THE ICAO MODEL

AERODROME EMERGENCY PLANNING
AN OVERVIEW OF THE IMPORTANCE OF EMERGENCY PLANNING AND ANNEX 14 VOLUME I PROVISIONS ON AERODROME EMERGENCY PLANNING
2011 State of Global Aviation Safety

Accident Trends: 2005–2010

- Accidents
- Fatal accidents
2011 State of Global Aviation Safety

Fatality Trends: 2005–2010

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2011 State of Global Aviation Safety

Distribution of High-risk Accidents: 2005–2010

- **Accidents**: 66% High-risk categories, 34% others
  - **Fatal Accidents**: 73% High-risk categories, 27% others
  - **Fatalities**: 66% High-risk categories, 34% others

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5 Runway safety related events include the following ICAO accident occurrence categories: Abnormal Runway Contact, Bird strike, Ground Collision, Ground Handling, Runway Excursion, Runway Incursion, Loss of Control on Ground, Collision with obstacle(s), Undershoot / Overshoot, Aerodrome
Percentage of All Accidents: 2005–2010

- **Runway Safety related**: 59% of all accidents, accounting for 29% of all fatal accidents and 19% of all related fatalities reported between 2006 and 2010.

- **Loss of control in-flight**: Significantly concerns as it accounts for 22% of all fatal accidents and 29% of all fatalities.

- **Controlled flight into terrain**: While the loss of control in-flight occurrence category represents only 4% of all accidents, this category is of significant concern as it accounts for 22% of all fatal accidents and 17% of fatalities.

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## Aircraft Accident Survivals

### Table 1 – Aircraft accident survivors (1980 - 2007)

<table>
<thead>
<tr>
<th>Aircraft occupants on board</th>
<th>Number of accidents</th>
<th>Total number of occupants</th>
<th>Total number of survivors</th>
<th>Percentage of survivors</th>
<th>Seriously injured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 51</td>
<td>6 929</td>
<td>31 848</td>
<td>2 5274</td>
<td>79.4</td>
<td>1920</td>
</tr>
<tr>
<td>51 to 100</td>
<td>282</td>
<td>20 926</td>
<td>18 059</td>
<td>86.3</td>
<td>823</td>
</tr>
<tr>
<td>101 to 150</td>
<td>213</td>
<td>26 122</td>
<td>22 080</td>
<td>84.5</td>
<td>601</td>
</tr>
<tr>
<td>151 to 200</td>
<td>100</td>
<td>17 170</td>
<td>15 473</td>
<td>90.1</td>
<td>339</td>
</tr>
<tr>
<td>201 to 250</td>
<td>40</td>
<td>9 176</td>
<td>9 030</td>
<td>98.4</td>
<td>89</td>
</tr>
<tr>
<td>More than 250</td>
<td>77</td>
<td>24 551</td>
<td>22 709</td>
<td>92.5</td>
<td>344</td>
</tr>
<tr>
<td>All cases</td>
<td>7 641</td>
<td>129 793</td>
<td>112 625</td>
<td>88.5</td>
<td>4116</td>
</tr>
</tbody>
</table>
ICAO USOAP FINDINGS

UNIVERSAL SAFETY OVERSIGHT AUDIT PROGRAMME

Comprehensive systems approach (CSA)

Analysis of audit results

Reporting period
April 2005 to May 2007

This analysis is based on the results of the first 53 Contracting States audited under the Comprehensive Systems Approach (CSA).

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Not satisfactorily implemented
Without an aircraft crash simulation exercise, which will test emergency plans and response times, the airport will not be issued with an operating licence.

The exercise will have to take place before March 2010, when the airport is expected to open. The trial may involve a scenario where a plane crashes into the sea.

As a precursor to that, about 1 000 people are now preparing to tackle a similar big emergency aircraft crash simulation exercise next month at Durban International Airport.

In terms of international and local regulations, airports must have a full-scale exercise to test the readiness of various role-players and their equipment every two years.
ICAO Provisions on AEP

• Annex 14 — Aerodromes
• Volume I — Aerodrome Design and Operations
• Chapter 9, Section 9.1 Aerodrome Emergency Planning contains 15 Standards and Recommended Practices (SARPs)
What is AEP?

The process of preparing an aerodrome to cope with an emergency occurring at the aerodrome or in its vicinity.

What are the objective(s) of AEP?

To minimize the effects of an emergency, particularly in respect of saving lives and maintaining aircraft operations.
What do the AEP contain?

*The aerodrome emergency plan sets forth the procedures for coordinating the response of different aerodrome agencies (or services) and of those agencies in the surrounding community that could be of assistance in responding to the emergency.*
Planning for AEP should include provisions for:

- Emergency Operations Centre
- Command Post
- Communication System

Testing of the Plan
ANNEX 14, VOL I PROVISIONS

• Chapter 9, Section 9.1

• Introductory Note – objectives

• 9.1.1 (Std) - An aerodrome emergency plan shall be established at an aerodrome, commensurate with the aircraft operations and other activities conducted at the aerodrome
• 9.1.2 (Std)

• Coordination of actions to be taken

• Examples of emergencies:
  - 6 types involving aircraft
  - 5 types not involving aircraft
  - 3 types compound emergencies
INVOLVING aircraft:

1. Acft accident on-airport
2. Acft accident off-airport (land and water)
3. Acft incident in flight (turbulence, decompression and structural failure)
4. Acft incident on ground
5. Acft incident (sabotage/bomb threats)
6. Acft incident (unlawful seizure)
NOT INVOLVING aircraft:

1. Structural fire
2. Sabotage/bomb threat
3. Natural disaster
4. Dangerous goods
5. Medical emergencies/pandemics
ANNEX 14, VOL I PROVISIONS

• COMPOUND emergencies:

1. Acft/structures
2. Acft/fuelling facilities
3. Aircraft/aircraft
9.1.3 (Std)

- Coordinating responses/participation of existing agencies

- Examples of agencies located:
  * on aerodromes – ATS, RFF, ADM, HEALTH, ACFT OPTRS, SECURITY/POL
  * off aerodromes – FIRE DEPT, POLICE, MEDICAL, AMBULANCE, HOSPITAL, MILITARY, HARBOUR PATROL
• 9.1.5

• An AEP should include:
  - types of emergencies
  - agencies involved
  - responsibility and role of each agency, EOC & Command Post, for each type of emergency
  - coordinates of offices/people to be contacted
  - grid maps of aerodrome & immediate vicinity
GRID MAPS
GRID MAPS

Hospital 1
- 55 beds
- Capable of handling all emergency medical cases

Hospital 2
- 70 beds
- Capable of handling most emergency medical cases except special cases such as extensive burns

Hospital 3
- 40 beds
- Capable of handling common emergency medical cases such as simple wounds or fractures

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• 9.1.7 to 9.1.10

Availability of a fixed emergency operations centre and mobile command post for use during emergency

• 9.1.11

Need for 2-way communication systems between EOC and CP and for all airport agencies involved in emergency
9.1.12 & 9.1.13 (Stds)

Periodic testing & review results

Frequency of exercise:
- full-scale once every two years
- partial exercise during intervening years
• 9.1.14 (Std) & 9.1.15

Plan to include specialist rescue services for emergencies in difficult environment

Plan to include establishment, testing and assessment at regular intervals of a pre-determined response for specialist rescue service
ICAO Provisions on AEP

- Annex 14 — Aerodromes Volume I — Aerodrome Design and Operations
- Annex 18 — The Safe Transport of Dangerous Goods by Air
- Airport Services Manual, Part 1 — Rescue and Fire Fighting (Doc 9137)
- Airport Services Manual, Part 7 — Airport Emergency Planning (Doc 9137)
ICAO Provisions on AEP


- *Security Manual for Safeguarding Civil Aviation Against Acts of Unlawful Interference (Doc 8973) (Restricted)*

- *Human Factors Training Manual (Doc 9683)*

- *Guidance on Assistance to Aircraft Accident Victims and their Families (Circ 285)*
THE END

SHUKRAN