

Developing a contingency plan for extended ground delays at Lambert International Airport

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Abstract

Contingency planning is an essential component of aviation management and should be emphasized in the aviation management curriculum. The Transportation Research Board (TRB) of the National Academies has identified the urgency to examine airport irregular operations and exploring effective solutions that minimize extended delays and their impact. This aviation management teaching activity asks students to work in a 4-5-person team and develop a contingency plan for extended ground delays at a familiar airport over a course of eight weeks. Stephens (2011) emphasized the importance of ensuring students understand and are capable of applying key concepts through hands-on real-life projects and experience in the real world, where there are consequences for actions. Creation and collaboration are two key elements for success in aviation management. This project demands research publications, databases, and media, as well as interaction with Subject Matter Experts (SMEs). Provided with a scenario and a list of references ahead of time, each team of students is evaluated based on successful completion of two activities. First, each team holds a simulated 30-min emergency response meeting to discuss how to transfer, accommodate, and re-board the two diverted flights after lengthy ground delays. Second, each team must research relevant resources and come up with a written contingency plan for dealing with lengthy ground delays. This plan should be specifically customized for the selected airport, and will be compared to an expert's list for assessment. Suggestions for the development of this teaching activity and a sample grading criteria are discussed.

Keywords: contingency planning, extended ground delays, teaching activity

PART 1: PLANNING OF THE ACTIVITY

1.1 Name of the Activity

Developing a Contingency Plan for Extended Ground Delays at Lambert International Airport

1.2 Target Audience and Teaching Situation

The target audience consists of junior and senior levels of students who major in aviation management and are enrolled in a Crew/Team Resource Management class.

The accident free High Risk Organization (HRO) necessitates mutual interdependency and careful coordination of all team functions. The roles of the team member and team leader will be examined in order to facilitate an understanding of the techniques and dynamics required to seamlessly act as contributing member of the HRO team.

To excel in work environments and drive innovations, students need both solid technical knowledge/skills and strong interpersonal skills through building working relationships. Contemporary youth spend an average of 7.5 hours daily connected to high tech gadgets, which facilitates a mindset of simulated worlds in which when things go wrong, these gadgets can be easily turned off, rebooted, or restarted. Stephens (2011) emphasized the importance of ensuring that students understand and are capable of applying key concepts through both hands-on real-life projects and experience in the real world, where there are consequences for actions.

It is well documented that some characteristics of the millennial generation¹ differ from previous generations (Lancaster & Stillman, 2002). They seek out information and resources that are easily accessible and in already familiar formats. With short attention spans and the inability to focus on one thing at a time, the millennials are reluctant to pursue activities that provide value to the perceived greater good (Strauss & Howe, 2007). Despite an enhanced commitment to being team-oriented, with a desire to collaborate with their peers through various communal and collaborative avenues, it may be challenging for the millennial students to consider others' needs and desires.

Contingency planning is an essential component of aviation management and should be emphasized in the aviation management curriculum. The Transportation Research Board (TRB) of the National Academies has identified the urgency to examine airport irregular operations and exploring effective solutions that minimize extended delays and their impact. During an irregular operations event (e.g., aircraft accidents, mechanical failures, bad weather), actions must be taken promptly to adjust for and recover from the impacts of disrupted airline schedules by following a well-planned and coordinated process. Unique passenger needs must be addressed in recognition of the scale of passengers requiring attention. In 2008, the Department of Transportation (DOT) established a national task force to provide general guidance to airlines, airports, government agencies, and other aviation service providers for developing and/or refining contingency plans concerning lengthy onboard ground delays and their impact on passengers before, during, and after such delays. The contingency plan is aimed to allow various

¹ A term used to refer to the generation, born from 1980 onward, brought up using digital technology and mass media; the children of Baby Boomers; also called Generation Y. (Dictionary.com).

players to participate in a coordinated joint-response effort to ensure passenger needs are rapidly identified and addressed during such delays. On April 29, 2010, the DOT imposed a rule on enhancing airline passenger protections, which demands that airlines adopt contingency plans for lengthy tarmac delays and coordinate these plans with the airport authorities. The Federal Aviation Administration (FAA) has an 88 percent on-time arrival performance target for the national airspace system to measure how its actions help to improve system wide on-time performance (GAO, 2010).

This teaching activity uses a real-life scenario to challenge millennial students to come up with a contingency plan, which requires considering and addressing passengers' needs and desires as well as collaboration with different functions of airport operations. Creation and collaboration, in the context of aviation management, are two key elements for success. This project demands research publications, databases, and media, as well as interaction with Subject Matter Experts (SMEs), not just the simple open source search (e.g., the Internet) that the millennials have grown up to depend on tremendously. Students work in a 4-5-person team over a course of 8 weeks (half of an academic semester).

1.3 General and Specific Objectives

General Objectives:

This project helps to achieve the following expectations of a student in terms of knowledge, value, and skills upon completion of the course.

1. To provide students of aviation with a basic understanding of team/crew resource management, its background, evolution, theories/principles, and applications of the principles to the many aspects of aviation operations.
2. To prepare students to successfully function as team members in aviation operations.
3. To provide exposure to and experience in the decisions made in selected cases.
4. To provide experience in case studies, team projects, and writing of reflection papers.
5. To provide opportunities to develop students' critical thinking, communication, and teamwork skills.

Specific Objectives:

This activity is intended to provide the following learning outcomes:

1. Students will practice aviation contingency planning, and learn the importance of constructing contingency plans to avoid passenger dissatisfaction and systematic interruption caused by lengthy ground delays.
2. Students will learn to be planful in a structured way before, during, and after aviation events.
3. Students will practice team-building skills that apply interpersonal communication skills and decision-making skills to resolve conflicts, manage challenges, and build high-performing teams.
4. Students will practice critical thinking and analytical skills to solve problems.
5. Students will practice oral and written communication skills to plan, execute, and present team projects.
6. Students will explore contemporary issues (e.g., passenger bill of rights).

1.4 Suggestions for Development of the Activity

This activity is one of the two 8-week team projects required in the course. For at least one group project we recommend that students be randomly assigned into groups instead of allowing students to choose groups among their friends. After the initial forming of the team, it is helpful to specifically ask students to exchange their contact information and select a team lead. It is suggested to set up online groups for students to collaborate in a virtual space, which houses project related documents and logs activities.

For this project to be successful, it is critical to select a familiar airport and provide students with an access to SMEs from the selected airport. It would be ideal to invite an SME to give a guest presentation which provides an overview of the airport operations and how different functional units work together during normal and irregular operations. If time and resources permit, a tour to the selected airport would certainly provide students with first-hand experience of the dynamics and fluidity of airport operations.

It is highly recommended that the instructor organize a face-to-face information gathering session for the students to interview SMEs. This session could take place either at the airport facility or in the classroom, as a part of or independent from the simulated emergency response meeting (see Activity 1). To assess students' progress and contribution to the team project, students should be asked to bring a list of written questions to the meeting. They may need to turn in a list of questions individually and as a group.

To facilitate team building and allow students to brainstorm as well as stimulate interest, it is recommended allocating some in-class time to do a discussion on personal experiences of lengthy ground delays. Following the classroom discussion, the instructor can require students to conduct open search of media reports of similar incidents (e.g., Continental Express Flight 2816 at Rochester, MN).

In addition to the written contingency plan, it is recommended to showcase and recognize students' work through other venues, e.g., best contingency plan award, submitting students' plan to the airport.

PART 2: ACTIVITY

2.1 Scenario

On a stormy midsummer evening, around 7:40 PM central time, two aircraft diverted to St. Louis Lambert International Airport (STL) from Chicago O'Hare International Airport (ORD) due to weather:

- Virgin America, flight #840 (Airbus 320-200; Depart: San Francisco; 124 passengers and 8 crew members)
- Asiana Airlines, flight #236, (Boeing 777-200ER; Depart: Seoul, South Korea; 291 passengers and 14 crew members)

After landing, the two planes were directed to park in a remote tarmac area. The airlines did not allow passengers to deplane since STL was not their destination. After three hours passed, the weather conditions still had not improved at their destination, ORD. However, the weather forecast said it would improve in a couple of hours. On Asiana Airlines flight 236, the Public Announcement system went down, the lights went on and off intermittently. The flight

attendants ran out of drinks and snacks to distribute to passengers. The bathrooms almost overflowed. Passengers started getting impatient.

- An elderly man reported feeling short of breath. He had packed his medication in the checked luggage not expecting a long delay
- Two infants on board began crying hysterically
- A passenger took her cat out of carrier to let it breathe some fresh air. The cat jumped off her lap. The cat urinated in its carrier and the smell was quite bad

On Virgin America flight #840, the situation was not much better.

Each team is tasked with transferring the two flights to a sterile area and providing them food/water and necessary facilities.

Flight #840 is to be deplaned at a vacant domestic gate, D6, which is not affiliated with any airlines operating at STL. Two international wide-body gates are occupied, and the aircraft cannot be moved. Therefore, the international flight #236 will be ramp offloaded at a designated remote pad. Two passengers on flight #840 need wheelchair assistance.

2.2 Activities

Activity 1:

Hold a simulated 30-min emergency response meeting to discuss how to transfer, accommodate, and re-board flights #840 and #236. At least five different key functions of airport operations will be represented at the meeting, for instance, Airfield Operations, Facility Management, Security Operations, Properties/Contract Administrations, and Public Relations/Customer Service. The meeting may be rehearsed. Two representatives from STL who are knowledgeable in how all departments function will be present at the meeting. Each team can consult their expertise by asking questions. The “meeting” will be video recorded by the instructor for evaluation. A student will be evaluated based on ONLY the contents of his/her discussion and team interaction, NOT his/her “acting” performance.

Activity 2:

Research relevant resources and develop a written contingency plan for dealing with lengthy ground delays. This plan should be specifically customized for St. Louis Lambert airport. Each team’s action plan will be compared to an expert’s list for assessment. Key points to consider for the plan includes (but are not limited to) a checklist of items to go through, steps/tasks, people/parties to be involved, contact list, and resources.

Some references provided by the instructor:

- U.S. Department of Transportation (2008). Development of Contingency Plans for Lengthy Airline On-Board Ground Delays.
- U.S. Department of Transportation (2009). Rules and Regulations: Enhancing Airline Passenger Projections.
- U.S. Department of Transportation (2010). FAQs Concerning the Enforcement of the Final Rule on Enhancing Airlines Passenger Projections.
- St. Louis Lambert International Airport (STL) Gate Layout

2.3 Evaluation

Student performance is evaluated through both activities. During the simulated emergency response meeting and information gathering session, their interactions with the SMEs and among themselves are assessed by the instructor, guest evaluators, and fellow students using grading rubrics (see an example in Appendix).

Students' contingency plans are reviewed and graded by the instructors and SMEs through assessing whether and how different aspects of irregular operations are sufficiently addressed. For example, regarding passenger needs during the event, the following aspects need to be considered and adequately discussed.

- Information on flight status and gate status. — Students provide passengers with information to keep them informed on the ground delay situation.
- Communication (cell phone usage, rebooking). — Students provide passengers with a means for enabling them to communicate with friends, family, and colleagues.
- Food and hydration. — Students make available different types of sustenance for all passengers, being considerate of dietary restrictions.
- Cleanliness. — Students provide clean and serviceable restrooms to address bodily needs and maintain personal hygiene.
- Special services. — Students provide a means to address health-related needs, such as oxygen, medicine, and prescriptions.
- Executable plan to deplane the aircraft. — Students provide concise information on steps that will be taken after a period of time, whether using boarding gates, vertical lifts, buses, or other identified methods of deplaning passengers (for example, vertical lift assistance for mobility challenged passengers, mobility devices)
- Lodging and rest accommodations. — Students provide proper shelter and accommodations once passengers deplane at remote sites from the terminal.

In the contingency plan, all references to others' work, including web pages, must be appropriately cited. Direct quotations must be indicated as such, and referenced. If text as well as figures and tables from other sources (e.g., books, journals, websites, etc.) are used but not appropriately cited, they will be treated as an instance of plagiarism.

Diction, syntax, grammar, punctuation, and spelling should be correct. The quality of the writing assignment should indicate that the students have carefully edited the document. They should use subtitles to organize the contingency plan (and thoughts) logically.

APPENDIX

Sample Grading Criteria:

Evaluation Sheet – Instructor/Guest

- 1- Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree, NA (not applicable; not able to assess)

For each statement, please enter an appropriate number that best describes each student’s performance during the simulated 30-min emergency response meeting (referred to as “the discussion” below).

Student Names					
Quality 1. Student appeared to be prepared.					
Relevance 2. Student asked the right questions.					
Contribution 3. Student demonstrated good communication skills and contributed productively to the discussion.					
TRM (Team Resource Management) 4. Student demonstrated good team skills during the discussion.					
TRM (Team Resource Management) 5. Student used all available resources (e.g., publications, experts) prior and during the discussion.					
6. This group is cohesive.					
Additional Comment:					

Student Names					

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