instruments. Once landing was assured they would go flaps 45. Landing assured could mean different things to different people. On a visual and on the VASI [Visual Approach Slope Indicator], they would go flaps 45. There was no definitive definition of landing assured. They trained that once you broke out and were on the VASI, the pilot went to flaps 45. Landing assured meant based on the conditions, they could make a normal flaps 45 landing.

CAE trained stable approach criteria. Stable approach was within 10 knots, rate of descent was no more than 1000 feet, and maybe heading aligned. They had to be within a “box.” For instance, on an ILS approach, it must be within the first dot, vertical less than 1000 feet per minute descent and 10 degrees of heading.

They did not train for level flight and flaps 45 degrees. He had never had a client request it on a TCA. He had flown it in the simulator with flaps 45 but not as a training event. There was no reason to fly like that due to the drag and if the engine failed, it could become a bad accident.

The pilot would never be exposed to flaps 45, level with the gear down. If they asked for that, they could always demonstrate it, but he had never seen that. It was not something you would like people to do. With full flaps and low to the ground, if an engine quit, at full flaps you were setting yourself up for the airplane to not fly well.

He stated that they did not train CDFA enough, and there was no ground school for it. It had been brought up before. He could not recall seeing in a TCA for CDFA to be trained on non-precision approaches. Pilots were taught dive and drive for non-precision approaches, including the KAKR approach. It had been brought up over the years, but no guidance had been established. There was no extra time to do extra training during training sessions with all that was required by the POI [FAA Principal Operations Inspector].

CAE had a CRM card given to instructors on the first day of training. CRM was talked about the entire time during training. He evaluated the CRM of the pilots. It taught people how to resolve conflict and utilizing the crew for problem solving. CRM dictated how well a crew did in the simulator. CAE offered a one or two day course for clients, but he was not sure what was offered. He had a class for instructors on CRM when he first was hired in 1997. He went to a CRM class put out by United Airlines, and taught people how to resolve conflict in a healthy way, and working as a team. When asked what standard he was using to evaluate CRM, he said he watched during training the crew interaction and how they transferred control and made their callouts. CRM evaluation was subjective. He did not know of any literature that was available to assist in evaluating students on CRM.

Differences training utilized the 700 systems to show how they related to the 800 system. Some systems, like the fire warning system, were totally identical. One of the differences were in the ice protection and flight controls. Performance charts were the same for the 700 and 800, and they reviewed those with the pilots, along with the differences. They also reviewed the immediate action items in both manuals. If they knew the avionics the pilot's airplane had, they could review those systems.

Training was assigned by the schedulers, and there were multiple reasons how they matched instructors to clients. It was difficult for a client to request a specific instructor .

On check rides there were two non-precision approaches, and one had to be hand flown and the other flown with the autopilot. He said he saw more people using the automation on non-precision approaches, and people not flying manually as much possibly because of poorer flying skills. Normally, these type of non-precision approaches would be flown on the autopilot by the pilot.

He could not recall seeing Execuflight officials observe their pilots in training, but other instructors may have seen them. He had seen that with other companies. The POIs did come in and check the ground school on random checks.

Fuel flow was the primary means for setting power to get to a specific speed. Some instructors taught using the N1 power settings, but most taught using the fuel flows. With a specific fuel flow, you could configure the airplane on the profile and it would slow to the proper speed

without ever having to change the power setting. For instance on the LOC25, gear down with flaps 25, Vref+20, 900# of fuel flow would give the pilot a speed of 145 knots.

They recommended using the flight director on hand flown approaches. For a dive and drive approach, they used the pitch knob to guide the descent to 3 degrees, 500# of fuel flow at flaps 25. That would give them 700-1000 fpm descent. A descent of 1000 fpm was sufficient for a non-precision approach.

Generally, most students have difficulties with non-precision approaches compared to precision approaches.

Interview concluded at 1259.

7.0 Interviewee: James Ralph Piccoli, FAA Principal Operations Inspector (POI)

Date and Time: February 11, 2016 1008 EST
Location: via teleconference
Present: David Lawrence, Shawn Etcher – National Transportation Safety Board (NTSB); Matt Rigsby, John Drago – Federal Aviation Administration (FAA); Rich Recker – Textron Aviation

Mr. Piccoli was represented by Brooke Lewis – Litigation & General Law Division for the FAA by teleconference.
8.0 During the interview, Mr. Piccoli stated the following:

His name was James R. Piccoli, and he was 75 years of age.

He was an Aviation Safety Inspector and POI and took care of Part 135, 141, and 137 groups.

He started flying in 1986 and obtained his private pilot license with the Navy when he was based in San Diego. He was a banking assistant for the Federal Reserve, obtained his CFI (flight instructor certificate), and worked for a few years as a CFI. He then worked for a scheduled commuter out of Washington Dulles and held several corporate jobs flying the Citation and Lear jets in 1968.. He applied with FAA in 1985, and came to the Miami FSDO (flight standards district office) in 1986, and then moved to the Ft. Lauderdale FSDO. In 1990 he became an operation supervisor and dealt with the Part 135 operators. He has been a principal operation inspector (POI) for about 30 years in the Miami and Ft. Lauderdale area, and during that time he spent time as a supervisor. He had about 32 years within the Federal Service.

He had been Principal Operations Inspector (POI) for Execuflight since May 24, 2004 when he first certified the operator; there was also a change in 2008 which may have been an address change. There have been various management personnel changes at the FAA, and about 4 to 5 years ago the FSDO rearranged certificates, and he was able to retain Execuflight.

He was current on the Lear 35, however, his currency ran out in November 2015 and he did not have a class date for retraining. When he received his class date he will go back to school. He had not flown the Hawker as a pilot in command, but had ridden along as a friend.

The structure at the FSDO included a front line manager, assistant manager, and a manager. He had an assistant until about 2-3 months ago who was assigned to him for about a year. Prior to that assistant, he had been assigned another inspector for about 2 years. He had several temporary assistances for about 3-5 month details. Currently he did not have an assistant nor had one for about 4-6 months.

He currently oversaw 16 certificates; 14 of those certificates belonged to Part 135 operators, 1 of the certificates was for a Part 141 ground school only, and 1of the certificates was for a Part 137 [agricultural aircraft] operator.

His roles and responsibilities were primarily certificate manager. He also took care of "customers" at the front desk when they made an appointment, and was assigned to front desk duty every month, which included fielding phone calls that came into the office. He had done flight checks in the Lear 35 when able but did not conduct multiengine or turbo propeller flight checks, and he did "a lot" of 135.293 Part 135 orals and 135.299 line checks for his operators.

When conducting orals and line checks he utilized his computer, FAA Order 8900.1, 8700, as well as advisory circulars and notices, as some of the items he uses to do his job. All of those items he retained on his computer.

His workload was "very busy" with about 3 or 4 operators that he managed their certificate for, ones that flew around the world, some with Gulfstream III, Lear Jets, Hawkers as well as other various aircraft. He kept very busy when a company bought airplanes. He had a couple of check airman that he also oversaw. The operators that he oversaw would like to have 3 or 4 check airman, in case some of the check airman were unavailable at any given time.

He felt the most challenging aspect in working for the FAA was dealing with the politics, and he had no desire to retire anytime.

When conducting surveillance activities he was required to do the "R" and "P" items. He now conducted surveillance via the SAS (Safety Assurance System) program, and periodically conducted line and ramp checks. He conducted ramp checks where ever he could, and "samples" flight manifest and training records. He got to Execuflight maybe 4 to 5 times a year. The chief pilot at Execuflight did line checks in the Hawker and G-III, and was one of his check airman.

The day of the Execuflight accident, the owner contacted him at home shortly after the accident occurred. He had a standing request with operators to call him if there is a problem 24/7, especially if it would make the news. When the owner of Execuflight contacted him about the accident, he ordered the operator to obtain everything about the flight and pilots, and to secure it as he would be there to look it over. He went there the Monday after the accident to gather the records, and had been to Execuflight about 2-3 times since the accident. He could not recall when he was there prior to the accident. However, he was over there in September or October

finishing up the "R" items for whatever was needed for the year end close out which ended September.

He was not required to do enroute inspections, as that would put him in a precarious position if he was stuck. He did do line checks. He felt that it could be a bad situation with the passengers if he is on board for the flight as the customer for the operator might feel there was something wrong with that particular operator since the FAA was on board. He did not conduct enroute checks with any of his Part 135 operators.

He considered Execuflight a very good operator, and only dealt with the operations portion, if there is a question for maintenance, he will pass the question to the maintenance inspector. They have had a few pilot deviations, but nothing more than altitude busts. Execuflight had not had any pilot certificate revocations. The operator "gets done" whatever he asked with no problems.

Currently the director of operations (DO) was the owner of the company. Execuflight attempted to get someone other than the owner, and they had a few that had potential. However, one of the potential candidates did not have an ATP and another was just not what Execuflight felt was needed. The owner met the requirement, so he had to make the owner the DO. He was approved a couple of months ago, but he was not sure of the date. The owner was not the DO at the time of the accident. At the time of the accident, Execuflight was in the process of trying to find someone, and the Chief Pilot temporarily took over some of the duties in the process and did an "excellent" job. He felt the Chief Pilot did a good job. He had revised the Execuflight Ops Spec section A006 on January 16, 2016, and the previous A006 dated October 19, 2009 listed the previous DO.

When Execuflight found out they could not get a DO, the former DO came back for a couple of more months, and then left. He was not sure of the dates. He did not believe that Execuflight had a director of safety, as it was not required under Part 135.

The FAA had not conducted extra oversight since the accident. Maintenance had been over there and they communicated with each other. He did not think they needed extra oversight as the planes were gone and “what is there to see.” He did not feel it was necessary.

He did not know if Execuflight was implementing any SMS or safety program as he was not "in the loop" on that. He could not recall if the former director of operations had indicated they were going to implement any SMS. Execuflight sent their pilots to a Part 142 school at a tremendous cost. The owner and chief pilot screened their pilots very well. They spent a lot of money on their pilots. They had a reasonable turnover. He heard that safety was an important part of their culture. They did not cut any corners. They were very responsive to the FAA if there were any changes. He was not sure if they had any FOQA, ASAP, or other safety programs. He had not been asked by the owner to begin any type of safety program. He did not think there was a program for the pilots to communicate concerns to management, and they just brought it up with the owner and "work it out."

He saw Execuflight pilots during line checks. Most of their pilots did their trips and then went home. If he happened to see them, they just talked a little. He only heard things when someone

was fired or quit. Since it was part of the record, they investigated the complaint. Of the 4 or 5 he had received, there was no evidence to substantiate the complaint.

The only relation with the accident pilots he had was during their 135.293 orals and that was the only time he interacted with both pilots, which occurred in June and July of 2015.

When asked about his review of PRIA records, he said regulations required management to keep certain types of records. He looked at the records, with the first being where the pilot had been, certificates, medical, resume, and then he looked at the pilots training records, as well as what the pilot is going to be assigned to do for the operator. Flight check records as well as PRIA records were at the office as it was a required item to be inspected. He was not able to recall who either of the pilots' previous employers were.

He believed he did look at both accident pilot PRIA records, and felt they were completed. They were required to have 5 years of experience in the records. If Part 135, he looked to see who they worked for, and if they had been flying for the 5 years. He could not recall specifics on the accident pilots, and believed all the checks were there. He used his own checklist to capture what was required, although it was not an official checklist.

He could not recall if the accident co-pilot had been terminated from previous employment, and could not recall seeing any substandard records on the co-pilot.

If the surveillance form said Miami, then it was done at the FSDO office. Otherwise he would put FXE (Fort Lauderdale Executive Airport) if it was performed at the operator's location. A review of records was done at either Executive or Miami, whatever the form said. He did all of the orals at the FSDO. The inspection on July 30, 2015 that was conducted at FXE was probably done while he conducted an oral check ride, but he was not certain.

Could not recall the ramp check done by another inspector where the manuals were on flash drives. He did not believe he had to approve if an operator kept their manuals on the flash drive, but he did say it was ok when Execuflight asked, and he had no problem with that.

He had not had the opportunity to go to Simuflight for Execuflight training. Travel funds were normally not available, and he did not always know when the pilots went for training. He usually found out after they went through training. He had not gone in quite some time due to funding and he did not have the time to go. He used to tell operators to let him know when they sent someone, but they typically do not. He usually knew when an operator sent in the 8410. He would like to go about once a quarter, which would be hard with the amount of work he had.

He did not usually have any discussions with the evaluators (TCE) at Simuflight. Other operators would call him if a pilot was not doing well in training and that they were going to give them additional training, but he wanted to know if they busted a checkride. He had about 45 Part 142 check airmen that he oversaw, and it would be impossible to make contact with all of them. The TCEs were doing the evaluation on his behalf via their TC authorizations, and it would be impossible for him to evaluate all of the TCEs. He updated the files and reviewed them as well as the 8410's. As far as he was concerned, everyone was doing their job.

He believed Execuflight had CRM (crew resource management) requirements in their manual, but he did not have a copy in front of him. He had not had an opportunity recently, but had reviewed their CRM. He was not sure what equipment was required on board the airplane as data recording capabilities, as that would be a maintenance inspector's job to know, but he was sure it had some as the Hawker had a CVR (cockpit voice recorder).

He did not know what pilots did in normal operations since he only got to see them during their 135.299 line checks, as he was required. He was typically the inspector that did the 135.299 checks, and he would use other inspectors to provide him feedback.

He had never seen anything out of normal with their SOP's. During line checks, he usually had them fly from Ft. Lauderdale Executive to Melbourne and back. That route gave him the time to see them using their checklists and complying with their SOPs.

He was very responsive to change with Execuflight. He had a current request for EFB's (electronic flight bags) for Execuflight, and was very happy with EFB's. His gut had to be happy before he approved. Execuflight had submitted the request "awhile back," but it "fell through the cracks" and was not approved. The request was resubmitted about 3 to 4 weeks ago. He felt that EFB's were an excellent idea.

He felt that their FSDO office was the largest in the FAA system and they had about 130 people in the office. They had hired about 6 to 10 inspectors in operations and maintenance, and the office was continually hiring new people. He felt that everyone in the office worked well together. He stated that management was better than ever. He further stated that they always needed more staffing, but it typically took about three years to get someone up to speed. He had trained many inspectors, and liked to think he did it the "right way."

He stated that his normal work day was 0630 to 1500. He did not have to put in for compensatory time very often, but should he need to work late to finish something his supervisor would approve it. He did not have to work late often. He felt that from an operations position, Execuflight was adequately staffed.

He did not have regularly scheduled meetings with the operator. He would classify the owner of Execuflight as a "thinker" and always was looking for ways to improve or change things. If the owner of Execuflight had something he wanted to discuss with him as the POI, the owner would call and schedule a meeting and come in. He felt he had a good relationship with the owner and he made time to talk with him frequently.

A Part 135.293 checkride oral typically would take between 2 and 2 ½ hours for a brand new pilot, and a recurrent oral checkride might take 2 hours since the pilots always seemed to have something on their mind that they wanted to talk about. He had a set procedure and always checked the requirements as well as the "good to know" areas. If a pilot had a deficiency that may not be a requirement he would give them "homework" to do in order to learn from it as well as notify the owner. He would follow up with the pilot. Execuflight had a few pilots who failed an oral. He could not recall when that occurred last, but usually it was because the pilot was not

well prepared for the checkride. He stated that it may have been 1 or 2 pilots but he was not sure. He reported that he had not failed any Execuflight pilots during a line check, but another inspector had failed 1 or 2 pilots. He rechecked the pilots and, although he could not recall specifics, he thought it was a long time ago and felt they did a good job.

He monitored Execuflight's pass rate as the Part 142 schools had to submit a pass/fail rate once a year, and it usually was due by the end of the year. There were not a lot of failures as the school trained to proficiency. Every once in a while there might be an event, but they trained to proficiency. He stated it's "a money thing."

Execuflight had terminated pilots in the past but he could not recall nor was it his business to know why they were terminated. He felt that the owner ran the company and that decision was the owner's. He usually found out that a pilot was terminated when there is a "whistle blower call" and he had to look into allegations that were made which he had found was usually a disgruntled pilot, and the complaints had no substantiation. The operator could notify him when a pilot was terminated but usually it had been for "bad attitudes."

He evaluated the Execuflight's pilots CRM while conducting their 135.299 checkrides. He had not audited Execuflight's CRM course as he usually did not know when it occurred until after it had happened. If an operator would notify him when training was to occur, he might be able to audit the class.

The FAA used to send him to Oklahoma City for a CRM recurrent course in which they would get training and evaluated in a training device by an instructor on their ability to conduct CRM. He had not been to this training in a while. He was preparing to present at a single pilot CRM course that was coming up.

If an Execuflight pilot had a deviation or violation, he got the 8020-17 report as well as ATQA (Air Traffic Quality Assurance) from the ATC division and he would investigate it. He had never taken any certificate action against Execuflight pilots.

The FAA used to have 26 certificates per inspector and now they had 14-20 certificates per inspector. The Part 135.293 check was every 24 calendar months which included weight and balance, thunderstorms, etc. He gave it as an oral as he did not like written tests and could not stand taking them himself. He asked for the pilot to conduct the operator's weight and balance rather via a computer program if approved or scenario based. He did not have the accident pilots do a weight and balance, he just had them talk through the steps of how to do one. During a line flight check he had them do a Part 135 weight and balance as if he was a paying customer, looked it over and made sure it was correct. He could not recall if he even did it as he would have to look at the 8410. There was nothing that stood out in his mind about the accident pilots.

Following a checkride he documented the outcome if satisfactory in PTRS (Program Tracking and Reporting Subsystem) and sometimes would make a comment such as a good use of checklist, etc. He has not had any busts on a Part 135.299 line check.

He had never had the opportunity to sit through training at Execuflight. Typically he took a new program and gave an initial approval. He normally said that they have to give 10 day notice of change as well as final approval. But it was not a requirement, only a request. Execuflight had not done any notification and he had not observed any of their training.

Basic Indoc was usually taught by the chief pilot, emergency training was done in house, and the Haz-mat training was in house. All of the training was done in house except what was done at the approved school.

He reviewed the audits done by Execuflight at the training center. In looking at the audits, the -800 was done in 2012 and a Gulfstream was done in 2014. The Hawker was overdue for its audit. He did not have an audit checklist on him, but there was a whole series of checks that were needed during the audit. They were usually delivered to him in paper but sometimes they were put in the computer and he would print it out, put it in the book, and changed the ops spec.

Recently he gave the chief pilot check airman authority on the Hawker and the G-III. He was authorized to do the Part 135.299 flight check portion and the ground check portion as well as the Part 135.293 (a)1 and 4-8 oral. There was nothing that stood out in the Part 135.299 checks and there was no oral on a Part 135.299 check as it was part of the Part 135.293 check. He could not recall anything that he would classify as lacking in the Execuflight training. He stated if anything, it would be "minor" things.

There was no formal risk assessment analysis for flights. Everyone was to be "in the loop" for a flight. Operational control had the chief pilot with control or the owner. The Ops Specs and GOM (general operations manual) provided the operational control. The pilots utilized their cellular phones to communicate either verbally or via text message to communicate with management. He had seen them in use and felt it worked very well.

A terminated pilot would typically file a "whistleblower complaint." He would talk with the pilot and ask what they did about the complaint. He saw it a lot from all of his operators with terminated pilots. There was one complaint where the pilot needed more rest but he could not find any evidence that he did not have enough opportunity for rest before the flight as well as after the flight. He felt it was insufficient evidence to prove the allegation but has not heard from the office that handled all of the whistle blower complaints. However, he usually never got a response.

There was no problem with the pilots understanding of the English language and both accident pilots spoke fluent English, and he could understand them clearly.

He loved his job except for the politics that he had to deal with, and felt he made enough money. He wished they did not have as much work to do. Everyone in the FSDO had too much work to do, and the work just never stopped. They had to figure out SAS for Part 135 operators, and he felt everyone was having problems with SAS.

The biggest challenge was to get 135 operators to understand what was required of them. All of their operators just wanted to fly airplanes. There was a high turn around in South Florida with

pilots moving from one operator to another. He would like to see the complexity of assignments for inspectors to be redone, as it would help everyone. For smaller operators, he felt they did not like to do a lot of training. He would get a pilot who just got hired by a small operator and there was nothing done by the pilot or operator to prepare for the recurrent flight check.

In general he felt Execuflight did a pretty good job. He just could not understand how this accident happened. He felt that the owner and pilots were concerned about this accident, as the pilot was very conscientious and a resource inspector checked that they passed and did a "good job." He also felt that the owner was concerned for the families.

The interview concluded at 1155.