



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

December 29, 2016

Attachment 4 – Eastern Air Lines Employee Interview Summaries

OPERATIONAL/ HUMAN FACTORS

DCA17IA020

Interviewee: Terry Clyde Austin – Former Director of Safety, Eastern Air Lines

Represented by: (waived)

Date: November 14, 2016

Present: Sathya Silva, Shawn Etcher – NTSB; Robert Hendrickson - FAA

Time: 1002 Eastern Standard Time (EST)

During the interview, Mr. Austin stated the following:

He began flying as a civilian pilot and flight instructor. He served in the army as a helicopter, fixed wing pilot, and flew a variety of twin-engine aircraft. In the army, he flew an OV-1 Mohawk and a Dash 7. He then worked for the FAA for 8 years. He was recalled into active duty and flew the R7, a mission modified De Havilland Dash 7 aircraft. When he retired from active duty, he went back to the FAA, followed by working for several airlines flying the B747 and the CRJ. In 2007, he joined the FAA and finished his career there. He has type ratings in the SA-227, Learjet, DHC-7, B727, and B747. He had approximately 11,000 total hours of flight experience. In the FAA, he worked in the AFS-900 Office as a certification inspector until 2013. He took 6 months off, and then joined Eastern as their Director of Safety and Security. He was there until September 2016 when he left the company at the advice of his physician. He then joined a Part 135 startup company as the Chief Operating Officer. He said he does not have any flight time in the B737 aircraft. He is currently serving Eastern Air Lines as an advisor.

His responsibilities as Director of Safety included creating their safety management system (SMS) program, developing safety programs and the associated automation process, performing audits, and reporting to management on safety. He also was chair of the safety review committee and the safety action group. He administered 14 Code of Federal Regulations Part 5 and drafted an implementation plan. He stated that the implementation plan was approved in February of 2015. He was in the process of administering the plan and developing a program called ARMS)¹ when he left the company. He said that the program was being developed by a company in Mumbai, India. The program is designed to help with safety risk assessment, assurance, and risk management. He said that the program was not fully functional when he departed Eastern Air Lines. He clarified that development of the implementation plan for the SMS program occurred between September of 2015 and January of 2016. He clarified that the implementation plan was approved by the FAA in February of 2016. He stated that the first segment of the implementation was not fully realized and they were still working on training towards a deadline of October 30, 2016. He said that he knows that the manual revisions were “submitted to ARMS” on October 31st.

He said he also serves currently as an advisor to the current Director of Safety. He had advised the Chief Executive Officer (CEO) that his replacement does not need experience with aviation. The CEO filled the position and hired Greg Syvertson in mid-September. Austin trained him for 10 days and stated that training has been ongoing since he left. He speaks to him every week, sometimes 2-3 times per week. He said that Syvertson was grasping the concept.

¹ Aviation Resource Management System

As director of safety, Austin reported to the CEO, Ed Wegel. The week he left, Jim Tolzien became CEO. Ed Wegel was listed as the accountable representative under requirements for Part 5.

In addition to responsibilities as Director of Safety, he worked on filings for new airports internationally and domestically, such as Houston, Los Angeles, New York City, and Georgetown, Guyana. He also worked on filing state and country documents and obtaining status as an international foreign carrier into those countries. He said that up until May of 2015, he did a lot of these other tasks. In December/January, he focused on his safety related tasks and launching into ARMS. The bulk of his work was regarding ARMS and specifying the programing. He described ARMS as an automatic aid for SMS. It aids in reporting, auditing, collecting FOQA data, implementing safety assurance, and safety quality management. He said that when it's fully functional it will unite the operations control center (OCC) and the safety department at Eastern in the common areas. For example, if there was a noncompliance, the system could transport the flight information to the safety department.

He said that he was the only employee in the safety department. He stated he tried multiple times to get more people hired to help him, but that never came into fruition. He said that was one of his ongoing battles with the CEO and felt that the CEO would only spend money on what he thought was necessary and safety "was not absolutely necessary."

He said that the OCC complained about how their current automatic systems were not sufficient. Eastern was the launch customer for ARMS in the United States. So originally, ARMS was discussed for the OCC, then the safety department came into the discussions and he contacted the developers of ARMS to discuss capability and expandability of the program. He said that the CEO was not vehement about the program, but since operations already had the approval, he pressed on with the safety aspect of the program with no objection from the CEO.

He said that the company's primary investor was Vinnie Viola, a West Point graduate and owner of the Florida Panthers hockey team. He said that he owns 81% stock and there are other investors. He has interacted with Viola a few times in a social environment. He said that he has interacted with the chairmen on the board of directors in a business capacity. When asked if he's ever seen them putting pressure on the company, he said that at the end of his tenure he's heard questions from the board about company financials. He said that they put in a certain amount of money, lets the process run its course, but is now starting to expect a return on investment now that the company is operational. He speculated that it may have something to do with why Mr. Wegel left the company but he does not know.

He said that he was not involved with pilot hiring. He tried, as Director of Safety, numerous times to become involved, however was met with reluctance. He said there was a fundamental difference in opinion and culture. He said he couldn't get any horsepower behind him to get involved. When asked why he felt that the Director of Safety should be involved, he said that there's a cultural aspect of how employees feel about reporting and safety oversight. He said that in a lot of airlines, he feels that safety is an impediment to business. He said he's not saying that that was the attitude at Eastern, but it might have existed here. He felt as if the Director of Safety

position was forced upon the company by the requirement for Part 5. He didn't get the impression that the CEO thought it was a necessary position like the Director of Maintenance and the Director of Operations. He said that it's not going to work unless there is full buy in by the CEO and the corresponding acceptance that it will cost money to build safety into the organization. He said the best program he's had experience with was at American International Airways which had 68 airplanes. He had 6 people in the safety department and safety interacted with every part of the company. At Eastern, he said there is support for safety but doesn't feel like there is enough money. He tried frequently to request more money for the safety department from the CEO, however, it fell short. He said that those discussions always resulted in an argument. He said that they need a long term solution. He felt that the CEO didn't refuse, he just wasn't financially disposed to make it happen.

He said that the VP of operations (Juan Nunez), former VP of operations (John Furneaux), and VP of regulatory compliance (Alan Brandon) were the three people involved with hiring pilots. He said that they primarily looked for pilots who hold a type rating for the B737, however they started being required to type people in the aircraft. He said he's not aware of the other criteria for hiring as he was not part of the process.

When asked about the pay and working conditions at Eastern, he said that they lost a lot of people initially to that. He said that pay for the lower level departments wasn't great but wasn't terrible. He said, at the beginning, the working conditions were "brutal," constituted by 12-15 hour days and months without days off. He said that circumstances have changed since then. By the time that he left, things were getting better. He said he had "divorced" himself from the political aspects once he gave notice that he was leaving. He left the company because he "had to reduce stress." When asked what specifically contributed to the stress, he said that it was the "constant fighting with the boss." He said that it comes with the turf and that there was never an operation where he would not have to interface with management. He said that sometimes the decisions of management were not in the best interest of safety. He said that he may not have been effective enough at fighting for it. He said he didn't feel he was at the point where he could make the change as a mid-level director instead of a high level director.

He was never required to brief the safety program to investors or board of directors; however, there was an open ended invitation. He said that he did attend bigger events such as a tabletop demonstration for emergency response where there were underwriters for insurance and contractors, but he wasn't sure if investors were present. He wasn't sure about the appropriate level of briefings to give to investors or to the board of directors. He met with the CEO once per month. He said that that was sufficient and when it wasn't he could call an emergency Safety Review Committee (SRC) meeting for something that required immediate repairs. He would bring issues, which in his opinion, were safety issues to the committee. He said that they strive for a just culture and promote the concept of open reporting.

He said that the CEO signed a letter for safety policy stating that personnel would report safety issues. However, he said that personnel did not necessarily report and some didn't feel it was their responsibility to report issues. He said in these cases, he tried to explain to that person that if they don't report it, then management doesn't get the information. He said that when requiring

reporting, some people think that can be a tool used against them, however the system is non-punitive. He said occasionally people had this concern, but it was not often. He said that eventually he got the message across. He was also tasked with oversight of security and that he had a good security manager he worked with. He said that the bottom line was that the safety procedures had to be viable. He said he had not known of any cases of punitive repercussions for reporting and that he stressed that a non-punitive system should be maintained at all costs. He said that he couldn't help any department consequences (maintenance and operations department). He thought they should have an oversight department; however, they did not have one at Eastern.

He said that Eastern does have a fatigue risk management (FRM) program, and he has not heard of a report of fatigue at his time there. He believes that the operations tempo is not much and wouldn't be involved so much with fatigue. When asked if they have any fatigue or pilot commuting policies, he said that Ed Wegel, the former CEO, required that everyone had a Miami address because he didn't want people commuting. He did say some pilots decided to leave the company because of this policy.

He stated Eastern does have a sterile cockpit policy in place from 10,000 feet to the ground, on taxiway, and when the aircraft is moving under its own power. He said that the captain usually acknowledges when the aircraft has passed 10,000 feet altitude.

Eastern has a crew resource management (CRM) program that is taught to pilots, cabin crew, and he believes to the OCC. The CRM training consists of a powerpoint presentation with discussion, and videos created by contracted training organizations. He said that these training organizations also created videos used in their FRM program.

He said that safety issue reporting was described in the first chapter of the manuals. He said that in these documents it highlights that you can report an issue using the hotline, face to face, emails, irregularity or occurrence report, or informally. He said the ultimate goal was to use ARMS. He said reports come directly to the safety department, but he has had to reclaim reports from other departments a few times. He stated that a report can be submitted anonymously and that a report consists of a narrative of what took place. Once the safety department receives reports, they would cycle through them. Some of them would be simple such as wheelchairs being late in being brought to the aircraft, and he would send those to the respective department. For safety issues, they would be elevated to the management of the specific department who would be provided with an action item and corrective action plan. Management would find the root cause and find a way to fix it, such as issuing a bulletin. He said that the safety department would follow up on cases. The corrective action plan also included deadlines. He said that sometimes they get close to the deadlines without action and the safety department has to follow up, but he said that's, normal given everything that the departments have going on. These deadlines are determined based on the risk assessment. Some deadlines are 30 days, 15 days, or 120 days, which was based on the severity of the issue. He said that safety reports came in from time to time, not frequently. The last report that came in was in March and the operations tempo had declined since then as well.

When asked to describe the safety culture he said that they strive for a just culture. He said that that's not fully accomplished, but they try and stress open reporting. He said that they need participation, but that has been lacking. He further clarified that the culture was "around a just culture," but not fully implemented because of participation.

When asked what are common safety issues that came up, he listed issues with non English-speaking marshalers, delays due to loading and the constant attention that needed to be paid to overloading, and inefficiency in some stations related to passenger handling. He said that he sometimes also got flight release problems. He said most of these were administrative. During his time at Eastern, he did not recall anything leading to an event similar to the incident.

Most of the safety training was done by other departments as he did not have the staff to do it. He said he spent the first 18 months on the job doing a myriad of other things.

When asked if safety issues are communicated to the company, he said that he issues bulletins in emails to all Eastern employees. Sometimes, he works directly through the departments such as with issues of non-compliance. He described an instance where a crew allowed a reporter into the jumpseat without Eastern approval or FAA approval.

When asked if anything had been done in response to the incident at Eastern he said that he voiced his opinions to the acting director of safety, Brandon. He's not sure if anything has been done. He said that the next steps included doing a post-accident evaluation and taking a look into training programs. He said that the original opinions voiced to Brandon related to drug testing and finding reliable resources for drug testing and making sure that everyone provided written statements. He said that he had received the written statements from the crew.

Eastern had had one previous incident in the past, which occurred in March 2016, in Philadelphia. He said it was related to marshalling. The flight was on an open ramp being marshalled at an FBO and a wingtip made contact with a light post. They had to replace the wingtip. He could not recall if any safety issues were addressed in response to the incident. He said that he did remember that it involved a "reasonable right to rely" on marshals and said that they did complete a post-incident evaluation.

When asked if there was any advice he would have given regarding the procedures during this incident, he said that they handled it about as well as they could. The crew followed instructions of the company and the NTSB. He was called the night of the event which he considered to be a good decision. The company personnel had been trained in emergency response.

Revisiting the conversation regarding how other management interfaces with the pilots and he doesn't do much training as Director of Safety, he said that he didn't have the time or staff to do the training. He would do the training if he was asked to assist. The briefings he would train were responsibilities with SMS and reporting. The safety training was available from the beginning of the pilot training when hired.

When asked what kinds of issues were brought up, he said that there was an event in flight where a flight attendant failed to disarm the door and tried to open it. They kept a record of training in that case.

When asked how receptive pilots were to his training, he said that he felt that pilots regarded it as “just another training to go to.” The flight attendants were more responsive to their training and he said it may have been because they were new to the industry.

He stated that they didn’t have the opportunity to look at any FOQA data when he was at Eastern. He said that it was under development with ARMS as they had transmitted to India, but it wasn’t fully initiated. He had followed up in mid-September to discuss why it hadn’t been accomplished.

Austin was asked to describe ARMS capability. He said that when its fully functional, an individual employee would be able to submit a report electronically. The report would be sent to a database. The safety department would be alerted. He said that this would avoid the paper hassle as well as expedite the process as sometimes reports can come in a week or two after the event. The event would then be sent to the management who holds responsibility. ARMS also provides capability for trend analysis. It would be easy to pull the FOQA data, look for exceedances on a certain aircraft for example, and make sure it was functioning as it should. The system also provided the capability to issue audits electronically. He would select who gets audited and provide a time frame for completion. That person automatically gets the notification. They are provided with a Safety Assurance System paper copy. They can submit it electronically to complete the audit. The safety department had the capability to send it back if necessary. ARMS also has a component for submission of safety risk assessment program. It provided the interface to aid in decision of mitigation. It also allowed for implementation of key management. Currently at Eastern, any type of risk mitigation was decided at a high management level. He thinks that ARMS brings in a level of professionalism and will be a great benefit to the company.

He said that when the system is operational, they will be able to see FOQA data near real time. The data comes in, sent to a server, and transmitted to ARMS where it becomes available for review. It would combine all information such as pilots, competency checks, and line checks. Eventually, the goal was that the FAA will have access to the system. The biggest goal at the moment is to get the training done so that it’s not just safety people that are capable of interfacing with the system. They still need to develop the database and incorporate a bowtie system.

He described the new Director of Safety as a sharp, young man who was in graduate school for economics. He said that the work could be like speaking Greek to normal people. He specified that Ed Wegel hired the current Director of Safety.

He elaborated that they had one airplane that was FOQA equipped. The only exceedances he could think of was a taxi at 68 knots which he wasn’t sure whether was on the runway, and 258 knot speed on climbout, but he wasn’t sure if the airspeed indicator was indicating 250 knots.

He was not aware of any go arounds being conducted at Eastern when he was there. He was not aware of what altitudes go arounds are trained at Eastern and said that it depends on the examiner or instructor. He said when he conducted training; he used to train them at different altitudes.

Regarding their dispatch system, Austin described an event in which a dispatch specialist elected to go home. He did an assessment of the OCC as nothing was done with less than 120 days before certification. The OCC was built and the person with overseeing it wanted all licensed dispatchers. Within the supplemental certificate, they were only required to have a flight following program where flight followers received training. He described that there wasn't a lot of real guidance on what training a flight follower needed, so they used 121.400 as guidance for training. That guidance was used for full domestic/flag airline training. Now, the dispatchers only go through difference training. Thus, the company always had licensed dispatchers. He stated that this was different than what the captain said during his interview.

Austin was asked to elaborate on the issue involving a reporter in the jumpseat. He said that they contacted the entire crew, confirmed that the event occurred, contacted the U.S. Secret Service to report it, and contacted the crew. The crew denied the occurrence. While the investigation was ongoing, the captain and first officer were put on restricted flying. The investigation revealed that the event did occur and the crew fessed up. He said that the captain served as the Director of Standards at the airline; he was removed from that position. They filled out a post incident report and were grounded for one month. The FAA deemed that the remedial action was sufficient. Austin attempted to file a VDRP², however it was rejected. He said that during the event, safety was not compromised. He said the captain was no longer with the company and he did not know what happened to the first officer. He said that all crewmembers at Eastern are vetted by the secret service.

He seldom interacts with the FAA POI or anyone else at the FAA.

He said that the safety review committee is handled through SMS 3.15.1-5 or 6. It involves the executive group in the company including the CEO, VP of Operations, Director of Maintenance, Chief Inspector, Chief Pilot, any subject matter experts, and the director of safety who chairs the committee, writes the minutes, and drafts an agenda. Typically, the agenda includes about 25 items including event logs. He said that as manager, he could delay the meeting by one month if he didn't feel there was enough significant information to hold the meeting. He clarified that the director of regulatory compliance (Brandon) was also part of the committee.

He said that they tried a system safety board with representation from standardization and VP of Operations. The point was to understand status of an employee during issues that arise. The former CEO, Wegel, wanted this accomplished. He said there was non-compliance with written procedures mostly and was not sure to what extent it existed. He said that the military has system safety boards that take action when they don't want to make a career change event out of an issue.

He said that he wanted to implement an ASAP program, but when he started at Eastern, everything was all paper and things were difficult to do without automation and staff. It's not an easy task and needed redaction of information. With ARMS, the forms allow for electronic

² Voluntary Disclosure Reporting Program

reporting. He said that it's still a voluntary program and he needs sufficient staff. So ASAP was a consideration, but it never made it base the initial build.

He described his relationship with the POI as "contentious at best." He didn't feel it held any bearing on the incident.

He said he's done a number of audits including for international parties. He was concerned that Eastern didn't put enough into its safety program. He said that it's a good company and there are lots of positive aspects. He wishes safety was a forefront but felt it was getting better when he left. He hopes it continues to improve.

The interview ended at 1156 EST.

Interviewee: John Norman Furneaux

Date: November 29, 2016

Location: Eastern Air Lines Conference Room B

Time: 0928 EST

Present: Shawn Etcher, Sathya Silva – NTSB, and Robert Hendrickson – Federal Aviation Administration (FAA)

Mr. Furneaux waived representation

He was 67 years old.

He has been at Eastern Air Lines since May of 2014.

He graduated from college and joined the military. He was a pilot in an F4 at MacDill Air Force Base. He then went to Germany where he flew F15s and then was an instructor in the F15 at Luke Air Force Base. After he left the military the airlines were furloughing. He subsequently was hired by Air Florida where he was employed for 3 years and became a junior captain in the Boeing 727 but never flew the airplane. He then went to People's Express and worked for them for about 3 days and was then hired at USAir where he was a pilot for 30 years. He also flew for the Vermont Air National Guard for about a year. While employed at USAir he was in the training department and was checked out as a Boeing B737 captain. He was also on the standards boards and helped develop CRM³ at USAir. He subsequently helped develop AQP⁴ at USAir. He felt AQP worked really well. He was offered to go to the Boeing 767 but elected to remain in the B737 and conduct maintenance flight after airplanes came out of overhaul. After he retired from USAir he went to Eastern Air Lines.

He described his duties as Vice President of Flight Operations as overseeing the Director of Inflight, Director of Training, ground operations, Chief Pilot, and the OCC⁵ which includes scheduling and flight following. His responsibility includes making sure everyone has what they

³ Crew Resource Management

⁴ Advanced Qualification Program

⁵ Operation Control Center

need to conduct their duties right. He stated that he could not expect people to do their jobs without the proper tools and manpower.

He was happy to work with the current CEO and that the CEO is willing to talk with him anytime; however, the CEO was not “a time waster.” He feels that the CEO is easy to get along with and if someone would make a mistake they are encouraged to discuss it. He described the former CEO as a little more “hectic” and that they had trouble with manning in the early days, as the former CEO was not willing to hire more people. They now are hiring more people.

He reports directly to the CEO.

He interacts with the FAA POI⁶ and about 5 months ago Eastern Air Lines was assigned a new POI who he classified as “really great” to work with. The POI that was previous assigned to the airline was unreasonable; however, no longer oversees Eastern Air Lines.

When asked if he was part of pilot hiring, he stated he used to sit it on the pilot hiring, but he was not required to be there so he no longer does.

Eastern Air Lines pilot hiring criteria was at least 3,000 hours of total flight time with at least 1,000 hours as a pilot in command of a turbine airplane.

He recently watched a proficient checkride in the simulator for a new hire pilot and thought that he did a “good” job.

The work environment required a captain to be on the “top of their game.” Which he described as more so than a regular scheduled air carrier pilot was required. The first year pay was \$42 per hour. Most first officers are able to upgrade to captain quickly, usually within a year, and then their pay increased to over \$100 per hour. Pilots were guaranteed 70 hours per month.

When asked about some of the feedback pilots provide, he stated it usually involves hotels or scheduling issues. He does not like to require a pilot to fly extra or extend them but felt that the Code of Federal Regulation Part 117 requirements are tough for them as a supplemental carrier. He further stated that they do get positive feedback from pilots.

He interacts with the Director of Safety and felt that they communicate well. The former Director of Safety, prior to Eastern, was part of the FAA, and was having issues with the FAA. The new Director of Safety was doing well. He usually does audits with the Director of Safety, there were always challenges but they were worked well together. He does interact with Director of Maintenance, as their offices are adjacent to each other. They work on various tasks together. The safety culture at Eastern was that he wanted everyone to “treat it like your home” and they have a reporting system for safety issues. They receive “quite a few” reports and a lot were generated by the OCC. Which he classified as maybe a couple of times a week. An example he provided was a flight into DCA and during the river visual approach the pilot touched prohibited area P56, he felt as though he could have provided more information to the crew and that “he let the pilot down”

⁶ Principal Operations Inspector

He stated that the training the pilots received was considered “satisfactory” by the former POI. The training included classroom and PowerPoint. They have moved some of the training to FTDs⁷ in order to minimize the time it takes to train something in the simulator. They have tried to obtain a balance between line operating experience and spot checks. He wants to bring on AQP but felt that that will be for another time. He was involved with the training development.

He stated that CRM training was present via PowerPoint slides. They do not have role playing as part of CRM. He felt it could be more robust and if it is not robust, they hear about it quickly. They have had some issues with crewmembers and an example was that they had a guy that made up his own rules so they tried to provide more training for that pilot by hiring CRM specialists but it did not work for the pilot.

Since the incident he has interviewed both incident pilots. They are developing some retraining for both pilots. The pilots were put on leave with pay until they have been retrained.

He reported that there had been some concerns with the first officer in the past. The first officer was involved in an incident that occurred in Philadelphia when an airplane struck a pole. Also another event occurred about a month prior to the incident in which he had left a weapon in his bag and it was detected when he went through security at an airport, the results of that event were still pending at the time of the interview.

There have been no previous issues with the captain. He recalled that when he was in the simulator he had difficulties in flaring to high since he was flying bigger airplanes.

He reported they have spent money on 2 airplanes to put in the ability to download FOQA and it will be able to stream directly into a new system they are working on called ARMS. He felt it was a great program and able to detect trends early on. They are planning on equipping all of the airplanes but they were currently under a money flow concern. They have sampled some of the data but they need more filters on it to be able to determine if an airplane was exiting the runway on a high speed taxiway or taxiing too fast. The program was still in its infancy at Eastern and they have the developers from India working with them. They were excited about using the FOQA data but they were just not there yet.

There are regular scheduled meetings between the departments to discuss issues that have occurred. The meetings occur at least once a day. He provided an example of a memo with an inspection sticker that was mounted but was installed so it could not be checked. The inspection was expired by more than a week even though the flight attendants are to check it daily and maintenance was to check it once a week.

The retraining they were considering to add emphasis to short runways and more emphasis on the briefing. Some of the changes were because the crew stated they did not look up the data they needed. They are also considering looking at doing go-arounds that are triggered by the crew making the decision. He also wants the crews to have a plan on where they are planning to be on

⁷ Flight Training Device

the ground. They were also going to implement it for all of the pilots. The captain they are going to downgrade to a first officer, in order for him to get his confidence back.

He stated they do rejected landings in training are done about 50 feet when the tower says that a truck on the runway. He wants to develop a go-around in which the plane would be at idle. He felt a rejected landing would not be done after spoilers are up or thrust reverses are deployed.

He stated that they have a “great” POI who has offered to help with them setting up the ASAP⁸ program but right now they are taking “little bites.”

They have between 35 and 65 flights every week and a couple of months ago they had about 2500 flights in their year and half in service.

Ended at 1035 EST

Interviewee: Captain Jason Rickard Frymyer

Date: November 29, 2016

Location: Eastern Air Lines Conference Room B

Time: 1042 EST

Present: Shawn Etcher, Sathya Silva – NTSB, and Robert Hendrickson – Federal Aviation Administration (FAA)

Captain Frymeyer waived representation

He was 38 years old.

He started flying at Purdue University and went to school for aviation management. He then went to work at Flight Options as a scheduler and dispatcher then became flight operations supervisor. Took a promotion with Airborne express in Pittsburgh. He then went to all ATPs in Jacksonville Florida and received all of his training. Went to Cleveland Ohio as a CFI, then went to Pinnacle for about 1 year. Went to work for Ultimate jet charters for about 4 ½ years flying the Dornier 328. Then went to Spirit Airlines flying the A320 and then about 1 year at Spirit, there was an issue with his medical that took 6 months to work out and he was forced to leave as it is a right to work state. Went to Majestic Jet flew the Lear jet, falcon 15, 900 and was a chief pilot there also. Left there about 18 months ago and came to Eastern and was hired as a first officer for 9 months. First time flying the Boeing 737 was at Eastern.

His date of hire at Eastern Air Lines was September 14, 2015.

He has about 5,000 hours of total flight time with about 800 of those hours in the Boeing 737 and about 300 hours as a Captain in the Boeing 737. He became a captain in July of 2016.

⁸ Aviation Safety Action Program

He has had experience flying with both incident pilots. Flew with the incident FO only a couple of times, the last being October 19, 2016. The flight was a standard from Miami to Havana, and there was nothing out of the ordinary on that flight. Everything was on par with the airline's standard operating procedures and they also had good weather for the flight. Could not recall who flew which leg. He normally will fly the first leg, of a trip, if he does not know the first officer. Has not had any abnormal situations with the incident first officer that he could recall. He felt the incident first officer was "open minded" and very "light hearted." He felt that the incident first officer would take criticism and he would ask captains if there was something he could do better. The first officer had not spoken up on their flight but he felt he would be a first officer that would speak up. He enjoyed flying with the first officer and had no concerns with his flying ability. The first officer did operate by the standard operating procedures, was very thorough with the paperwork, and well prepared. He considered the incident first officer's landings as standard and would give them a 7 or 8 out of 10. He classified a 10 as in the landing zone and smooth. When they flew he was in the touchdown zone and were "normal" landings. However, none of the airports they went to had short runways.

The approach briefing included the approach that they would fly into the airport and then the airport itself, lighting, obstacle, etc.

He felt the first officer's strength would be the repeatedness of his standardizations.

When they are on the road he likes to collaborate the crew together. Outside of company time he does not socialize with his crews.

Flew with incident captain a while ago. He would have been the incident captain's first officer they did not dual captain together. He would characterize him as a "by the book" individual. The captain would have been one to criticize and he felt comfortable doing so if it was necessary. Very open minded great communication. He enjoyed flying with him. They were never in an emergency or abnormal situation.

Has not heard of any complaints about either of the pilots.

He enjoys working at Eastern. He likes the challenging airports that they fly into.

Eastern could have better communication an example was being more thorough for ad hoc flights, mostly logistical such as catering, printers, etc.

Never felt pressure, from the company, to fly. They bid monthly with a "composite" line which is a hard line mixed with reserve. He bids for his days off. Feels days off are adequate and would like to see more flying when on the road. Morale is lacking at Eastern. The work conditions are "good" and the company was taking steps to improve the working condition. A step back was the push back for the approval of domestic scheduled carrier. Some individuals were concerned with the change in the CEO. The company notifies the employees by open discussions meetings or mostly just via email. The meetings were usually about the future of the company. Discussions include various items.

They recently did a part 117 meeting in detail. There would be emails sent out about various concerns.

If there was an issue with an airplane, they fly with a mechanic on board and they work with the mechanic to rectify the issue.

If there was an issue with a person they would try and discuss it; however, if they cannot resolve it he would reach out to the chief pilot.

Has not had any safety issues with passengers. He has done an MEL⁹ item.

If enroute he would take care of the emergency as the mechanic was in the jumpseat. They can contact the OCC through AIRinc. Dispatch was the first to come on the line on a phone patch.

To get a response for a concern he had about something he would have to “challenge for it” unless it was a major issue.

Training included basic indoctrination which was about 1 week in length. Then standard operating procedures, which was about 3 weeks. Then the simulator was ever other day and additional training as new programs come on board, such as OPT by Boeing. When he upgraded to captain there was discussions on how to operate the airplane and run the crew as a captain. Training in the simulator had lots of emergency training events and operations into special areas. He would rate his training as an 8 out of 10. The training in the simulator could have multiple instructors during the simulator training events.

The FAA was present for his type rating and he saw them in and out of PanAm at various times. The safety culture at Eastern he would classify as “standard” as he has seen at previous companies. The company was very “standardized.”

His favorite thing about working at Eastern is the ability to do ad hoc flying. When asked what he would change about his job was to make sure they had a strong infrastructure.

First officers have limitations on airports they can takeoff or land at, especially in regards to 100 hour or less of flight time. If the first officer has more than 100 hours of time, there was no guidance on what airports they could fly to. He considered a runway of 6,500 feet or less as a small runway. During his briefing he will also state that it would be a firm landing so he can put it on. He considered 6,500 feet as his threshold of comfort for when he will be the one flying into the airport.

He has only flown as a dual captain on maybe 3 times in a year and half, unless it was training. With two captains there was no standard on who was the pilot in command it would be just a discussion to decide at the gate.

A mechanic will typically sit in the jumpseat unless it would be on a repositioning legs. He reported he was the captain that wrote up the auto spoiler problem on the incident airplane a few days prior. When they came into an airport they armed the spoilers the light did not illuminate.

⁹ Minimum Equipment List

They referenced the quick reference handbook and looked back and noticed the circuit breaker was tripped. There was no performance penalty with the deferral. When he referenced the MEL it referred them back to a QRH and it does not change any of the checklist. They looked at the checklist on the ground very thoroughly. There was no guidance on who was to manually deploy the spoiler; however, his philosophy was that the flying pilot should manipulate the controls, unless he was asked to manipulate it for them. He could not recall if the MEL had a time frame to manually deploy the spoilers. He would assume it would be upon touchdown to deploy the spoiler. On the two legs they flew with the deferral that once they felt the touchdown they would deploy them.

He has not conducted a go-around at Eastern, except in training. He estimated that he did about 40 go arounds during training. They do “a lot” of go arounds. The procedure was a standard procedure for a go around. There were a couple of low go arounds, below 50 feet, but he could not recall if the wheels touched down. He could not recall if he was trained on a go around after they touched down.

CRM training was more of an open discussion type training, when he was first hired on. There were structured slides but he could not recall what they were. They were not trained in CRM with the cabin crew. When he upgraded to captain, there was discussion on open communication with the crewmembers. He thought recurrent CRM was just a topic to touch on and he would like to see it as an improvement. Other carriers he flew for did conduct CRM with the cabin crew and his class brought it up as an improvement.

There are a lot of new faces around the company. He did not think there was a lot of turnover, there were some turnovers within the pilot group after the change of the CEO.

He stated that he felt ASAP would be welcomed by the pilot group and would be very beneficial to the company. He thought it would help with the standardization. He felt it was nice to have standardization. He would welcome FOQA and the former Part 121 passenger carrying pilots would be very welcoming to ASAP and FOQA but he would not be sure of the former cargo pilots. He felt that pilots may think it could be punitive but they would at least be able to have their voice heard.

He is not aware of any punitive actions taken to anyone for bringing up concerns.

He stated that if a pilot was not feeling well they are to call in and let scheduling know. There have been no issues with that. He has called in sick one day since hired on. Sick time comes out of their paid time off.

He did not recall doing a rejected landing when the wheels are on the ground. He would characterize his go/no-go decision making has not been discussed within the company.

When they referenced the QRH for the spoiler issue there was no checklist. They briefed it to manually deploy the spoilers, he characterized it as a rejected takeoff event with thrust to idle then deploy spoilers.

If there was a change in the weather at a destination they would have to amend their release. He would not expect dispatch to call them.

He was not taught differences as pilot monitoring as a captain.

There is an irregularity report at Eastern but he has not reported anything via that report. He did not think it was anonymous.

Interview ended at 1156 EST

Interviewee: First Officer Oscar Cepero

Date: November 29, 2016

Location: Eastern Air Lines Conference Room B, Miami, FL

Time: 1201 EST

Present: Shawn Etcher, Sathya Silva – NTSB, and Robert Hendrickson – Federal Aviation Administration (FAA)

First Officer Cepero was represented by Mr. John Furneaux – Vice President of Flight Operations – Eastern Air Lines

He was 47 years old.

He had flown with the Cuban and Russian air force and he studied in Russia and finished in 1991. He then came to the United States as a political refugee. He flew as a flight engineer for Falcon Air Express in the Boeing 727 and then flew for Centurion Air Cargo in DC-10, and subsequently flew the MD80 for World Atlantic Airlines. He has been with Eastern Air Lines since December 1, 2015.

He had about 9,000 hours of total flight experience as a flight engineer and about 5,000 hours of total flight experience as a pilot. He was a first officer with Eastern Air Lines and Eastern was the only experience he had operating the Boeing 737. He had about 300 hours of flight time in the Boeing 737. All of this time in the B737 was as a first officer.

He had flown with the incident captain at Eastern Air Lines, and has known him since flying the DC-10 with Centurion Air Cargo. He characterized the incident captain as friendly, polite, professional, and fair. He further stated that that incident captain was always providing explanations for what he wanted to do. The most recent flight with the incident captain was about a week prior to the incident. He was to fly with the incident captain on the incident flight; however, they were rescheduled because he had family issues and needed to return home. No issues with the captain, always helping and stated “no issues at all.” The incident captain was always helping with the weight and balance.

He has had no emergency situations at Eastern but has had a hydraulic failure and engine failure in the Boeing 727. But no abnormal issues with the incident captain.

He felt the captain was one he could ask questions to and considered him a friend as he has known him for about 10 years. He stated that the incident captain was a “pleasure to fly with.” He was “very friendly” and they joked about politics. He has not flown with the incident captain often at Eastern; however, he had flown with him a lot at a previous employer. He flew to Havana and also on the campaign with the captain. He felt comfortable with asking the incident captain questions.

When asked about the captain’s proficiency as a pilot, he felt the captain was a “sharp guy” and always reading and checking. He was very detail oriented when it came to the standard operating procedures.

He felt the captain’s greatest strengths were that he was one of the finest captains he had flown with. The incident captain was one that was preferred to fly with, by first officers, at the previous employer. He felt that the incident captain flew very well and followed the procedure. When the incident captain needed to take a leg he was very polite and explained why he had made that decision. He had flown 10 hours straight with the captain in the DC-10 and reiterated that he was a pleasure to fly with. In the 737, they did short flights and felt that he could tolerate anyone in that time frame.

When asked to describe any weaknesses that the incident captain could improve on, he said that he couldn’t recall any. At Eastern, the captain was flying very well. They’ve flown into windy with nice weather and short runways. The captain always took those legs.

He liked working at Eastern. He felt that the airline was one he could retire from. He left his previous company because of pay. Eastern has growing opportunities and he hopes that it will become scheduled soon though he doesn’t mind flying the charters.

He has not felt any pressure from the airline to complete a flight; however, there were sometimes issues with crew scheduling as that the airline was short pilots but there was no pressure. For first officer there was not much extra flying as there was a lot of initial operating experience training being conducted as the airline was hiring pilots. He stated he may have to fly on his days off maybe once or twice a month. The issue with crew schedule was with the captains as they were always busy.

Morale was okay but “not the best.” The airline was short of pilots. The main issue was the schedule in that it was hard to plan with the charter operations.

He stated the training was “good.” Training at Eastern Air Lines included ground school, simulator, and operating experience. The training was conducted by Eastern Air Lines instructors. He felt there was always room for improvement but considered the training overall as “good” but it was not as good as the training he had received when in the military and always had room for improvement.

He felt CRM training was “good.” He felt he could speak up, to the captain, with no issues. He felt free to say anything he needed to.

During training he only recalled seeing the FAA one time during the classroom part of training.

He always followed the chain of command if there were issues. If there was a maintenance issue he would report that issue to the captain. If there was a safety issue he would have had no problem talking to company management. He has not had any issues with Eastern Air Lines. Has not observed any repetitive maintenance issues at Eastern. A maintenance issue that he had recently was when they landed the speed brakes would not deploy automatically so they had to manually deploy the speed brakes. The captain wrote up the issue and maintenance deferred the auto speed brake system. There was no problem with that. He was not sure if there was an anonymous reporting system at Eastern Air Lines as he had never had to report anything.

The safety culture at Eastern was “very good” that included maintenance, training, and CRM all of which he has had no issues. He further stated that some of the culture that he would look at as a pilot was maintenance which he stated was “really good.” He further stated that management always keeps the door open.

Her further elaborated that the spoiler issue they had on landing at Toledo was that the spoilers were armed and when they landed the spoilers did not deploy, so they did so manually. When they pulled into the gate and the mechanic came up to the cockpit, they informed the mechanic and put the maintenance issue in the aircraft maintenance log book. They noticed at that point that a circuit breaker was tripped and the mechanic determined that something needed to be replaced but they did not have the part. The mechanic deferred the auto spoilers but he could not recall if there was a performance penalty. He further stated that it was the incident airplane.

The MEL only required them to manually deploy the spoilers and there was no performance penalty for that. The MEL only required that they manually deploy the spoilers after they landed and provided no guidance on when to deploy. They flew the airplane for two more flights. During those two flights he and his captain, which was not the incident captain, during the descent briefing would remind each other that they would have to manually deploy the spoilers. However, the two legs they did were into airports with long runways. When they left the airplane at the end of the day in Salt Lake City and they knew that the incident captain was flying the airplane they contacted him by telephone and informed him that on landing they would have to manually deploy the spoilers. He further stated that the flight crews were always communicating with each other.

During the flight when he was the pilot flying, the captain would manually deploy the spoilers. If there were a delay in deployment, he would call for them. He felt that the pilot group was very friendly. Every captain was a pleasure to fly with. He bids his line without respect to captains because everyone is easy.

There were requirements for which airports that captain must land at, such as special use airports. He did not feel that the incident captain needed to provide a reason why he wanted to fly a certain flight, as the incident captain was a “gentleman” and respectful and friendly. When he had flown with the incident captain it was windy and when there was a short runway, the captain flew those legs. He could not recall if there was a specific wind limit for first officer.

He stated that when he would first fly with a captain there was no particular requirement on which pilot was the pilot flying. He said it was just “common sense,” and that it was “his license.”

He has had to do a go around one time at Eastern Air Lines and it was because of fog in South America. They flew the approach and as they arrived at the minimum altitude but the runway was not in sight so they did conduct a go around. They held for about 10 minutes and then diverted where they waited on the ground for about an hour. He could not recall but felt they contacted the company via the phone patch for the diversion. He further elaborated that some of the airplanes had ACARS¹⁰ but they were not all set up to send a company a message. He did conduct a go around at his previous employer when in visual conditions and an example was for wildlife on the runway. The lowest altitude he could recall was almost at touchdown, and that was in the DC-10. During training at Eastern Air Lines, go around maneuvers were conducted when they were not stabilized or when they were at minimums on an approach. At the beginning of his training in the simulator he floated down the runway and he would conduct a go around because the Boeing 737 flew differently than the MD-80 he had previously flown as the MD-80 sinks and the B737 floats. The instructors told him that if he was unable to land in the touchdown zone to go around. He has never heard of any pilots conducting a go around or being questioned about conducting a go around.

He has never called in sick at Eastern but he was told that all he had to do was to just call in. He has never heard of any pressure from the company if a pilot would call in sick and they don't require doctor's notes.

He elaborated that while in training, when they did the CRM training, it was only conducted with just the pilots and he thought there may have been a dispatcher but could not recall for sure. The training instructed the pilots to speak up if there was something wrong. Inflight, they brief the flight attendants.

He has not been through recurrent training at Eastern Air Lines as he had not been at Eastern for a year. He expected a lot of changes in recurrent such as go arounds, landing performance especially with the speed brake handle, and other items but that was what he expected. During the simulator portion of training Eastern Air Lines would provide pilots with extra simulator time if it was needed. He also was able to sit on other pilot's simulator sessions in order to observe.

He received training in “area monitoring” so the pilot flying was to request and the pilot monitoring was to adjust the switches. During takeoff and landing there were more defined procedures.

He has observed captains make minor mistakes such as forgetting to set missed approach altitude, adjusting airspeed for windy conditions, flying the appropriate speed. He has not seen the incident captain make any mistakes since he has been flying at Eastern Air Lines.

He clarified he came to the United States in 1993.

¹⁰ Aircraft Communication and Reporting System

When asked if there was any difference in doing a go around after the airplane touched down, he stated that it usually would catch a pilot by surprise; however, he always has a plan for a missed approach in the back of his mind. The decision was easier in bad weather.

He was flying with Captain Frymeyer when they had the spoiler issue on the incident airplane. He was the pilot monitoring on that leg. The weather was nice and there was no issue with the spoiler manual requirements. The first indication they had of the spoiler issue was after they landed when the spoilers did not deploy.

He liked the open door policy at Eastern Air Lines. He wished they he had a better schedule. He was deadheading from Chicago when he found out about the incident and was surprised that the incident captain was involved. He had flown to difficult places like Africa with him.

The interview ended at 1302 EST.

Interviewee: Captain Carlos Roldos

Date: November 29, 2016

Location: Eastern Air Lines Conference Room B, Miami, Florida

Time: 1310 EST

Present: Shawn Etcher, Sathya Silva – NTSB, and Robert Hendrickson – Federal Aviation Administration (FAA)

Captain Roldos waived representation.

He was 47 years old.

He started flying as a first officer for Fine Air based out of Miami. He subsequently went to work for Air Transport International based in Little Rock, Arkansas from 2000 until 2015, where he was an instructor. He then went to Boeing and instructed in the Boeing 777 and Boeing 737. He worked at PanAm instructing in the Boeing 767. He joined Eastern Air Lines in September 2015 and was hired as a first officer. He upgraded to captain in May of 2016. He also still instructs in the simulator at Boeing and PanAm.

He has about 8,000 hours of total flight experience and 267.9 of those hours were in the Boeing 737. He had accumulated 165.7 hours, as a captain in the Boeing 737.

He had flown with both of the incident pilots on separate occasions. He flew with the incident first officer on about four different trips with the most recent being on October 19, 2016. He classified that flight as a typical flight from Miami to Havana. He felt that the first officer was a good pilot and flew the airplane well; however, he felt that the first officer was a “little cocky.” He further elaborated in that the incident first officer felt that he made the captain nervous and he didn’t like when the captain was “hovering over the controls.” He felt the first officer had “pretty decent abilities” and had no concerns flying with him.

He stated that as an instructor he observes various abilities in pilots that he instructs, he felt that the first officer like to fly a little fast and the airplane floated during landing. He reported that he discussed this with the first officer; however, has not flown with him enough to see if there was any improvement. He had told the first officer about his concern about speed control and holding the wind corrections right into the flare. He said that the first officer had responded with “eh, I know what my limits are.”

He felt that the first officer manipulated the controls and the understood the automation very well and that was a strength; however, he felt a weakness the first officer had was his attitude. When asked if the incident first officer was open to feedback, he said “dunno, maybe” and he further elaborated that he had talked with another captain that had flown with the first officer recently and the first officer was still flying fast.

He felt that the incident first officer would speak up and that he was “more by the book” than others. He stated that the first officer felt he was not properly treated during a previous incident that had occurred and that was the reason he was always by the book. He elaborated that the recent issue involved a bird strike event about one month prior to the incident.

He stated that if he had a choice he would probably not want to fly with the first officer since he was always negative when it came to the company. He felt that the first officer complained a lot about the company. These complaints usually related to issues of a new airline and a typical growing airline.

During their flights together they had no emergency issues.

When asked about the morale among the pilot group he stated that it was not “all that great” as there were a lot of errors with paperwork and other things. He felt that as a supplement carrier scheduling changes were normal; however, he felt that those pilots that came from Part 121, air carrier, flying did not always understand that.

He understood that the airline was a growing airline and he knows that their growth will not occur quickly.

He also stated that he flew with the incident captain June 2, 2016. He was a first officer at the time when he flew with the incident captain; however, they only flew one flight together from Phoenix to Atlanta. He remembered that the captain was the pilot flying and thought that he was a good pilot, open, and very experienced. There were no issues with the flight that he could recall and he felt as though he could have brought up any issues or concerns with the captain when they flew that flight. He could not recall if the captain complained about the company as it was only one flight they flew together.

He stated that he liked to fly at Eastern as he enjoyed the flying they have done. He feels that there was potential. When asked to describe what the best thing was for flying with Eastern Air Lines he stated that the equipment was well maintained and that he was home almost every night. He feels it was a “good group” to work with.

He stated that something Eastern Air Lines could have improved was communications. The last few months the airline had started holding pilot meetings to determine what can be improved. He felt that management was trying to improve the conditions at the airline.

He stated that if he had a safety concern with the airplane he would write up the issue in the airplane maintenance logbook. If there was a concern with something other than the airplane there was a form that he could fill out. The form was not anonymous but the airline was attempting to develop an anonymous reporting system for all employees; however, there was nothing available at that time. He did elaborate that if he had written up a concern the airline would get back to them with answers about his concerns. He has never felt any pressure to complete a flight at Eastern Air Lines.

He classified the training at Eastern Air Lines as a “typical” ground school and simulator. He felt that those training events could be improved. He further explained that the training that the airline utilized was developed for a pilot who already had a Boeing 737 type rating. He did not feel it was well tailored for those pilots who did not have any Boeing 737 experience. He also stated that the airline needed to change some of the basic aspects of the training which he felt should include more FMC and automation training. He had voiced this to management and felt that it was “slowly” coming.

He had received CRM training; which he classified as typical CRM training. The training was scenario based with dated videos and encouraged pilots to open up and talk. During his training, he had never seen the FAA present. He has taught some of the training at Eastern, which started with the most recent pilot training class. He has taught all of the modules for the training. He further stated that the FAA notified the airline that the FAA planned to observe the training; however, he never saw the FAA attend any of the training he conducted. He thought the most recent pilot training class was in August of 2016.

He stated that when he decided who would be the pilot flying for the flight would depend on weather and the airport. There was no set procedure with the airline on who was to fly. The company had procedures developed for when the first officer could not fly, which he stated was when the weather was below 1,000 feet ceiling and 3-miles visibility, normally it was for first officers who had less than 100 hours of experience in the airplane. He felt it was his discretion, as the captain, when the first officer could fly. There was no limitation, or minimum, on runway length for a first officer to operate on. However, he further stated that if a runway was less than 7,000 feet he would start looking at the weather and decide if the first officer would land. He further elaborated that he chose 7,000 feet as it was something that the company and the pilots had discussed prior to the incident.

He does not socialize with Eastern employees outside of work.

He had operated an Eastern Air Lines flight with a minimum equipment list deferral the day before the interview. The MEL item was for a right thrust reverser, which required that the flight crew determine the performance. The airline had recently begun utilizing the Boeing Onboard Performance Tool (OPT) for their performance numbers. He said that the process could be onerous.

He has never had to complete an MEL deferral as they always operate with a mechanic on their flights. If an item occurred after they departed the flight crew was required to go through their MEL decision tree to determine if they had to return to gate or could enter into the aircraft logbook and continue. Some of the MEL deferral items required the flight crew to go through the list and it may have taken a considerable time. The most recent deferral he had required the flight crew to check their speeds that they were to operate at. He had never had a spoiler deferral. He does teach the callout for the speed brake to deploy when he conducts training.

He stated there was no guidance on which autobrake setting to utilize. He would assume and expects that pilots would reference the performance chart when electing which autobrake setting to utilize. Prior to the incident, the autobrake setting was not something that was emphasized. He stated that it was up to the pilot flying to decide the autobrake setting and also up to the captain to verify it.

He described disconnecting the autobrakes as there are many ways to disconnect it via speed brake lever down, pressing on the brakes, or turning the autobrake switch off. There was no specific procedure on how to disconnect the autobrake. When pressing on the brakes the amount of pressure required varied on the airplane. Since the incident, Eastern Air Lines has required captains to be more proactive on reviewing the amount of braking needed to make their anticipated exit point on the runway. Before, everyone briefed the exit point, but he wasn't sure if anyone associated it with braking.

He has taught CRM at Eastern Air Lines and stated that the airline was discussing conducting CRM with pilots, flight attendants, and dispatchers in the same training class. However, at Eastern there has been no pilot and flight attendant classes being conducted at the same time. In the simulator the pilots simulate communicating with the cabin crew but that was all he could recall.

He has done one go around in the airplane, while being employed at Eastern Air Lines, which occurred in Miami. On that go around the flight in front of them reduced speed and they were instructed to go around by air traffic control when they were at 3,000 feet. They do a lot of go arounds in training but all were low visibility go arounds. He could not recall any go arounds in visual conditions in the simulator. He stated that a rejected landing was initiated at 50 feet. Eastern Air Lines does not train a go around after the landing gear touched the ground. However, he stated that he does instructing in the simulators at Boeing and there was discussion of teaching go arounds after the main landing gear touched the ground. He has not suggested a go around after the main landing gear was on the runway to the training department at Eastern.

If a pilot was not feeling well they would just have to call in. After three days of being sick a pilot may have to produce a doctor's note. He stated that pilots call in sick a lot.

When asked about the speed brake call out, he stated that the pilot monitoring would always call out that the speed brake was deployed when the automatic function was enabled; however, if it did not deploy the pilot flying would pull the handle no matter what seat they occupied, unless the flight crew had briefed something different.

He described the go around procedure as the pilot flying would press the TOGA¹¹ button and call flaps 15. The pilot monitoring would call out “positive rate, gear up.” If a go-around was conducted after the airplane touched down, then he would expect the pilot flying would have to push the levers forward manually and once the airplane was airborne the pilot flying would then press the TOGA button. When he was asked when he would change configuration of the flaps if the main landing gear was on the ground, he stated he would call for the flaps to 15 when the airplane was still on the ground.

The interview concluded at 1359 EST

Interviewee: Mr. Bruce C. Embree – Chief Inspector

Date: November 29, 2016

Location: Eastern Air Lines Conference Room B, Miami, Florida

Time: 1504 EST

Present: Shawn Etcher, Sathya Silva – NTSB, and Robert Hendrickson – Federal Aviation Administration (FAA)

Mr. Embree waived representation.

He was 58 years old.

He was the Director of Quality and Chief Maintenance Inspector and had been doing that type of work for the previous 40 years. He had been the Director of Quality Control at five different airlines since 1987. He began his carrier at Interstate Airlines which was a cargo operator, then worked for Buffalo Airways which he stated was a cargo carrier based in Houston, International Charter Express (ICX) which was a DC8 combination airline for the government which subsequently merged with Air Transport International (ATI). He then went to Kitty Hawk Aircargo where he worked for 12 years, he was then employed at Arrow Air until the airline went out of business 5 years later. He then was employed at a leasing company and then was hired by Eastern Air Lines.

He started work at Eastern Air Lines in February of 2016.

He had spent 4 years in the Air Force as a C-5 crew chief and he was not a pilot.

He described his role as quality control with inspection of the aircraft, audits, writing manuals, and processes for external and internal facility, engineering support, aircraft records, and CASS¹² (Continuous Analysis Surveillance System). He had three employees that were assigned to work for him and he reported to the Vice President of Technical Operations and he also had direct access to the Chief Executive Officer (CEO).

¹¹ Takeoff/Go-Around

¹² Continuous Analysis and Surveillance System

He talked on a daily basis with the CEO and categorized him as “excellent” to work with. The previous CEO was “good” but had a “different” philosophy than the current CEO. One CEO, he classified as “hard line” and the other was more about how do you do something and accomplish what was wanted. Under the previous CEO, it had been impossible to hire personnel. Now the airline was hiring and they were currently hiring for an auditor position, records position, and engineer type person. He classified staffing as the big concern.

The relationship with the Vice President was “excellent” and there were no challenges when it came to working with him. He has interfaced with the Director of Operations when it came to program enhancements and quality improvements. He worked with operations daily when discussing which department would get a delay if something came up.

He interacted with the Director of Safety every day when they are attempting to get a new airplane listed on the airlines certificate. They utilized the Voluntary Counseling and Testing (VCT) protocol when they conducted audits and he went over those findings with the Director of Safety. They would agree on an action and implement the action.

He stated that most of the issues that came to his attention were done so by maintenance control. He attempted to resolve issues as quickly as possible.

He stated that every flight had a mechanic on board the airplane. The airline did that since there were no maintenance bases for the airline except at Miami. He had conducted training for personnel in New York and Punta Cana which was to be part of the flag operations in the future. He further stated that the mechanic can do everything needed except an RII¹³ which required two signatures.

Eastern Air Lines had 17 mechanics who worked for either him or the Director of Maintenance, depending on what they were required to accomplish. He further clarified that if there was an RII item that had to be completed the mechanics worked for him, all other operations the mechanics worked for the Director of Maintenance.

He felt that working at Eastern Air Lines was a challenge but he considered it a “good” challenge. He felt there was a lot to live up to, when it came to their name. He has recently been involved with taking delivery of a brand new Boeing 737, which occurred at the end of October in 2016. He found it a place for opportunity and growth.

He had observed no other challenges while he has been employed at Eastern Air Lines other than workload and staffing. He stated that he took a pay cut to come to Eastern Air Lines for what he hoped would improve in the future. He had worked for non-scheduled airlines his whole life.

Eastern Air Lines utilized PowerPoint presentations for maintenance resource managements and he also teaches human factors. He and another employee did most of the training, which were what he classified as sit down training courses with examinations. For every mechanic the receive at a minimum 24 hours of indoctrination which included at least 2 hours of human factors, RVSM training, RII training, and also receiving and inspection training. Each mechanic would be

¹³ Required Inspection Item

provided with about 60 to 80 hours of training before they were allowed to work on any of Eastern Air Lines' airplanes. The mechanic also should have already been through a Boeing 737 system training prior to be employed at Eastern Air Lines; however, they did conduct in-house system training for those that did not have previous system training.

In a normal operation the mechanic would fly in the cockpit monitoring the airplane. The mechanic was required to get a turn over from the flight crew. If there was a mechanical issue, the flight crew would communicate that to the on board mechanic. The mechanic would then take a picture of the flight log page and send that to maintenance control. If the mechanical issue resulted in a deferral, the mechanic would assist with that; or if it required an inspection of something the mechanic would do that as well. The mechanic also oversaw the loading of the airplane, de-icing, as well as the refueling due to the fact that a lot of Eastern Air Lines' flying was ad hoc and there may not be a trained and authorized refueler. Once the airplane was on the ground the crew would turn over the airplane to the mechanic.

He further clarified that a mechanic would may be in the cockpit jumpseat on about 80% of their flights the rest of the time they may be seated in the back. On the "VIP flights" the standard was that the mechanic would not sit in the passenger cabin as they would not want him there.

Once the airplane had departed the block, the flightcrew would be required to return to the block and write up the discrepancy prior to the mechanic being authorized to do work.

When asked if Eastern Air Lines had done flightcrew deferrals, he stated that there have been none while he has worked at the airline. Deferrals are normally, at least since he had been employed at Eastern Air Lines, done by the mechanic. He further explained that a deferral may have an "O" item which would require an action by the flightcrew. Then, the crew would refer to their operating manuals

He was aware of the deferral on the incident airplane. He further stated that a mechanic would not look at any performance issues for the deferral. The flight crew was required to look in their operating manuals to check for any performance penalties for an MEL, the mechanic had no function do with assessing performance penalties or the required "O" items.

The maintenance log included a single cardboard page which listed all open DMI¹⁴ listed. Once the DMI was fixed then the mechanic would sign it off.

He stated that there was a Fault Isolation Manual (FIM) test for the auto spoiler which was found inoperative as the test was done and failed. The mechanic interfaces to the company through maintenance control and not him. He was made aware of the deferral the next day when maintenance control provided the daily list of items that occurred the day prior. He was provided that list every Monday through Friday but was always available via telephone during off duty hours. He stated that he had been called in the middle of the night for non-essential functions (NEFs) that required his approval to be accomplished.

¹⁴ Deferred Maintenance Item

He stated that when the flight follower began the flight planning for a flight, they were required to obtain the current list of deferral items from maintenance control. Maintenance control and flight followers utilized a white board in the OCC to keep track of airplanes and deferrals, and it was available in their flight docs software system. He felt that the white board method worked as they only had 4 aircraft flying. He further stated that the airline was working on a program called ARMS to assist with tracking maintenance items on airplane. He had about 12 hours training on ARMS and estimated he needed about 40 more hours. He classified ARMS as similar to the TRAX¹⁵ system; however, it was a new software and the developer was correcting errors or problems that have been found within the program. He believed that Eastern was the launch customer using all of the modules of ARMS.

He stated that he interacted with his FAA point of contact via email constantly and via telephone daily. The FAA does visit the airline or airline personnel will go to the FAA office at least a couple of times a week. Some of the reason for interaction with the FAA maybe due to the FAA requesting information, the FAA likes to know when an aircraft was in maintenance so they could come observe, and the FAA wanted to know when the airline was conducting an engineering order. He further classified the FAA as wanting to know the status of things and that they wanted to be part of the “puzzle.” The relationship between the airline and the FAA was “getting better;” however, he clarified that it was not a problem from the principal inspector but “one step up.” He clarified that a front line manager with the FAA was not to be out “ramping airplanes” as that was the principal’s job.

He clarified that the airline’s 17 or 18 mechanics were maintenance inspectors, which required a lot more training; however, he wanted to provide and did provide the mechanics the tools and resources to work in the field.

Interview concluded at 1538 EST.

Interviewee: Juan Pablo Nunez, Chief Pilot, Eastern Airlines

Represented by: (waived)

Date: November 29, 2016

Location: Eastern Airlines Conference Room B, Miami, Florida

Time: 1548 EST

Present: Shawn Etcher, Sathya Silva – NTSB; Robert Hendrickson – FAA

During the interview, Mr. Nunez stated the following:

He was 45 years old. He started his career as a mechanic in 1989 at PanAm as a “ramp rat.” In March of 1990 he started flying in Vero Beach and obtained all the ratings. In March of 1991, he went back to work as a mechanic, went to college, and was flying on the side. In 1997 he joined Miami Air International. He started as a mechanic and then went into the Boeing B727 flight engineer seat. In 2000, he started flying the B727 right seat. In 2002, he started flying in the B737-NG right seat. In 2006 he received his type ratings for the B757 and B767. In 2012, he was hired by Boeing to teach in the B757 and B767 as well as in the Boeing 737. In 2015, he was hired by

¹⁵ A maintenance software program developed by Trax Inc.

Eastern Air Lines and was recommended by a mutual friend that he and the Vice President of Flight Operations at Eastern, had in common.

At Eastern he put all of the training and manuals together. He said the Vice President of Flight Operations gave him carte blanche to design the training. He said he tailored it for charter operations and incorporated airports such as San Juan, Costa Rica, instead of the basic airports to account for this.

He started at Eastern on a contract bases in July of 2014 as a subject matter expert on the B737. In February 2015, he was hired as chief pilot. He was in charge of providing initial instruction to the airlines first class of check airmen. They had started with 10 check airmen in the class.

His duties included overseeing the instructors, pilots, and training. He delegated much of the day to day operation. He was in charge of adding new routes, special airports, and keeping track of pilot performance.

He reports to the Vice President of Flight Operations and described their relationship as excellent. He said that the Vice President of Flight Operations was level-headed and supportive.

He estimated his total time as 8,000 hours, 5,000 of which were in the 737-NG, and 3,000 of those hours were as a captain. He is ETOPS¹⁶ certified and does not fly outside of work.

When hiring pilot, they looked for a minimum total time of 7,000 hours and 1,000 hours as pilot-in-command turbine time. He said that if someone was going for captain, the experience should be in a heavy aircraft such as a Boeing 737 or larger. For first officers, they look for 5,000 hours minimum total time and currently they were ok with hiring pilots who were captains on commuter aircraft. He said that they also look for people with a mixture of experience, such as flying in the northeast in winter or in Central/South America.

When the airline interviewed pilots they conduct panel interviews with line captains. There was no test or simulator evaluation. They ask questions off of the applicant's resume. There were typically a minimum of at least 3 panelists, but could be up to 5. Typically, the panel consists of himself, Vice President of Flight Operations, Director of Training, and/or a human resources person.

He described the working conditions as good but said that first year pay could be better. He said that they were trying to raise the first year first officer pay to \$55/hour. He also described the working conditions as flexible. The first year, pilots get 16 days of paid time off (PTO). Every month they earn 7 hours of PTO, and when a pilot utilized their PTO the airline charged 5 hours of PTO per day. If they reach more than 120 hours, they're encouraged to use the leave.

Pilots get 12 days off per month which they bid for. Pilots also bid for short call reserve and long call reserve days every month. They try to limit trips to 6 days in length, unless the pilot volunteers to fly more. The pilots can also trade their trips with other pilots. He said that pilots do work trips

¹⁶ Extended-range Twin-engine Operational Performance Standard

on their days off as they get 150% pay above guarantee. For the political campaign flights, the flights were more scheduled and pilots were scheduled on 14 day trips.

As a check airman, he had flown with both pilots involved in the incident. The incident first officer was slated to become a captain, however there was a setback due to a minor incident. He said when he flew with the incident captain during operating experience, he had initially flared the airplane high due to his experience with other aircraft; however, that was corrected. Both pilots were signed off from operating experience (OE) within the required 25 flight hours. They were both knowledgeable and were good with procedural flows. The last time he flew with incident first officer was after he was involved in an incident at Philadelphia in which he was co-pilot. he gave the incident first officer a line check following the incident. He had flown some OE with the incident captain and said that the incident captain had had a proficiency check about a month prior to the incident. He described both their pilot skills as above average and described strengths for both of them to be SOPs. He said they were “very vanilla” pilots. When asked if there was anything the pilots could improve upon, he said that incident captain needed to be more trusting of the FMC¹⁷ and what the airplane is giving him and that Diego is too apologetic. He described the incident captain as quiet and caring, and said that he was a “do the job and go home” kind of guy. He described the incident first officer also as a “do the job and go home” kind of guy and also described him as quiet and apologetic. He said he had known that the incident first officer was going through a divorce, however you couldn’t tell by looking at him and said it never affected the job.

He said that pilots typically complain about dispatch issues and hotel logistics.

He said that he has conducted training in ground school and with the FTDs. He also has done the simulators, check rides, proficiency checks, and OE. He said that most of the issues he observed from the pilot classes were enforcing more callouts and problems about when to start procedural flows. He said pilots would sometimes miss knowledge from the flight operations manual about their rules on pets or wake turbulence for example. He described that the pilots at Eastern Air Lines were overall good.

He said that if there were issues with training he’d call a MRB board, discuss the deficiency, how to fix it, check with the check airmen, and discuss it collaboratively. He said that at the end of training pilots could anonymously provide feedback. He wishes the pilots would be more open with feedback. Some of the feedback he’s gotten were that there were not enough simulators and he’s gotten feedback about particular instructors.

Since the incident, the airline has discussed implementing special rules for runways that are 7,000 feet long or less, and special rules for runway conditions that were poor or less. He said they plan to add an additional item to brief on the touchdown zone and adding an additional item on going around if the airplane not on the ground by a certain point. They were also discussing guidance on auto-brake usage and said that OPTs can be used for landing performance and determining autobrake setting.

¹⁷ Flight Management Computer

When he interviewed the incident pilots, following the incident, they stated that they landed around the 3,000-foot mark. He said that as a company, they don't want to change anything without knowing for sure what happened.

He said issues were reported through SMS¹⁸, pilot reporting, and irregularity reports. Briefings are held every day at 9am discussing airports, operations, and weather. They also run performance with extremes to determine whether a flight can be expected. Then they brief the pilots. He felt that the comfort level was there for LGA. There was a way to submit concerns anonymously, but it's not really used, people normally just come to his office or he gets a notice through the SMS. He makes a point to get back to the person submitting the concern. Some of the issues they described included weighing bags in Cuba to which they fly 24 flights per week. He said there are also issues reported about dispatcher mistakes, the dispatch system was cumbersome and the pilots feel they have to spend more time checking the paperwork they get. The company doesn't pressure the pilots so they can take the time. He said that the CEOs have always deferred to him and he received no pressure from them. When discussing the bag issue in Cuba, he said that they solved the problem by getting together with the charter company, did an audit to determine how bags were weighed and checked that they were weighed correctly. Then he talked to the pilots. He said that the FAA wanted the airline to re-weigh sports team equipment. They implemented a procedure where they would randomly pick bags to weigh and compare them to the recorded weight. If they were off, they would re-weigh all the bags. He interacts with the CEO on a daily basis "8-10-20 times daily" and got along with the former CEO very well.

He works with the director of safety on procedures and SMS. They put conferences together, bring in outside audit firms, determining between those firm the one that will provide the most benefit. They want to choose the firm that wants more detail. He, Vice President of Flight Operations, and the CEO were all on the same page and want the good with the bad, in order to develop a good foundation for the airline. They have had other external audits such as Insel Airways, TUUI, and Norwegian. The last one was Insel about 8 months ago. Findings included crew meals and publishing times for upgrades.

They do captain leadership training. They're currently looking at revising training to make FTD training longer with more flows compared to the 25 hours of OE. Training includes 3 simulators and a check ride. When asked if captains get trained on differences in pilot monitoring (PM) when flying as captain compared to first officer, he said that they do. Sometimes they have to fly captains with captains. For captain check rides, they put a first officer in the right seat. They said they specifically talk about PM. During OE, they swap legs as to who is pilot flying (PF) and PM.

He communicated with the pilots via bulletins. The FOM was on the eighth revision and he has had 41 bulletins on it.

He was informed of the incident when he got a call from PJS¹⁹ and he thought the call came around 845 that night. He called the OCC, headed into work, activated the emergency response plan, and secured all the items. He talked to the captain initially and told him to pull the circuit breakers for

¹⁸ Safety Management Systems

¹⁹ Private Jet Service Group

the cockpit voice recorder. The captain told him later that he was rushed off the aircraft by first responders and turned off the battery instead.

He said mechanics fly in the cabin if there was room in the first class cabin because it was more comfortable than the cockpit jumpseat.

When discussing short call and long call reserve he referenced FAR 117.25 and said the airline followed those regulations. He said that if there was less than 1 hour of available duty time, they would try to find another crew to take the last part of the trip. They also build buffers into the schedule based on their experience with things such as sports team charters and servicing in Havana, Cuba.

He selected check airmen that have experience and are proactive within the company. He does not want authoritarians in the cockpit. The airline currently has 62 pilots. They terminated 2 pilots after 50 hours of OE. They looked for improvement, talked to the check airmen, and looked at those pilot's records before letting them go. Overall, they have let go of four pilots, others have quit. There were only two pilots fired for lack of progress. The incident first officer was recommended to the chief pilot by a friend.

He said that morale has dipped within the company and he's gotten complaints about hotels not being set up and that they needed adequate support staff in the OCC. He said that the former CEO sometimes lacked understanding of logistics of the operation.

Bids were based on seniority. When the month began, pilots knew when they were on short and long call reserve.

Pilots were not required to report when they've done a go around in an airplane. He emphasized going around to all of the pilots. He has performed go arounds in the airplane, during the summer in Miami, he went around three times due to thunderstorms and windshear and the flight ended up diverting to Fort Lauderdale. They usually carry extra fuel for holding and many expect to divert. He did not know if any go arounds were conducted in visual conditions. He stated he does not question if a pilot elected to go around.

Check airmen now get 10% over guarantee pay and 80 hours per month guarantee. Instructors also get 110% when working in the simulator. If assigned, instructors do simulators for the entire month.

When he hired pilots he looked to see what other skills, like accounting or safety, that they can help the company with.

N277EA was equipped with FOQA²⁰ and they want to incorporate it into all of their aircraft. He made sure that it would not be utilized for punitive action. He's currently hiring someone to standards and assigning another captain to look at the data. He thinks that pilots do believe that FOQA will be non-punitive and he tries to keep an open door and be straight and honest with them.

²⁰ Flight Operations Quality Assurance

If there were issues and the FAA felt like the company took care of the issue in a fair way, then the FAA typically doesn't interfere.

He said that pilots should look at the QRH²¹ for advisory information on the autobrake system. He said it could be disengaged by pressing the brakes, pressing off, moving the throttles forward. He said that auto speed brakes being deferred wouldn't influence autobrakes. He said that the automatic function may act differently based on the added deceleration of speedbrakes. He said there was no increase in landing performance with automatic spoilers being deferred. There was no training in the simulator for auto function of speedbrakes being inoperative, but they do train call outs.

He said that landing on 7,000-foot runway or less was a psychological limit. He's taken the Boeing 737 into 5,200 foot runways. For first officers with less than 100 hours of experience in a Boeing 737 they limit landing in crosswinds, poor braking action, however there was no limit for runway length.

CRM was also taught in recurrent training. The pilot CRM training was not done with flight attendants as their training classes are off cycle because the company was small. During the incident he said that there was good communication between the flight attendants and the pilots. The captain said that he pulled the speedbrakes, looked up, and applied the brakes.

They train rejected landings at less than 50 feet, possibly 25 feet above the ground, but do not train any rejected landings after the aircraft was on the ground.

For ad hoc airports, the OCC assess risk and if it was classified as high, the chief pilot would look at it and then a decision on whether they can do the flight. For example, he "nixed" a flight to Eagle, Colorado.

When asked if pilots were ever assessed by a board of peers, he said that with issues he gathered the check airmen, director of the OCC, and then would decide what to do. In one particular case, a pilot got downgraded.

If conditions change after a release packet was delivered, the crew could request an updated packet from OCC or OCC could also be monitoring the situation and send an updated packet.

He was familiar with EMAS²² and said they did not cover it in training. He planned to incorporate what it does and what it is there for into future training. He said that the incident airplane's engines were sent to GE and the airplane was still in LGA.

Both pilots are currently off line with full pay. He wanted to ensure that their retraining was good. The airline plans on recreating the night of the incident in future training and it should be complete within the next 15 days. He has elected to downgrade the incident captain as a first officer until the NTSB's final ruling on the incident.

²¹ Quick Reference Handbook

²² Engineering Material Arresting System

When following up on the OCC's opportunity to call the crew regarding aircraft performance change due to conditions changing, he was asked whether the OCC actually does that. He said that he hoped they do. They brief the flights, occurring that day, in the morning and watch for them. He said that if an alternate goes down, then the OCC will contact the flight crew with a new alternate. All of this coordination in flight was done verbally. He said that all of the pilots are trained on how to do aircraft performance on their own.

The interview ended at 1740 EST.

Interviewee: Erik Brandao, First Officer, Eastern Airlines
Represented by: (waived)
Date: November 30, 2016
Location: Eastern Airlines Conference Room B, Miami, Florida
Time: 0910 EST
Present: Shawn Etcher, Sathya Silva – NTSB; Robert Hendrickson – FAA

During the interview, Mr. Brandao stated the following:

His full name is Erik Cavalcanti de Albuquerque Brandao and his age was 45. His father was a military pilot in Brazil. He began flying at age 16. At age 18, in 1989, he got his private pilot and glider pilot certificates. He continued with commercial, IFR²³, multi-engine, ATP,²⁴ and did some glider towing. He obtained his certificate flight instructor, obtained a seaplane rating, did aerobatics, and started teaching aerobatics. He also obtained a license for airshows. He started flying Part 135 in Brazil, flying the Embraer 110, Mitsubishi, and Falcon 10. He began flying the Falcon 10 in 1995 and that was his first experience with a jet. 2 years later, he joined Varig Airline flying Boeing 737 aircraft; however, Varig went bankrupt 8 years later. He was with Varig from 1997 to 2006 and he flew the 300, 400, 500, 700, and 800 models of the Boeing 737. At GOL Airlines, he was promised a fast track to upgrade, however that didn't work out. He became a first officer for TAM airlines flying the A330 internationally. After 2 years, they needed first officers for the Airbus A340 so he began flying those. He flew with them for another year before he obtained his U.S.A. green card and moved to the United States. He then went to a flight school and earned a FAA ATP in a Piper Seminole. He decided not to work for a year while his family got settled. His first job in the U.S. was flying a Falcon 10 for a Part 91 operator. He got a type rating in Dallas, however the company didn't pay him so he left after a few months. He paid for his own Learjet type rating and started flying with Bonaire air ambulance to the Dutch Virgin Islands. He then flew the Learjet with Georgia Jets which was also an air ambulance operator. One of his friends was a captain at Eastern and that's how he heard about Eastern Air Lines. He was offered a fast track program which was about 1 year to upgrade to captain. On April 15, 2016, he was hired as a first officer. He holds approximately 9,500 hours of total flight experience and 5,106 of those hours were in the Boeing 737.

He said that there were lots of pilots "complaining and crying" about Eastern, however because of his previous experience with startup and charter companies, he doesn't see much of a problem with Eastern and considered certain aspects "part of the business." He said there were no problems. Some things were "maybe annoying but completely normal." When asked what kind of things he was describing he said there were issues with the company changing the line and with the dispatchers. For changing the line, he said that most pilots came from Part 121 flying and were used to scheduled service. He said that there were dispatch issues related to a "mess of paperwork" and dispatchers "missing some stuff," but they recently got OPT 3 to 4 days ago and it alleviated much of the paperwork burden.

He had last flown with incident captain approximately 2 months prior on one leg from JFK to Georgetown. During that flight they had to follow the land in order to avoid Class II navigation.

²³ Instrument Flight Rules

²⁴ Airline Transport Pilot

He clarified that he does not consider incident captain to be a friend and does not have a relationship with him. He described the flight as “all good.” The incident captain had him conduct the takeoff and fly most of the leg, and the incident captain landed the aircraft. He described the incident captain as nice. He further stated that the easy part of the flight was to be the PF and PM had a lot of paperwork which the incident captain completed. They transferred controls before descent. He said that the incident captain wanted to do the landing because Georgetown was a shorter than average runway. He didn’t consider it short as he’s landed on a runway less than 4,000 foot long runway in a Boeing 737-SFP²⁵. The weather for the flight to Georgetown was good. There was no rain or wind and the visibility was “okay.” He said that there was good CRM and that incident captain was “open.” He described the incident captain as professional, and a normal guy. He said he was comfortable speaking openly with him. He enjoyed flying with the incident captain and said he was treated fairly, treated well, and felt comfortable. He said the landing at Georgetown was on the touchdown zone and he didn’t remember anything being different from normal. He said that before OPT, everyone [pilots] complained, but he described the incident captain as “not the kind of person to complain.”

He did not feel pressure from the company that was out of the ordinary crew scheduling calls. These included calls 24 hours prior to a trip or calls within normal duty rules.

He described training in Brazil to be different compared to the companies he’s flown with in the US. He said that in the US training followed the standards in the book. In Brazil, they had these standards also, however training also did extra scenarios such as pilot incapacitation. He also described the CRM training at Eastern as “by the book.” He thought that the training could have been done better. He said that Varig trained CRM when it was first introduced and that was where he was first trained in CRM. He described Eastern’s CRM training as “cockpit, crew, and corporate resource management.” He did not see anyone from the FAA in his training, however he met them for his oral check ride and check ride.

When asked about safety issues at Eastern he said that his dad always said a “dead person don’t need a job.” He elaborated and stated that operators would try and have pilots do things that was not safe, as he had observed with operators at a nearby local airport; however Eastern Air Lines did not pressure him. Eastern’s airplanes were good and mechanics were good. He described the paperwork as annoying, but they kept up with it. He said that Eastern wanted pilots to report issues with the aircraft. He said that he hasn’t reported any issues, as the captain usually reported the minor issues. The mechanic was usually there and both the captain and the mechanic would call the company. He said that they would not takeoff without the paperwork being correct. He said the OCC was the first call. If the problem was bigger than what OCC could handle, then they may call the chief of maintenance, director of training, and/or the chief pilot. He said that pilots would call the director of training and chief pilot any time of day. He reiterated that he would follow the chain of command and the first call would be to the OCC.

He said that occasionally the mechanic would sit in the jumpseat, however that was up to the pilot’s discretion. On the trip to Georgetown, he said that there was not a mechanic in the jumpseat, however there may not have been one on board.

²⁵ Short Field Performance

He said during CRM training, there were flight attendants and dispatchers involved in the first phase. The second phase was for the “crew.” He said that regarding CRM training they could “always do better.” He said the training felt superficial and the company could have gone into more detail. He has flown with bad captains that “slip through the cracks,” at all of the places he has worked including Eastern. He estimated 15-20% of the captains he would classify as slipping through the cracks. He believed that there could be “bad pilots who have a bad attitude to cover it up.” He has made his suggestions about CRM to the company and that they listen, however as a startup they get busy and other things come up and change takes time.

He practiced go arounds during training where each session included between 3 to 6 and said it was addressed completely. He said the lowest go around was made at the minimums on a CAT I approach. For rejected landings, they have gone down to 50 feet. He described that go arounds and rejected landings occur for different reasons. He had not conducted a go around in training after the wheels touched down. He had never conducted an actual go around, in the airplane, at Eastern. He said he felt there was a stigma that pilots consider a go around a failure. He said when he worked for Brazilian carriers, they would terminate a pilot on the spot if they didn’t go around for an unstabilized approach and they found out using the FOQA data. He said that Eastern doesn’t inhibit go arounds and allows pilots to conduct them. He thinks that one aircraft at Eastern was FOQA equipped.

He said the definition of a “shorter runway” was up to captain’s discretion and believes that the company might be adding a requirement regarding landing at shorter runways.

Communications from the company usually first came through company email so that it was documented. They also have pilot meetings with schedulers and maintenance. He had attended one meeting and said that the company had done more. He said that the company could improve communication and consider it to be a “by the book” approach.

He described OPT to give graphics regarding autobrake setting and landing distance.

He said that since the incident, there haven’t been any changes. He said that the briefings are fine and the problem with the incident was the lack of decision after they passed the 1,000 foot markers. He said he had heard rumors that the company was making some procedures mandatory with shorter runways.

When asked to describe pilot action on a go around he said “TOGA, flaps 15, positive rate, gear up.” When asked to describe pilot action on a rejected landing, he said that they would initiate TOGA, retract the spoilers, takeoff with flaps and then retract them.

He said that he had heard about EMAS. They do not have EMAS in Brazil. He was reading about it after the incident and had no formal training on EMAS.

The interview ended at 1036 EST.

Interviewee: Angel Marcano, Training Manager, Eastern Airlines

Represented by: (waived)

Date: November 30, 2016

Location: Eastern Airlines Conference Room B, Miami, Florida

Time: 1049 EST

Present: Shawn Etcher, Sathya Silva – NTSB; Robert Hendrickson – FAA

During the interview, Mr. Marcano stated the following:

He was 48 years old. He was a flight engineer on the B727. He has experience in the B737-200, B737-400, and B737-800 aircraft. He was in the first pilot class at Eastern. He has over 10,000 hours of total flight experience, between 6,000 and 7,000 of those hours were as captain. He was also a check airman with Eastern.

He started in aviation in 1996 at Servivensa Airlines in ground operations. He then became a flight engineer in the B727 and a check airman for the company's flight engineers. He became a first officer, then Servivensa closed. He worked for Falcon Air as a first officer and then became a captain on the B727. He had a small cleaning service for a while. He worked for AmeriJet and found out he didn't like flying cargo. He flew for Sky King Airline until January 2, 2015 and joined Eastern Air Lines on January 4, 2015. At Eastern, he started as a check airman and in March of 2015 he became the Manager of Training. He has over 5,000 hours of B737 time in the B737-200, B737-300, and B737-400. He currently conducts training and also flies approximately 15 hours per month.

His duties as training manager include:

- Reviewing training for initial, new hire, recurrent, and upgrade training
- Evaluating the number of pilots
- Preparing classes logistically. They used to use PanAm. He would coordinate simulator and FTD availability.
- Auditing training centers
- Keeping training records
- Talking to flight attendants and flight followers. He does not do the training for flight attendants or flight followers
- Conducting CRM training for flight attendants and training on certain areas for dispatchers
- Participating in the Safety Review Board (SRB). Anyone can call a meeting, however he usually does call meetings to discuss changes to training, evaluate training, discuss pilot performance, and give new hires audit questionnaires.
- Meeting with instructors about pilot issues
- Conducting audits

He said that an SRB can be called whenever. It involves flight followers and flight attendants in addition to pilots. There have been three SRBs since he started at Eastern. One was regarding a pilot who had a lack of experience flying internationally. That pilot's instructor was concerned because they were upgrading quickly. The instructor wrote many things in the pilot's company training record and was concerned about him making it through training. There were personality issues which were resolved and the pilot passed his line check.

He was the only person assigned to the training office. He has check airmen come in to help with records and conduct audits. He has five check airmen, one who had a ride the day of the interview, and another one who was waiting for a check ride. He had three simulator instructors and four ground instructors. The check airmen have to be checked by the FAA every two years. The simulator instructors must have recurrent training on the simulator. The simulator check airmen also must do an observation with the FAA. His check airmen must also participate in instructor meetings. He held these meetings once every three months and the last meeting was one week after the incident at LGA. During those meetings they discuss procedures, safety, pilots, operating experiences, culture, expectations, and he assigns projects.

He said safety was always a priority at Eastern and he stressed it. They ground aircraft when they need to ground them. He thinks safety was a matter of reminding them.

He reports to Vice President of Flight Operations and has a good relationship with him. He finds the Vice President of Flight Operations and the chief pilot to be receptive, he thought due to his previous experience.

They hold staff meetings in the mornings and described his relationship with the CEO as good. He said the old CEO was demanding but “that was ok.” When asked to describe what demanding meant, he said that the former CEO was picky about meeting deadlines. He said that if they can’t meet the deadlines, they can’t meet them, and said that the CEO wasn’t going to distract or interfere with the operation of the aircraft. He said that if they couldn’t do something, he told him he couldn’t usually because there was not enough staff or if they were waiting on the FAA. He said there was only one FAA person certified on the aircraft and the POI assigned that person to the check rides. He did not directly interact with the POI and usually went through the Vice President of Flight Operations and the Chief Pilot.

He was asked to describe the training programs they have at Eastern. The airline has initial, upgrade, recurrent, and requalification training. Initial training included 40 hours of basic indoctrination. It also included 15 days of ground school which discussed situational hazards, weight and balance, navigation, international operations, long range navigation, weather, airspace, special airports, and differences trainings. Pilots would have six FTD sessions and six simulator sessions. They would have a proficiency check and receive a type rating if they did not already possess one. They would fly LOFT and OE. If the pilot was a captain, he’d do a line check and FAA observation flight. If the pilot was a first officer, there would not be a line check and the check airman signs off that portion of the training to release the first officer to service. For the first 100 hours, the airline did “consolidation of knowledge” which is typically used if someone was new to the type of operation, but they do this for all pilots regardless. The captain was also required to complete the 100 hours in order to be released from being a “high minimum captain.”

He elaborated that CRM was also included in training along with airplane systems. The systems training was developed by incorporating Boeing’s training on the airplane’s systems.

They do PT (training to proficiency), for captains every 6 months and for first officers every year. They also do a proficiency check every year for both captains and first officers. They also do ground school every year that comprises of 3.5 days and a simulator session.

Those pilots getting requalification training, the requalification depends on how long the pilot had been off.

Captains get a line check every year. For special airport or special class navigation, captains obtain qualification every year.

Upgrade training lasts 4 days and includes 1 day of ground school, one day of FTD, 3 simulators and a proficiency check (PC). He was asked about the differences between PT and PC. He described PTs included steep turns, rapid decompressions, RNAV approaches, ILS²⁶ approaches, windshear, and TCAS²⁷. If they're in PT, deficiencies get corrected. In PC's they don't conduct rapid decompressions; and conduct engine failures, go arounds, rejected takeoffs, rejected landings, normal procedures, normal ILS to go around, non-precision approaches, taxiing, abnormal starts, passenger evacuation, fires, interaction with flight attendants, and CRM. He described the PC as a checking event. Pilots are allowed two maneuvers to be done incorrectly and trained to proficiency in order to pass.

Upgrade training involves details on company information, systems, HAZMAT, CRM, leadership, weight and balance, and emergency procedures. The three simulator sessions could be extended to four if needed. When asked if captains were trained on specific differences in pilot monitoring as captain versus first officer, he said that they get experience when there were captains flying with captains. The briefings discuss pilot monitoring responsibilities, division of responsibilities according to a Boeing manual. He recalled that the chart was in the training slides. Callouts from the pilot monitoring were stressed during training, and the airline required captains to learn both positions.

Documents provided to pilots during training include the FCOM²⁸ 1 & 2, QRH, FOM, W&B, MEL, OCM, SMS, and the six FOTM²⁹. It has changed since he started, as he has implemented more manuals since he started as the Manager of Training. They are provided an iPad with the manuals including a MPP³⁰. He has instructed some of the pilot training. In the previous two classes of pilots, he taught CRM but he was attempting to delegate that training to others. He observes training and audits, the last audit being four months prior and was for an upgrade class. He had assigned an instructor to audit a new hire class.

He's not involved with initial training. He had made changes to the manuals when new procedures are developed, like RNAV, and then the manuals were updated. When changes come up, he gets feedback from instructors, chief pilots, and the Vice President of Technical Operations. Once the changes have been developed they submit that request in to the airline's POI. He provided an

²⁶ Instrument Landing System

²⁷ Traffic Collision Avoidance System

²⁸ Flight Crew Operations Manual

²⁹ Flight Operations Training Manual

³⁰ Multi-Purpose Platform

example being IAN³¹ approaches where they developed the procedures, submit their developed procedures to the FAA, and were currently waiting for a response from the FAA.

Since the incident, there have been no changes to manuals. They have been reinforcing safety and checking of work. He's conducted three pilot meetings in groups of 9 to 10 people. Those in attendance discuss safety issues and communications. They also will invite other departments to discuss concerns that come up. The incident at LGA was discussed as a safety issue, they also provided an example about taking off and tuning the frequency for departure, rejected takeoffs, checking the first page of the FMS for version, date and type. He said the FMS check was to check if the database had expired which required confirmation by both pilots. He said he personally has had an expired FMS at Eastern and he did not have a problem reporting it, they followed the MEL. He felt he could be open about mistakes.

He stresses to his pilots to tell him if there were any issues. He described an example about a captain that was demoted to a first officer. The issue was seen in the simulator, and the pilot was grounded and retrained. Later they found out that some first officers had similar issues with that captain before the discovery in the simulator.

One Eastern aircraft is equipped with FOQA. The goal is to equip all aircraft with FOQA. ASAP is not set up. The ARMS system will incorporate FOQA. This will benefit because they will be able to see trends for how to best use equipment and procedures. He has never used FOQA before in any company and learned all he knows about it from Eastern. He said that there was some sentiment from pilots that the information would be used in a punitive manner, however he says that it cannot be used punitively and should be used to benefit all.

Eastern was in the process of obtaining EFBs. He said that progress with the new POI takes less time and with their old POI took more time. They've had the new POI for 3 to 4 months.

Eastern does not fly dual captains often. It occurred more at the beginning of their operation.

In training, they do not do short and long runways. They are planning on changing training to include short fields of less than 7,500 feet or less than 7,000 feet. The Boeing 737 can land on runways greater than 6,000 feet.

Leadership training, which was conducted in upgrade training, included definitions, types of leadership, discussion, directions, communication, listening, and understanding.

He said that go arounds are conducted as missed approaches, rejected landings are performed for scenarios such as aircraft still being on the runway. At 50 feet, ATC tells the aircraft to go around. They are thinking about how to incorporate pilot decision making into the scenario. They have never trained go arounds after the airplane was on the ground. When asked to describe a go around procedure after the airplane was on the ground he stated he would apply power, retract speedbrakes, flaps 15, and upon positive rate retract the gear.

³¹ Integrated Approach Navigation

Regarding autobrake training, he said that there was no preferred setting. He suggests with 7,000 feet or less, he would use the autobrakes 3 setting. Pilots would use the QRH to assess landing performance with different autobrake settings and have to compare it with the length of the runway. During that briefing, the pilots would discuss when they plan to exit the runway.

His unsatisfactory rate was about 10% and he had issued an unsatisfactory performance to 3 or 4 pilots. He estimated that the total internal Eastern unsatisfactory rate was about 4%. They discussed the unsatisfactory rate in the instructor meeting. He said that reasons for unsatisfactory included:

- Not preparing for final ride
- Knowledge in that pilots know the regulation but were not aware of violation. He provided an example of the takeoff alternate regulation
- Pilots doing procedures but not writing in the aircraft maintenance book and DMI
- Accepting an RNP approach when the airline was not approved to conduct RNP approaches
- Failing more than two things on a PC
- Usually involved complacency

They have had one unsatisfactory performance with the FAA when the pilot was struggling with auto-throttles.

When asked about how they ensure standardization of instructors he stated that the airline had hired a standards person. There was no manager of standards at the time of the interview. They have meetings with other instructors to discuss changes.

They saw a flap asymmetry issue during training and changed procedures from “landing flaps” to “flaps 40.”

The interview ended at 1240 EST.

Interviewee: Terry Pentecost, Vice President of Technical Operations, Eastern Airlines

Represented by: (waived)

Date: November 30, 2016

Location: Eastern Airlines, Miami, Florida

Time: 1250 EST

Present: Shawn Etcher, Sathya Silva – NTSB

During the interview, Mr. Pentecost stated the following:

He was 58 years old. He joined the military in 1977. He was in the military for 20 years and worked on fighters overseas. He received a BA from Embry Riddle in Aeronautics and also earned his A&P³² certificate at Embry Riddle. He was an MRO³³ on DC-10 aircraft for Mobile Aerospace. He was an MRO on Embraer and SAAB aircraft at American Eagle. He also served as Director of Maintenance and Director of Quality control in Puerto Rico. At Silver Airways he worked on the

³² Airframe and Powerplant

³³ Maintenance Repair and Overhaul provided

SAAB 340. At World Atlantic Airways, he was Director of Quality Control. He joined Eastern as Director of Quality Control in June of 2014 and was promoted to Director of Maintenance in May of 2015. He has no flight experience as a pilot.

He stated that his duties as Director of Maintenance included maintaining the airworthiness of aircraft, mechanics, tools, purchasing parts, quality control, records, auditing and CASS. There are about 25 people working for him and he required a few more people. They were in the process of hiring a quality control person for auditing. He reported to the CEO. He has a good working relationship with the new CEO. He also had a good working relationship with the former CEO, however described that individual as demanding. When asked to elaborate, he said that the former CEO didn't understand maintenance and had to be convinced of how important it was. Challenges included the lack of prioritization and the impossible deadlines. The new CEO had stepped back and lines up tasks and prioritizes.

He interacts with the Director of Operations when discussing how mechanics and pilots can help internal efficiency. He interacted with the Director of Safety (DOS) to implement the new SMS program and also to discuss different issues that have come up during operations. He had a good relationship with both the new DOS and the former DOS.

He enjoyed working at Eastern and finds it challenging work. He's proud of bringing back a legacy, despite the long hours. He described the working conditions to be on par with other places he's worked and the pay as a "bit short." The mechanics are paid on average \$21-\$29 per hour based on experience. He said that is a competitive rate for mechanics.

Morale in the maintenance group is good. The mechanics were excited to work at Eastern. The 12 mechanics who fly in the aircraft mostly ride in the cockpit. He said that they can sit in the back of the cabin as well. He liked for the mechanics to be in the jumpseat for takeoff and landing as it helped them understand the pilots job and situation.

The favorite part of his job was the challenge to succeed every day and moving forward. If he could change anything it would be to work less hours and increase staffing and described these as "growing pains."

He worked with the FAA on projects for the aircraft, bringing an aircraft onto the certificate, generating task cards, and training mechanics. He primarily interacted with the FLM³⁴. He described some struggles as issues with the FLM and the way he conducted business and communicated with them. He said that sometimes working with the FLM was like "running into a wall." The airline worked with the FAA to resolve those issues.

If pilots had an issue with the aircraft, he'd expect them to report it to the onboard mechanic and write it up in the aircraft logbook. The mechanic would look up the fix and report to maintenance control (MCC) located in the OCC, while the pilot would report the issue to the OCC. He would get involved if there were questions that arose. The mechanics referenced the manuals and wrote every issue up in the airplane maintenance book. Mechanics and MCC work together. The

³⁴ Front Line Manager

mechanic has an iPad with the AMM³⁵ to each aircraft and would look up fault isolation manual, FIM, action. The mechanic and MCC would agree on a procedure. If the procedure did not work, they would MEL the item. Once the item was deferred, MCC tells OCC. OCC would contact the pilot and tell him the restrictions associated with the MEL item.

The timing of the manual deployment of speed brakes would be up to the pilot and would be included in the briefings. He was not aware if the autospoiler deferral influence on landing performance. For the incident flight he thought the mechanic was in the cabin of the aircraft as he had reported that he could see the wings. As long as it doesn't bother the passengers, the mechanic could sit in the cabin. Some sports teams don't want the mechanic interacting with them so the mechanic would sit in the jumpseat. A mechanic could be on board for the entire trip, and could be on the trip for 2 to 3 weeks at a time. All mechanics were vetted through the secret service for the flights associated with the campaign. He said that the autospoiler part, that had been deferred, was in LGA waiting to be replaced the night of the incident. He believed the deferral for the autospoiler was a 10-day deferral and that they were not close to the limit.

He said that he may have had to explain how parts work to pilots, but with issues the final call was the captain's decision. They do not have a program to keep track of go arounds conducted during flight operations. He does not believe that any go arounds have been done at Eastern to his knowledge as nobody has reported one to him.

OCC has to review the deferral and that was not a maintenance responsibility.

The PMI³⁶ has been the airline's PMI since the beginning. The FLM had also been their FLM since the beginning.

The interview ended at 1322 EST.

Interviewee: Gregory Leigh Syvertson, Director of Safety In Training, Eastern Airlines

Represented by: (waived)

Date: November 30, 2016

Location: Eastern Airlines Conference Room B, Miami, Florida

Time: 1328 EST

Present: Shawn Etcher, Sathya Silva – NTSB

During the interview, Mr. Syvertson stated the following:

He was 34 years old. He started his career in the Army as an intelligence analyst for 4 years. He then moved to SAIC also doing intelligence work and spent 2+ years deployed. He spent 2 years, in compliance, at JP Morgan Chase Bank. He went to business school at night when working in New York City.

On September 19, 2016, he was hired as Director of Safety (DOS) in training. There was a 2-week turnover with the previous DOS. The airline has another individual listed as DOS on the ops specs

³⁵ Aircraft Maintenance Manual

³⁶ Principal Maintenance Inspector

currently. When he has completed his training, he'll have an interview with the POI and the FLM. He expects that will be in about a month which will mean a total of 2.5 months training. There was no specified length of time for training and lots of it is on the job.

He was the only person in the safety office. He has had 20 to 40 hours of training since the former DOS had left. He was learning process and procedures such as audit finding, escalation, developing corrective action plans, forming the safety office and bringing people on, He felt like he will need people as lots of things come up daily in the office that he loses time to such; as SRC and MRBs. The CEO was open to adding personnel.

His duties included SMS, for which he recently wrote an article about in the airlines internal newsletter. He must maintain the company manual and adjust it in order not to include the new operating system ARMS. He was working on drafting two versions of the manuals. One that included the software when it becomes fully operational, and one reverting to the prior version as of September 2016. They had submitted the former version as a data collection tool, DCT, for design validation, but the FAA said that if they weren't using the system currently, they couldn't use that version of the manual. He also dealt with external audits such as those by Norwegian Airlines and TUUI. Norwegian had questioned the size of the safety office and the fact that FOQA was not installed on all aircraft. He and the current Director of Safety were talking to the former Director of Safety about the audits to determine the number of people needed in the safety office. It was suggested that the airline look into an intern position for the job. He said he knew that equipping airplanes with FOQA was planned, but he was not sure when it would be implemented.

Examples of irregularity reports included bird strikes, but not much that needed to be escalated. He encouraged quality concern reports and open reporting was described in the manuals. There was also a hotline and reporting can also be done via email and be done anonymously. The safety policy was printed at the beginning of each manual. The safety department also would do training for new employee initial and recurrent training. He hasn't been involved in one since he started as there had been none available.

He has gotten three irregularity reports in the past one and a half weeks and about 15 total since he started. Of the three, one got escalated. The issue concerned a ground handler who couldn't speak English. He said the station manager at that airport was looking for a new vendor. He said that they don't usually provide feedback to the person who files the report regarding what's been done about the problem. The majority of reports they receive were from the specific department and usually came up in conversation, which were then added to the system. Over 50% of the issues were reported from pilots.

He had good working relationships with his counterparts in the other departments. They talked 3 to 4 times per day and find them easy to approach for guidance. He has had no challenges working with anyone and find them to be supportive.

As director of safety, the manual suggested that he was involved with developing and doing training for SMS, importance of safety, just culture, reporting, safety policy, risk assessment, safety assurance, and promotion.

He was not involved with the hiring of pilots. He might get asked to help with the flight attendant hiring as an outside opinion. He will be involved with the hiring of people in the safety department.

He liked working for Eastern and said it was a tall climb and high learning curve. He liked the smaller company, which has lived up to the expectation, and he liked going to work.

He has no background in safety but thinks his compliance background is helpful.

He was asked to classify how his training was. He found it extremely important, but it was challenging without the former DOS being physically in the office. He said all the information was in the manuals. The former DOS was easy to get in touch with. Any impediment to training was not due to the former DOS but to the other tasks that come up in the office. He felt that the official training for DOS was secondary. Everything he did on the job now goes through the current DOS for approval. He felt that his training will be adequate. He said that whether he will be adequately trained for the interview with the FAA depends on how detailed they get.

He met the FLM and POI in July and described the interaction as cordial. He thought the FAA liked having a different personality to work with in the safety department. The POI and FLM didn't get along with the former DOS. He meets with the POI weekly.

He's not a pilot. He believed the department heads and director like having someone without aviation background in the position as it is more compliance related. He also felt that they like the outside approach, but he does see how others may think otherwise that a pilot should be in the position.

The POI recommended he meet with the SMS manager at Spirit Airlines. He has had communication with that individual and talked with him and the director of emergency response. They provided lots of recommendations. Eastern was receptive to these recommendations. He will be attending an SMS training in California for a week. He said the former DOS tried to do that trainings, but didn't get approval for them from the airline.

If there were corrective action plans developed they have been addressed within a week. He said he had to follow up about 50% of the time for audits with other department heads.

He estimated ARMS to be complete in February. He said he would like to have someone from ARMS on site during implementation to fix the small things that come up. Right now OCC and dispatch are the ones using it most. The safety portion, of ARMS, was live but they are still relying on the paperwork. He has to hold departments accountable to use ARMS.

Irregular ops reports are manual reports and there was not an online form to submit those.

The training presentation is approximately 50 slides and was thorough. He sat in on the flight attendant safety training. There had not been any discussions of him sitting in on a pilot training class. He could reach out and get the slides to get an idea of how much safety was incorporated. He said he will get more proactive on this.

He described just culture as an acceptance of the set of trust/loyalties being developed by the company.

He said he didn't know if they trained CRM as a company. They had a management meeting last month where they drafted the mission statement and built a closer group and addressed issues. They were trying to do this meeting month to month.

He said morale on the floor was fine, upbeat, and positive. He said that there may be issues with the pilot and flight attendant morale.

The interview ended at 1421 EST.