A Case Study of a Large Irregular Operations Event at Southwest Florida International Airport

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CONTENTS

INTRODUCTION 3

Background 3

Overview 7

TIMELINE OF EVENTS 12

LESSONS LEARNED 19

Incident Command Post 19

Staffing Levels 21

Food and Water 22

Ground Transportation and Lodging 23

CONCLUSION 24

NOTES 27

REFERENCES 28

Appendix A - Flights that diverted to RSW on May 15, 2014 30

Appendix B – Airlines that routinely operated at RSW on May 15, 2014 32

Appendix C – South Florida Weather Radar on May 15, 2014 33

Appendix D – Timeline of Diverted Aircraft on May 15, 2014 36

Appendix E – FAA Airport Diagram (as of May 15, 2014) 37
INTRODUCTION

On May 15, 2014 Southwest Florida International Airport (RSW) experienced a large-scale irregular operations event. Over a one hour and 28-minute period, 23 commercial flights were diverted to the airport instead of their original destinations. Eight of these flights were from international origins, and passengers would have to clear U.S. Customs and Border Protection if the flights could not continue to their original destinations. A total of 30 commercial flights were diverted to RSW on May 15, 2014. The following case study examines what was done to accommodate these flights and ensure every passenger was afforded the protections guaranteed by the federal government. This case study will also identify the lessons that were learned as a result of this event.

Background

Irregular operations, or diversions, have become a bigger concern for airport operators over the last few years. In response to several long tarmac delay incidents, the United States Department of Transportation (DOT) issued the Final Rule on Enhancing Airline Passenger Protections (EAPP), which required domestic airlines to develop and adhere to contingency plans for long delays at each large and medium hub airport where the airline operates (U.S. Department of Transportation, 2009, p.3). The contingency plans are required to contain:

- Provisions on how to provide food and water to passengers for tarmac delays exceeding two hours.
- Provisions on how to deplane passengers within three hours.

The Second Final Rule on Enhancing Airline Passenger Protections (EAPP2), which expanded on the EAPP by requiring:
Foreign carriers operating in the U.S. to develop and adhere to tarmac delay contingency plans.

Domestic and foreign carriers to coordinate with airport authorities, United States Customs and Border Protection (USCBP) and the Transportation Security Administration (TSA).

Domestic and foreign carriers to provide passengers on international flights the opportunity to deplane within four hours.

The airlines to develop contingency plans for each small hub, non-hub and diversion airport (U.S. Department of Transportation, 2011, p.1).

The FAA Modernization and Reform Act of 2012 requires commercial service airport operators to submit an emergency contingency plan to the DOT for approval. The plan must:

- Provide for the deplanement of passengers following excessive tarmac delays.
- Provide for the sharing of facilities and make gates available at the airport in an emergency.
- Provide a sterile area following excessive tarmac delays for passengers who have not yet cleared United States Customs and Border Protection.
- Update each emergency contingency plan every five years and submit the update to the U.S. Secretary of Transportation for review and approval (U.S. Congress, 2012, p.85).

Additional regulations have recently had an impact on irregular operations. Flight Duty Limitations and Rest Requirements set new standards for crew rest that were previously codified in Operating Requirements: Domestic, Flag and Supplemental Operations. The impact of Flight Duty Limitations and Rest Requirements to irregular operations is that flight crews cannot operate flights to their original destination if the scheduled flight time would exceed their flight
duty period. This also applies to taxiing or repositioning aircraft (Federal Aviation Administration, 2012). This is a departure from Operating Requirements: Domestic, Flag and Supplemental Operations. Under this regulation, domestic operators only exceed their flight time if circumstances causing the delay are under the control of the air carrier (Federal Aviation Administration, 1996). Under Flight Duty Limitations and Rest Requirements, if an aircraft diverts to an airport and the crew’s flight duty period has expired or will expire prior to arriving at the destination airport, the flight crew cannot operate the flight. If a replacement crew is not available the flight is cancelled and the passengers must deplane. If this occurs on an international flight, the passengers will need to clear U.S. Customs. This could pose problems for airports with limited access to a U.S. Customs and Border Protection Federal Inspection Station (FIS). If a flight is terminated because the crew’s flight duty period is exceeded, that crew cannot taxi or reposition the aircraft.

On December 29, 2006, severe weather near Dallas/Fort Worth International Airport (DFW) caused more than 100 aircraft to divert from DFW. In a report from the Office of the Inspector General the total number of diverted flights in the United States on December 29, 2006 is the second highest single day total in the country’s history, behind September 11, 2001 (Office of the Inspector General, 2007, p.2). The report identifies 124 American Airlines flights that diverted from DFW due to inclement weather, 44 of which experienced tarmac delays exceeding four hours. Eleven of the 124 aircraft diverted to Austin-Bergstrom International Airport (AUS), eight of these aircraft experienced tarmac delays of at least two hours. Of these eight aircraft, three experienced tarmac delays exceeding six hours, and one aircraft (American Airlines Flight 1348) waited more than nine hours for a gate. In another large-scale irregular operations event, Charles Leocha, a journalist covering air travel reported an incident that
occurred on October 29, 2011. A severe snowstorm and navigational aid outages in the New York area forced 134 aircraft to divert from New York area airports (Leocha, 2011). Twenty-eight aircraft diverted to Bradley International Airport (BDL), and four of these aircraft experienced tarmac delays of approximately seven hours. There were several factors that led to the extended tarmac delays at BDL. The National Oceanic and Atmospheric Administration (NOAA) reported approximately 20 inches of snow fell as a result of the storm, passing the previous record snowfall for that time of year of approximately one inch. In addition, the storm approached faster than the forecaster predicted. The heavy snow also made it difficult for vehicles and ground service equipment to operate, particularly equipment with low ground clearance. CBS News reported the storm caused significant power outages, and approximately 800,000 Connecticut residents lost power as a result of the storm (Associated Press, 2011). These power outages affected the airport, its navigational aids and a U.S. Customs and Border Protection facility, causing delays in deplaning international flights. After the first 15 aircraft diverted to BDL, the airport attempted to limit additional aircraft from diverting to the airport. Additional aircraft diverted to the airport because of low-fuel emergencies. These incidents raised awareness of the potential hazards of long tarmac delays, and were the catalysts for EAPP, EAPP2, and the FAA Modernization and Reform Act of 2012.

As these examples demonstrate, when large-scale irregular operations events occur, it is important for airport operators to work closely with air carriers, air traffic control facilities, ground service providers, U.S. Customs and the Transportation Security Agency (TSA) to ensure that passengers are afforded the protections outlined in the EAPP, EAPP2, and FAA Modernization and Reform Act of 2012. The Lee County Port Authority worked closely with all airport stakeholders during the large-scale irregular operations event on May 15, 2014 and
ensured that all passenger protections afforded by EAPP, EAPP2, and FAA Modernization and Reform Act of 2012 were provided to the passengers impacted by this event.

**Overview**

The Lee County Port Authority (LCPA) employs approximately 400 people and is located in Fort Myers, Florida. The LCPA owns and operates Southwest Florida International Airport and Page Field.

Southwest Florida International Airport was originally named Southwest Florida Regional Airport (FAA identifier: RSW, ICAO identifier: KRSW), and is a medium-hub commercial service airport that opened on May 14, 1983. The original terminal was a 276,000-square-foot facility with two concourses and 14 passenger loading bridges located on the north side of the airport. In 1993, the airport was renamed Southwest Florida International Airport (the FAA and ICAO airport identifiers remained unchanged) after an FIS was opened at the facility. Southwest Florida continued to grow, and passenger traffic grew with the community. This increase in passenger traffic required new facilities. In September 2005, the new Midfield Terminal opened on the south side of the airport. This 798,000-square-foot facility included three concourses, 27 passenger loading bridges, an FIS, a commuter ramp for small commercial service aircraft and a small ramp for general aviation near the FIS.

There is only one runway at RSW. Runway 06-24 is a 12,000-foot, grooved asphalt runway. Taxiways Alpha and Foxtrot parallel Runway 06-24. Taxiway Alpha is northwest of the runway and connects the cargo ramp, Private Sky Aviation (the only FBO at RSW), and the north ramp to the runway. Taxiway Foxtrot is southeast of Runway 06-24 and connects the terminal ramp to the runway. Taxilanes Golf, Hotel, Juliet, Kilo and Lima connect the terminal ramp to Taxiway Foxtrot. Taxilanes Hotel, Kilo and Lima were added as the result of a
construction project to expand the taxiway system around the terminal ramp in anticipation of a new south parallel runway. An airport diagram is contained in Appendix E.

The Midfield Terminal project was completed in 2005 and created the Main Terminal and three concourses (B, C and D). There are 27 passenger loading bridges for the Main Terminal in the three concourses. The passenger loading bridges are classified into three categories:

- Preferential-use passenger loading bridges are leased by airlines, and the leasing airline has preferred use of those passenger loading bridges. The Lee County Port Authority Operations Department can assign aircraft to preferential-use passenger loading bridges but should coordinate with the leasing airline. B2, B4, B6, B8, C2, C3, C4, C5, C6, C8, D1, D3, D6, D7, D8 and D10 were preferential-use passenger loading bridges on the event date of May 15, 2014.

- Common-use passenger loading bridges are managed by the Lee County Port Authority Operations Department. Airlines request use of these passenger loading bridges, and the LCPA Operations Department will grant the request if the passenger loading bridge is available for use. These requests can be made for scheduled or unscheduled operations. Priority for common-use passenger loading bridges is given to scheduled operations before unscheduled or irregular operations. B5, B7, B9, C1, C7, C9, D2, D4 and D5 were common-use passenger loading bridges on May 15, 2014.

- International passenger loading bridges have direct access to the FIS and are assigned by the LCPA Operations Department. B1 and B3 are international passenger loading bridges.
In addition to the passenger loading bridges, there are several hardstand locations at RSW. These are locations where an aircraft can be parked without interfering with airport operations. These locations do not have passenger loading bridges. The following hardstand locations were outlined in the Southwest Florida International Airport Emergency Contingency Plan: D1A (remote parking spot adjacent to Gate D1), B1A (remote parking spot located adjacent to Gate B1 and the FIS), B1B (remote parking spot located adjacent to Gate B1 and remote spot B1A), R1 and R2 (remote parking spots located adjacent to Concourse B), the commuter ramp (located at the end of Concourse D) and the north ramp. Additionally, portions of Taxilanes Hotel, Juliet, Kilo or Lima could be closed and used as hardstand locations (Lee County Port Authority, 2012, p. 3).

Within the Main Terminal, there are two companies that handle all concessions, HMSHost and Paradies. HMSHost operated the following establishments on May 15, 2014:

- **Main Terminal** - Shula’s Bar and Grill, Nathan’s Hot Dogs, Quizno’s, Jose Cuervo Tequileria Bar and Starbucks
- **Concourse B** - Great American Bagel, Burger King, Beaches Boardwalk Café and Starbucks
- **Concourse C** – Sbarro, Great American Bagel and Dewar’s Clubhouse
- **Concourse D** - Great American Bagel, Casa Bacardi, Palm City Market and Starbucks

Paradies also operates two Dunkin’ Donuts in the Main Terminal. In addition, LSG Sky Chef operates a catering service that provides food and drinks to the airlines, which is delivered directly to commercial service aircraft on the Terminal Ramp.

The FIS is located on the first floor of Concourse B between Gates B1 and B3. The FIS is accessible from Gates B1, B3 and the In-Transit lounge (ITL). The ITL is a secure and sterile
area where passengers from international flights can wait to either re-board an international flight or clear U.S. Customs.

LCPA has a contract taxi service provider, MBA Airport Transportation. The LCPA has a contract with Standard Parking to manage the parking facilities at RSW. Standard Parking manages the short-term, long-term and employee parking lots at RSW. Standard Parking also operates a fleet of buses to shuttle passengers and employees to the three parking lots. There are several other taxi service providers in Southwest Florida. These taxi service providers can only operate at RSW to drop off passengers or pick-up passengers that have prearranged transportation. There are no charter bus services based in Fort Myers, Florida.

RSW is centrally located to the four large-hub commercial service airports in Florida. Both Miami International Airport (MIA) and Fort Lauderdale-Hollywood International Airport (FLL) are 88 nautical miles east-southeast of RSW, Tampa International Airport (TPA) is located 96 nautical miles north-northwest of RSW, and Orlando International Airport (MCO) is located 116 nautical miles north-northeast of RSW.

The proximity to these airports and the physical layout of the airport make RSW an ideal location for aircraft that need to divert to an alternate airport. According to the LCPA Irregular Operations Log, RSW received 247 diverted aircraft in 2014 (Lee County Port Authority, 2014). MIA was the original destination for 169 of these diverted aircraft, or 68.42%. FLL was the original destination for 35 of these diverted aircraft, or 14.17%. TPA was the original destination for 21 of these diverted aircraft, or 8.50%, MCO was the original destination for 10 of these diverted aircraft, or 4.05%. West Palm Beach International (PBI) was the original destination for six of these aircraft, or 2.43%. Punta Gorda Airport (PGD) was the original destination for three of these aircraft, or 1.21%. Key West International Airport (EYW) was the original destination
for two of these aircraft, or 0.81%. Naples Municipal Airport (APF) was the original destination for one of these aircraft, or 0.41%. Of the diverted flights, 176, or (71.26%), were domestic, and 71, or (28.74%), of the diverted flights were international. Of the 247 diverted aircraft RSW received in 2014, three aircraft diverted in March, seven in April, 46 in May, 71 in June, 68 in July, 28 in August, 10 in September, one in October, 10 in November, and three in December.

On May 15, 2014, there was a significant line of thunderstorms in South Florida. Miami International Airport and Fort Lauderdale International Airport experienced heavy rain and thunderstorms. According to the National Weather Service’s automated weather observations from MIA, the airport experienced thunderstorms or heavy rain from approximately 10:45 a.m. until 11:15 a.m., from approximately 12:25 p.m. until 4:45 p.m., and from approximately 7:30 p.m. until 7:45 p.m (National Weather Service, 2014). Also, the National Weather Service’s automated weather observations from FLL, the airport experienced thunderstorms or heavy rain from approximately 11:15 a.m. until 11:45 a.m., from approximately 2:10 p.m. until 4:15 p.m. and from 7:45 p.m. until 8:00 p.m (National Weather Service, 2014).

The Southwest Florida International Airport Emergency Contingency Plan outlines how passengers will be deplaned following excessive tarmac delays and how facilities and resources will be shared between airlines. The plan also identifies a sterile area for passengers who have not cleared U.S. Customs and Border Protection (Lee County Port Authority, 2014, p.4).

The airlines that routinely operated at RSW in 2014 were: Air Berlin, Air Canada, AirTran Airways, American Airlines, Delta Air Lines, Frontier Airlines, JetBlue Airways, Silver Airways, Southwest Airlines, Spirit Airlines, Sun Country Airlines, United Airlines, US Airways and WestJet. Four of these airlines employed personnel to provide ground handling services; these airlines were Delta Air Lines, JetBlue Airways, Southwest Airlines and United Airlines.
The remaining airlines had ground handling services contracted through one of three companies operating at RSW. These three companies were Airport Terminal Services (ATS), Envoy Air (a subsidiary of American Airlines) and ServisAir. Eight airlines leased gates from LCPA and had preferential use of these leased gates. These eight airlines were AirTran Airways, American Airlines, Delta Air Lines, JetBlue Airways, Southwest Airlines, Spirit Airlines, United Airlines and US Airways.

Aircraft operations, along with passenger enplanements and deplanements, are very seasonal at RSW. The LCPA Department of Public Affairs, reported between 2010 and 2014 that RSW averaged 1,017,564 total passengers in the month of March and 357,065 total passengers in the month of September (Lee County Port Authority, 2014). The seasonal nature of these aircraft operations requires companies at RSW to increase and decrease their staffing levels throughout the year. Many companies use temporary employees during the winter and spring travel season. Staffing levels for companies operating at RSW are lowest during the summer months.

**TIMELINE OF EVENTS**

- 14:42 to 15:31 - A ground stop due to weather in Miami forces 14 aircraft to divert from Miami International Airport (MIA) to RSW. Lee County Port Authority Southwest Florida International Airport Emergency Contingency Plan identifies that RSW can reasonably accommodate 12 diverted or unscheduled aircraft at a time (Lee County Port Authority, 2014, p.5). The LCPA Operations Department recognizes the potential logistical problems that could occur if the airport is sent too many diverted aircraft. The Operations Department contacts the RSW Air Traffic Control Tower
15:37 to 16:10 - An additional nine aircraft divert to RSW, most declaring “minimum fuel.” This brings the total number of diverted aircraft to 23 in a 90-minute period. Included are three international flights: TACA Airlines Flight 536 at 15:37, Sun Country Airlines Flight 8831 at 15:43 and American Airlines Flight 207 at 15:56. The last of these diverted aircraft is Delta Flight 2448. While en-route from LaGuardia International Airport (LGA) to FLL, Delta Flight 2448 sustains a lightning strike and diverts to RSW at 16:10. These nine aircraft join the 14 already on the ground.

16:30 - The ground stop at MIA is lifted. RSW ATCT begins a “Call for release” program for aircraft waiting to depart for MIA. This program is designed to start introducing diverted aircraft back into the National Airspace System. Between 16:30 and 17:00, four aircraft that have already refueled depart RSW for MIA as part of the “Call for release.”

16:45 - Aircraft that have already refueled begin to queue on the north ramp waiting to depart RSW for MIA.

17:00 to 17:20 - Nineteen of the 23 diverted aircraft remain at RSW. The Miami Air Route Traffic Control Center (MIA ARTCC) shuts down eastbound departures from RSW due to congestion and weather. The Traffic Management Unit at the MIA ARTCC establishes a second “Call for release” program. Between 17:00 and 17:20 an
additional five aircraft depart RSW. Fourteen of the 23 diverted aircraft remain at RSW.

17:20 - The Traffic Management Unit (TMU) at MIA ARTCC issues another ground stop for MIA. This ground stop requires the fourteen aircraft waiting to return to MIA and FLL to hold on the ground at RSW.

17:45 - The First Officer on American Airlines Flight 207 reaches his flight duty time limit and cannot continue to operate the aircraft. The aircraft returns to Gate B1, and the First Officer is cleared by U.S. Customs and Border Protection. American Airlines locates another First Officer, who is en-route to RSW to operate American Airlines Flight 207 from RSW to MIA. Once the new First Officer arrives the aircraft pushes from Gate B1 and waits to depart RSW for MIA.

17:55 - The ground stop at MIA is lifted. Five aircraft depart RSW for MIA between 17:59 and 18:22.

18:25 - Fourteen of the 23 diverted aircraft have departed RSW. The other nine aircraft are either at a gate fueling or have been fueled and are waiting to depart RSW for MIA. A third ground stop at MIA is issued. This ground stop requires all aircraft waiting to return to MIA and to hold on the ground at RSW.

18:30 - Delta Air Lines grounds Flight 2448, the aircraft that sustained a lightning strike while en route from LGA to FLL. The flight is cancelled so mechanics can inspect the aircraft for damage. Delta Air Lines busses the passengers from RSW to Fort Lauderdale-Hollywood International Airport (FLL).

19:00 - TACA Flight 536 (A320) arrives at RSW at 15:37 and is given Gate D7 (a domestic gate) to park and receive fuel. Because it was an international flight parked at
a domestic gate, the passengers were not afforded the opportunity to deplane. The aircraft returns to Gate B1, so passengers can be given an opportunity to deplane within the four-hour time limit established by EAPP2. When the aircraft arrives at the gate, the passengers enter the ITL. The port director for USCBP makes the decision to clear the passengers of TACA Flight 536 through the FIS.

19:15 - The crew of Sun Country Flight 8831 (B737-800) reaches the end of their duty day and must return to the terminal. The aircraft parks at Gate B3 the passengers enter the FIS and begin to be cleared by USCBP.

19:15 - The rest of the crew of American Airlines Flight 207 (B767-300) reaches the end of their duty day and the aircraft returns to the terminal. The aircraft arrived at RSW at 15:56. Both gates with access to the FIS were occupied.

19:27 to 19:58 - An additional three aircraft divert from MIA to RSW. Two of these flights are international.

19:32 - The ground stop at MIA is lifted. Aircraft waiting to depart for MIA can request departure clearances.

19:35 - Both gates with access to the FIS are occupied, and the decision is made to hardstand American Airlines Flight 207 and deplane using air stairs.

19:41 to 19:48 - Four aircraft depart RSW for MIA. Of the original 23 diverted aircraft only four remain at RSW. Three international flights are at the FIS, and Delta Air Lines Flight 2448 has deplaned. The three diverted aircraft that arrived between 19:27 and 19:58 are being fueled.

19:52 - Six Transportation Security Agency Officers form an escort chain and allow the passengers of American Airlines Flight 207 to walk approximately 350 feet from the
aircraft to the ITL. The ITL is used in an attempt to segregate the passengers of American Airlines Flight 207 from the passengers already in the FIS.

- **20:00** - Approximately 408 passengers from three international flights are waiting to be cleared at the FIS. An Incident Command Post (ICP) is established in the FIS. The initial ICP consists of personnel representing LCPA Airport Operations, LCPA Airport Rescue and Firefighting, LCPA Airport Police, LCPA Terminal Maintenance and the TSA.

- **20:10** - An LCPA Ground Transportation agent attempts to assist the Captain of TACA Flight 536 in arranging ground transportation for passengers back to Miami. There are limited options for ground transportation. A charter bus that was in the area has already been contracted to transport the passengers from Delta Air Lines Flight 2448 to Fort Lauderdale.

- **20:26 to 20:38** – Two Envoy Air flights divert to RSW from MIA. There are currently 10 diverted aircraft on the ground at RSW, 5 waiting to depart to MIA, and 5 diverted aircraft are parked with the passengers deplaned.

- **20:30** - TSA advised that the B Concourse Security Checkpoint is closing and that the C Concourse Security Checkpoint will close at approximately 20:45. The ICP requests that the TSA keep B Concourse Security Checkpoint open in the event that TACA attempts to fly the passengers back to Miami. The TACA passengers would need to be re-screened through a security checkpoint after being cleared through the FIS into the Main Terminal. The TSA supervisor advises they are unable to screen the TACA passengers through the B Concourse Security Checkpoint because the airline cannot provide a passenger list, boarding passes or bag tags required for luggage screening.
TACA passengers that have exited the FIS are in a non-sterile portion of the airport and cannot return to the boarding gate without being screened by the TSA.

20:45 - A Ramp Supervisor for ServisAir (the company providing ground handling for TACA) makes contact with a TACA Manager in Miami in an attempt to arrange ground transportation for the TACA passengers back to Miami. The TACA Manager is unable to arrange ground transportation. The TACA passengers will not be screened by the TSA and ground transportation will need to be arranged to Miami or hotel rooms will need to be provided by TACA.

21:00 - There are delays unloading checked luggage from American Airlines Flight 207. The B767-300 has a containerized cargo compartment, and Envoy Air doesn’t have the equipment to remove these containers. ServisAir agrees to remove the containers for Envoy. ServisAir is also providing ground handling services for TACA Airlines Flight 536. Envoy has approximately 10 employees working seven flights on the ground at RSW.

21:15 - Passengers in the FIS cannot clear U.S. Customs until they have all of their checked luggage. The delays in unloading the checked luggage prevent passengers from clearing U.S. Customs. The FIS has restrooms and drinking fountains, but does not have any other concessions or facilities.


21:30 - Arrangements for food and water are beginning. LCPA maintains an emergency supply of bottled water and begins distributing it to the passengers waiting in the FIS. A
representative of HMSHost is contacted the company agrees to provide snacks and sandwiches for approximately 200 people. LSG SkyChef is contacted, but due to a lack of staffing they are unable to provide any assistance. The concessions that Paradies manages have closed, and attempts to contact Paradies are unsuccessful.

22:00 - Food prepared by HMSHost begins to arrive at the FIS. It is apparent that the amount of food prepared by HMSHost will not be sufficient. The ICP decides to contact a local fast food restaurant and order 200 hamburgers. The hamburgers are purchased by LCPA and picked up by ARFF.

22:21 - The TACA aircraft has extremely valuable cargo on board that was destined for the U.S. Federal Reserve in Miami. This requires extra security and the TACA flight crew decides to ferry the empty aircraft back to MIA. After TACA Flight 536 departs for MIA, Envoy attempts to tow American Airlines Flight 207 to Gate B1. The flight crew has already cleared the FIS and left RSW. This requires an employee who can “ride the brakes” while American Airlines Flight 207 is towed from the temporary hardstand position to Gate B1. Envoy doesn’t employ any personnel qualified to perform this task for a Boeing 767-300. An American Airlines employee in Tampa, Florida, is contacted and asked to go to RSW to assist in moving the aircraft.

23:00 - The manager for Envoy at RSW advises the ICP that he is trying to find ground transportation for about 50 people to Miami. These passengers are transported by RSW taxi concessionaire MBA Airport Transportation and an additional local ground transportation company.

23:15 - All passengers from TACA Flight 536, American Airlines Flight 207 and Sun Country 8831 have been cleared by U.S. Customs and Border Protection. Many
passengers remain in the Main Terminal, attempting to find information on when and how they will get to Miami.

⇒ 23:20 - ARFF personnel arrive with 200 hamburgers and begin distributing them to the displaced passengers in the Main Terminal.

⇒ 23:40 - The manager for ServisAir coordinates hotel rooms for the TACA Airlines passengers. The hotel staffing is minimal (due to the late hour) and wait times for transportation from RSW to the hotel are steadily increasing. The ICP decides to dedicate a bus from Standard Parking (the company that manages parking operations at RSW) to shuttle people from RSW to the hotel. Standard Parking transports 22 people.

⇒ 01:10 (May 16, 2014) - The last TACA passengers are transported to their hotel.

⇒ 08:21 (May 16, 2014) - Sun Country Flight 8831 is ferried to MIA.

⇒ 08:59 (May 16, 2014) - American Airlines Flight 1341 is ferried to MIA.

⇒ 10:12 (May 16, 2014) - American Airlines Flight 207 is ferried to MIA.

⇒ 10:52 (May 16, 2014) - Delta Air Lines Flight 2448 is ferried to Hartsfield-Jackson Atlanta International Airport for maintenance.

LESSONS LEARNED

Incident Command Post

Commercial service airports use the National Incident Management System’s (NIMS) Incident Command System (ICS) to manage large-scale incidents. FEMA mandated the adoption of this system after the catastrophic events of September 11, 2001 and Hurricane Katrina. This system is designed to allow federal, state and local government agencies to effectively manage incidents. LCPA utilizes an ICS with all large-scale incidents at the airport. The incident
command post (ICP) was established at 20:00 once 408 passengers were already in the FIS waiting to be cleared. As a result of this event, the LCPA Operations Department has modified their standard practices to include establishing an ICP earlier during irregular operations events. Additionally, in the future LCPA Operations Department senior staff will remain at the airport if there are international diversions at RSW.

Had the ICP been established earlier and USCBP personnel participated in the ICP prior to deciding to clear TACA Flight 536, the USCBP Port Director would have provided valuable information regarding the status of TACA Flight 536. There were two facts that the Port Director was unaware of when he decided to clear TACA Flight 536: First, if the passengers on TACA Flight 536 were cleared through the FIS, they would not be permitted to re-board the aircraft. Second, the limited ramp personnel and containerized cargo significantly increased the amount of time required to remove the luggage from the aircraft. In hindsight, it appears that had the passengers from TACA Flight 536 wait in the ITL as designed, this would have allowed the passengers to re-board the aircraft and continue to MIA when the aircraft departed at 22:21. This would have reduced some of the congestion and delays experienced in the FIS. This would have also alleviated the problems of TACA arranging hotel accommodations for passengers without airline representatives at RSW. Ultimately these two facts may not have changed the Port Director’s decision. USCBP personnel consider several factors when determining whether, when and where a diverted flight clears U.S. Customs. These factors can range from security concerns, to USCBP personnel staffing. Early establishment an ICP and sharing logistical information would help USCBP personnel make more informed decisions.

Establishing the ICP earlier also allows stakeholders to make better decisions regarding staffing and hours of operation, food and water, ground transportation and other
accommodations. Participation in the ICP provides airlines with the most current information regarding the status of the airport, ground transportation, and other pertinent information. Several airlines have updated their procedures regarding large-scale irregular operations events to include participation in the ICP. The LCPA Operations Department understands the importance of using ICS and the early establishment of an ICP. Prior to this event the LCPA Operations Department conducted training in various emergency situations, including large-scale irregular operations events. As a result of this large-scale irregular operations event, additional topics have been incorporated into this training.

**Staffing Levels**

Due to the seasonal nature of aircraft operations and passenger traffic at RSW, staffing levels fluctuate throughout the year, and that issue played a significant role in this large-scale irregular operations event. Summer is the slowest travel period in Southwest Florida. At the same time, summer weather patterns cause RSW to receive a significant increase in the number of diverted flights. These two factors can contribute to significant staffing issues during large-scale irregular operations events. This lack of staffing can lead to delays in most ground services for aircraft. Additional airline staff inside the FIS could have provided the passengers with better information and answered the passengers’ questions. But, reallocating airline staff from the terminal ramp to the FIS would have increased the delays in ground services. The LCPA emergency notification system could have been used to inform stakeholders of a large-scale irregular operations event. This information could have allowed stakeholders to make better decisions regarding retaining or recalling staff. As a result of this event, several airlines identified the need to tow aircraft and the specialized training involved for each different type of aircraft. These airlines decided to train their staffs to be able to “ride-the-brakes” on all types of
aircraft their airlines operate. This will allow these airlines to handle aircraft that may arrive at
RSW during irregular operations. Training personnel to be able to complete multiple types of
tasks could prove beneficial in large-scale incidents. There is certainly a cost to recalling
employees and expanding training programs. Each stakeholder must evaluate the costs and
benefits of these actions when developing irregular operations plans. Managing limited resources
is one of the most difficult tasks during large-scale events. It is important to develop plans to
efficiently manage limited resources. Stakeholders should consider minimum staffing levels
when developing irregular operations plans. Particular attention should be paid to the sequencing
of events. For example, the priority should be given to unloading luggage from international
flights because international passengers cannot clear U.S. Customs without their checked
luggage, whereas domestic passengers have the option to leave the airport and return later for
their checked luggage.

**Food and Water**

EAPP requires airlines to provide food and water to passengers who have experienced a
tarmac delay exceeding two hours. Some airlines at RSW maintain a small quantity of food for
irregular operations that may incur a delay exceeding two hours. Airlines rely on local
restaurants or stores in the event of a large-scale irregular operations event. This approach can be
problematic for events that occur when restaurants and stores are typically closed or for large
events. Restaurants in the Main Terminal are open from 5:00 a.m. until 6:00 or 7:00 p.m. These
hours of operation change slightly depending on the seasonal traffic. There is a coffee shop that
remains open 24 hours per day in the Main Terminal. This coffee shop serves a limited menu of
prepackaged food. The restaurants in the concourse are open 30 minutes prior to the first flight of
the day and close after the last departure of the day. The lead time to prepare food after the
airport restaurants close is at least one hour. The determination that food could be needed should be made quickly. Procedures should be established in advance of an irregular operations event to expedite the preparation and purchase of food. LCPA can purchase food on an airline’s behalf if the airline has agreed to reimburse the LCPA for the expense, this procedure was formalized was a result of this event. This would be especially helpful for airlines that do not typically operate at RSW and do not have personnel at the airport. This would also be beneficial for airlines that have limited staffing. Airlines may consider maintaining a small supply of non-perishable food in the ITL to provide quicker access during large-scale irregular operations events. Airlines could also consider stocking a small supply of bottled water for passengers onboard aircraft, but there are drinking fountains in all three concourse, the FIS, and the ITL.

Food considerations are especially important for passengers on international flights that have been diverted. These passengers must have all of their belongings, including any checked luggage, prior to clearing U.S. Customs. U.S. Customs also has specific rules regarding who and what can enter the FIS while passengers are being cleared. In planning for large-scale events, these issues should be discussed with the airlines and with U.S. Customs, specifically if and how food can be provided for international passengers waiting to be cleared by U.S. Customs personnel.

**Ground Transportation and Lodging**

In a large irregular operations event, ground transportation resources can be depleted quickly. In many cases at RSW, airlines will contract commercial ground transportation companies to transport diverted passengers to their original destinations. During this event, many commercial bus companies were not able to provide buses. There were several scheduled trips for May 16, 2014, and any driver who started a trip late on May 15, 2014 would not be able
to complete the scheduled trips on May 16, 2014 because of mandatory rest periods for drivers. During large-scale events, it may not be logistically or economically feasible to send displaced passengers to their original destination. Airlines that routinely operate at RSW have agreements with area hotels. Arranging hotels or ground transportation could be difficult for airlines that don’t routinely operate at RSW. In these instances, the American Red Cross may be a viable option to provide food, water, cots, pillows and blankets for passengers at RSW.

CONCLUSION

On May 15, 2014, Southwest Florida International Airport experienced a large irregular operations event on a similar scale to events experienced at Austin-Bergstrom International Airport in 2006 and Bradley International Airport in 2011. The May 15, 2014 irregular operations event at RSW was unique in the length of time operations were affected at MIA and FLL. The collaborative efforts of the stakeholders at Southwest Florida International Airport ensured that the passengers involved were afforded the protections outlined in the EAPP, EAPP2 and FAA Modernization and Reform Act of 2012. While the response to this event is considered successful, each of the stakeholders learned valuable lessons that will be helpful should another large-scale irregular operations event occur. The knowledge gained as a result of this event has changed policies and procedures for stakeholders. Moreover, airport operators should understand that large-scale irregular operation events can often exceed the airport limitations identified in their irregular operations contingency plans. For that reason, successful management of large-scale irregular operations events requires effective planning, communication, and coordination.

To summarize the lessons learned as a result of this large-scale irregular operations event:
An incident command post should be established as soon as is practical and involve as many stakeholders as possible.

International flights can cause several distinct issues during large-scale irregular operations events. First, there are fewer gates with direct access to the FIS. Contingency plans should be developed between LCPA and USCBP about where international aircraft should be parked during large-scale irregular operations events and how alternative methods for transporting passengers to the FIS will be implemented. Second, international passengers generally cannot leave the FIS until they have all of their belongings. LCPA and airline contingency plans should recognize this limitation and prioritize unloading of international aircraft. Third, international carriers may not have personnel or agreements with companies at RSW, causing difficulty in arranging ground transportation or hotel accommodations for passengers on diverted flights. LCPA maintains contact information for ground service providers at RSW and is willing to provide it to airlines that need assistance with ground handling. Additionally, LCPA has incorporated assistance from the American Red Cross into contingency plans.

Special consideration should be made to staffing levels, labor-intensive activities and the sequencing of critical activities.

Plans should be developed that allow airlines to procure enough food and water during a large-scale irregular operations event. It may not be feasible or cost-effective to store large amounts of food and water at the airport. These plans should address airlines that do not have personnel at the airport.
Plans should be developed by the airlines and airport regarding displaced passengers.

Ground transportation options and agreements should be pursued by the airlines.

Contingency planning for large numbers of passengers remaining at the airport should be developed by the airport.
Notes

1 This aircraft was struck by lightning and was grounded for mechanical reasons.

2 EAPP defines this as a snack and does not need to be a full meal.

3 In my experience as an Airport Operations Agent and Officer, I have seen airlines routinely bus passengers to Miami International Airport and Fort Lauderdale-Hollywood International Airport from RSW.
References


http://w1.weather.gov/obhistory/KMIA.html


Appendix A - Flights that diverted to RSW on May 15, 2014

1. United Airlines Flight 1614 (B737-900) KIAH-KMIA arrived 10:50
2. Envoy Air Flight 3507 (E145) KCLE-KMIA arrived 12:05
3. American Airlines Flight 316 (B757-200) KDFW-KMIA arrived 14:42
4. American Airlines Flight 1370 (B737-800) KORD-KMIA arrived 14:52
5. *American Airlines Flight 2416 (B737-800) MMMX-KMIA arrived 14:58*
6. American Airlines Flight 62 (B737-800) KPHX-KMIA arrived 15:09
7. United Airlines Flight 1282 (B737-800) KIAH-KMIA arrived 15:12
8. Envoy Air Flight 3533 (E145) KTLH-KMIA arrived 15:14
9. Envoy Air Flight 3475 (E145) KGNV-KMIA arrived 15:16
10. *American Airlines Flight 1157 (B737-800) MMUN-KMIA arrived 15:18*
11. *Servicios Aereos Litoral Flight 420 (E190) MMMD-KMIA arrived 15:19*
12. Envoy Air Flight 3691 (E145) KBHM-KMIA arrived 15:21
14. Delta Air Lines Flight 439 (B737-800) KJFK-KMIA arrived 15:27
15. *American Airlines Flight 1545 (B737-800) MKJP-KMIA arrived 15:28*
17. *American Airlines Flight 69 (B767-300) LEMD-KMIA arrived 15:37*
18. *TACA Airlines Flight 536 (A320) MHLM-KMIA arrived 15:37*
19. United Airlines Flight 1237 (B737-800) KIAH-KMIA arrived 15:43
20. *Sun Country Flight 8831 (B737-800) MUHA-KMIA arrived 15:43*
21. Southwest Airlines Flight 3770 (B737-700) KALB-KFLL arrived 15:47
22. JetBlue Airways Flight 1401 (A320) KJFK-KMIA arrived 15:48
23. Delta Air Lines Flight 2322 (A320) KMSP-KMIA arrived 15:52
25. Delta Air Lines Flight 2448 (MD-88) KLGA-KFLL arrived 16:10
26. American Airlines Flight 2422 (B737-800) MMUN-KMIA arrived 19:27
27. American Airlines Flight 986 (B757-200) MROC-KMIA arrived 19:35
28. American Airlines Flight 1485 (B737-800) CYYZ-KMIA arrived 19:58
29. Envoy Air Flight 3525 (E145) KPIT-KMIA arrived 20:26
30. Envoy Air Flight 3280 (E145) KBNA-KMIA arrived 20:38

*Flights listed in italics are international flights that were not pre-cleared by USCBP.*
Appendix B – Airlines that routinely operated at RSW on May 15, 2014

Air Berlin – *ground handling service provided by ServisAir*

Air Canada – *ground handling service provided by ServisAir*

AirTran Airways – *ground handling service provided by Southwest Airlines*

American Airlines – *ground handling service provided by Envoy Air*

Delta Air Lines/Delta Connection

Frontier Airlines – *ground handling service provided by Envoy Air*

JetBlue Airways

Silver Airways – *ground handling service provided by Envoy Air*

Southwest Airlines

Spirit Airlines – *ground handling service provided by ServisAir*

Sun Country Airlines – *ground handling service provided by Envoy Air*

United Airlines

US Airways – *ground handling service provided by Airport Terminal Services (ATS)*

WestJet – *ground handling service provided by Eulen America*
Appendix C – South Florida Weather Radar on May 15, 2014

South Florida Weather on May 15, 2014 14:00 - 16:00
South Florida Weather on May 15, 2014 16:30 - 19:00

16:30 5-15-14

17:00 5-15-14

17:30 5-15-14

18:00 5-15-14

18:30 5-15-14

19:00 5-15-14
South Florida Weather on May 15, 2014 19:30 - 21:30

19:30 5-15-14

20:00 5-15-14

20:30 5-15-14

21:00 5-15-14

21:30 5-15-14
Appendix D – Timeline of Diverted Aircraft on May 15, 2014

Aircraft Arrival and Departure Time at RSW on May 15, 2014

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Appendix E – FAA Airport Diagram (as of May 15, 2014)