Ground Handling

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Synopsis:

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Forord

Indholdsfortegnelse

Del I

Problemanalyse

0.1 In case of an emergency

Occasionally an unexpected emergencies at airport incurs, the airport needs to respond to. A standard service manual for handling potential emergencies exists, for the relevance of this project it is interesting to know how to handle and maintain emergency landings. Which runway to shut down and prepare for the emergency, how to handle incoming and outgoing traffic and other airport services. The manual suggest following plan for an aircraft accident on the airport:

In general alot of different (organisations / agencies) is involved in these emergencies, each with their own responsibilities. The airport traffic services includes following:

> Chapter 4 RESPONSIBILITY AND ROLE OF EACH AGENCY FOR EACH TYPE OF EMERGENCY
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> 4.1 AIRCRAFT ACCIDENT ON THE AIRPORT 4.1.1 General The airport emergency plan shall be implemented immediately upon an aircraft accident occurring on the airport. For this type of emergency, responding agencies are expected to take action as described in 4.1.2 to 4.1.10 below. 4.1.2 Action by air traffic services 4.1.2.1 Initiate emergency response by using the crash alarm communication system (See Figure 8-1). 4.1.2.2 Notify the rescue and fire fighting service and provide information on the location of the accident, grid map reference and all other essential details, including time of the accident and type of aircraft. Subsequent notification may expand this information by providing details on the number of occupants, fuel on board, aircraft operator, and any dangerous goods on board, including quantity and location, if known. 4.1.2.3 Close the affected runway and minimize vehicle traffic on that runway to prevent disturbance of accident investigation evidence (See 4.1.5 2) f)). 4.1.2.4 If required, initiate communications to the police and security services, airport authority, and medical services in accordance with the procedure in the airport emergency plan. Provide the contacts with grid map reference, rendezvous point and/or staging area and airport entrance to be used. 4.1.2.5 Issue the following Notice to Airmen (NOTAM) immediately: “Airport rescue and fire fighting service protection unavailable until (time) or until further notice. All equipment committed to aircraft accident.” 4.1.2.6 Verify by written checklist that the actions above were completed, indicating notification time(s) and name of person completing action.
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> 4.3 FULL EMERGENCY 4.3.1 General The agencies involved in the airport emergency plan shall be alerted to “full emergency” status when it is known that an aircraft approaching the airport is, or is suspected to be, in such trouble that there is a possibility of an accident. 4.3.2 Action by air traffic services 4.3.2.1 Notify the airport rescue and fire fighting service to stand by at the predetermined ready positions applicable to the planned runway and provide as many of the following details as possible: a) type of aircraft; b) fuel on board; c) number of occupants, including special occupants — handicapped, immobilized, blind, deaf; d) nature of trouble; e) planned runway; f) estimated time of landing; g) aircraft operator, if appropriate; and h) any dangerous goods on board, including quantity and location, if known. 4.3.2.2 Initiate notification of the mutual aid fire department(s) and other appropriate organizations in accordance with the procedure prescribed in the airport emergency plan, providing, if necessary, the rendezvous point and airport entrance to be used.
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> 4.4 LOCAL STANDBY 4.4.1 General The agencies involved in the airport

> emergency plan shall be alerted to “local standby” status when an aircraft approaching the airport is known or is suspected to have developed some defect but the trouble is not such as would normally involve any serious difficulty in effecting a safe landing. 4.4.2 Action by air traffic services Notify the airport rescue and fire fighting service to stand by as requested by the pilot, or stand by as local airport agreements require at the predetermined ready positions applicable to the runway to be used. Provide as many of the following details as possible: a) type of aircraft; b) fuel on board; c) number of occupants, including special occupants — handicapped, immobilized, blind, deaf; d) nature of trouble; e) planned runway; f) estimated time of landing; g) aircraft operator, if appropriate; and h) any dangerous goods on board, including quantity and location, if known.

In conclusion a runaway is assigned to the "full emergency"and the "local standby"statuses, and when an accident incurs the affected area is closed and traffic through area is minimized. Also a signal of NOTAM are issued to notice that airport rescue and fire fighting services are all currently occupied.

-source Airport Services Manual, Part 7 by International Civil Aviation Organization (ICAO) Second Edition - 1991

0.2 Priser og Services

Aalborg Lufthavn har en aftale med Shell om genopfyldning af flys brændstof.

0.3 Stakeholders

Personal -Security -Flight controllers -Emergency crew -Clean up crew http://alturl.com/3onjh

-Catering staff -Mechanics -Flight Crew -Baggage handlers -Boarding Personal

The Airport -Administrators

The Airline companies -SAS, Lufthansa, Norwegian, etc...

Passengers -Check-in -Delays

0.4 Organization

Supply chain(Fuel, Water, Food) Infrastructure(Taxiing, Gates)

0.5 Technology

Computers Smartphones GPS Internet(Servers) Databaes(Arrivals,

0.6 Existing Solutions

(FILL IN LATER!)

0.7 Solutions

Make an information system to achieve: -Optimized infrastructure(Taxiing, Passengers, Fuel) -Prices(Total Price for ground handling services) -Servers bases solution, accessible on various platforms/interfaces -Passenger handling(Baggage Boarding, Food, Water)

0.8 Problem statement

Handeling companies often hire low-paid workers who work in an enviorment where they are exposed to congestion, stress, noise, jet-blast, extremes of weather and sometimes to low visibility conditions. Stress is a very big part of the work in an airport especially for the Ground Handlers since airlines don't make money while the aircraft is not in the air. In many places it is also the workers who are responseble for delays and will a delay will result a salarydeduction.

When a worker is stressed he makes mistakes wich leads accidents. These accidents can first and foremost become dengerous for the workers because they can be hurt as a result of an accident. A survey made by ACI in 2004 showed that out of 15,119,020 aircraft movements 3,233 had accidents resulting in 0.214% of all turnovers had accidents.

Accidents do not only lead to dangerous situations for the workers but can also become very expensive for the companies first of all because of the cost of the repair but also because the airplane will then have to spend more time on the ground and not make money by flying.

Most of the delays and errors that happen to airoplanes are caused by the ground handlers, who service the planes. Is it possible to reduce stressfactors and optimize performance for ground handlers, by making an information system, that can dynamically manage ground handlers' tasks throughout the day?

Del II

Produktudvikling