ICAO Cabin Crew Safety Training Manual
Welcome Remarks

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#IATA_CabinSafety
Welcome!

ICAO
Cabin Crew
Competency-based Training Workshop

Welcome!
Session 1

Introduction to the ICAO Workshop on Cabin Crew Competency-based Training
Objective

- To introduce ICAO workshop instructors and participants
- To introduce the workshop goals and contents
ICAO Workshop Instructor

Martin Maurino
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Air Navigation Bureau, ICAO
Introduction of Participants
Workshop Goals

- Provide participants knowledge of:
  - ICAO Standards and Recommended Practices (SARPs) relevant to cabin crew and cabin safety and security
    - in Annexes 6, 8, 13, 18 and 19 and related guidance material
    - Cabin crew competency-based training concepts and associated guidance material

- Develop participants’ knowledge to implement (operator/ATO) or approve and oversee (State) key components of cabin crew competency-based training programme
  - Based on *ICAO Cabin Crew Safety Training Manual* (Doc 10002)
<table>
<thead>
<tr>
<th>Time</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 – 09:15</td>
<td>Introduction to the Workshop</td>
</tr>
<tr>
<td>09:15 – 09:45</td>
<td>Overview of ICAO Standards and Cabin Crew Safety Training Manual (Doc 10002)</td>
</tr>
<tr>
<td>09:45 – 10:30</td>
<td>Introduction to Competency-based Training &amp; Assessment Concepts</td>
</tr>
<tr>
<td>10:30 – 11:00</td>
<td>Refreshment Break</td>
</tr>
<tr>
<td>11:00 – 11:45</td>
<td>ICAO Cabin Crew Competency Framework</td>
</tr>
<tr>
<td>11:45 – 12:15</td>
<td>Management Aspects of the Training Programme &amp; Training Facilities and Devices</td>
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<tr>
<td>12:15 – 13:45</td>
<td>Lunch Break</td>
</tr>
<tr>
<td>13:45 – 14:45</td>
<td>Transitioning from Traditional to Competency-based Training</td>
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<tr>
<td>14:45 – 15:15</td>
<td>Practical Exercise: Developing a scenario for competency-based training</td>
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<tr>
<td>15:15 – 15:45</td>
<td>Refreshment Break</td>
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<tr>
<td>15:45 – 16:15</td>
<td>Practical Exercise (Cont’d)</td>
</tr>
<tr>
<td>16:15 – 17:00</td>
<td>Practical Exercise: Presentations and Group Debriefings</td>
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</table>
Documentation

• ICAO Cabin Safety website
  – www.icao.int/cabinsafety
Session 2

Overview of ICAO Standards

and

The Cabin Crew Safety Training Manual

(Doc 10002)
Overview

- Definition of cabin safety
- ICAO cabin safety requirements
- ICAO cabin crew training requirements
- ICAO Doc 10002
- ICAO Cabin Safety Group & its role
- Overview of Doc 10002 Chapters
- Intent of the manual
- Q&A
What is Cabin Safety?

• Discipline that contributes to
  – Prevention of accidents and incidents
  – Protection of aircraft occupants

• Through proactive safety management, including
  – Hazard identification and safety risk management

• Increase of survivability in event of emergency situation
What is Cabin Safety?

- Cabin safety focuses on:
  - Regulations relating to cabin operations
  - Operator’s procedures and documentation
  - Cabin crew training and qualifications
  - Human performance
  - Design and manufacturing
  - Equipment and furnishings on board aircraft
  - The operational environment
ICAO Cabin Safety Requirements
ICAO Requirements: Cabin Safety

- ICAO Annexes contain SARPs
  - Adopted by Council of ICAO
  - Serve as minimum Standards applicable to international civil aviation

- Following Annexes comprise SARPs related to cabin safety
Annex 6 Part I

- Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes
  - Operator’s procedures
  - Passenger safety
  - Carry-on baggage
  - Minimum cabin crew requirements
  - Assignment of cabin crew members’ emergency duties
  - Cabin crew at emergency evacuation stations
  - Protection of cabin crew during flight
  - Cabin crew training programmes
  - Equipment required on board aeroplanes
  - Cabin crew members’ fatigue management
  - Security-related procedures and security training programmes
Other Relevant Annexes

- **Annex 8 - Airworthiness of Aircraft**
  - Cabin design & manufacturing
  - Systems design features
  - Operating environment & Human Factors
  - Crashworthiness & cabin safety

- **Annex 13 - Accident and Incident Investigation**

- **Annex 18 - The Safe Transport of Dangerous Goods by Air**
  - Establishment of dangerous goods training for cabin crew members
  - Technical Instructions for Safe Transport of DG by Air

- **Annex 19 - Safety Management**
  - Service providers’ safety management systems
ICAO Cabin Crew Training Requirements
Safety & Emergency Procedures Training
Annex 6, Part I - Paragraph 12.4

• Operator shall establish/maintain training programme
  – Completed by all persons before being assigned as cabin crew
• Approved by State of the Operator
• Cabin crew members shall complete recurrent training
  – Annually
Security Training
Annex 6, Part I - Paragraph 13.4

• Operator shall establish/maintain approved security training programme
  – Crew members act in most appropriate manner to minimize consequences of unlawful interference
Dangerous Goods Training

Technical Instructions (Doc 9284), Part 1 Chapter 4

• DG training for cabin crew members includes:
  a) General philosophy
  b) Limitations
  c) Labelling and marking
  d) Recognition of undeclared dangerous goods
  e) Provisions for passengers and crew
  f) Emergency procedures

• Training required regardless of whether operator is approved to transport dangerous goods or not
ICAO Cabin Crew
Safety Training Manual
(Doc 10002)
Cabin Crew Safety Training Manual

• Guidance material on training developed in 1970s
  – Cabin Attendants’ Safety Training Manual (Doc 7192 Part E-1)
  – Addressed requirements in Annex 6
  – Last updated in 1996

• ICAO Cabin Crew Safety Training Manual revision
  – Now Document 10002, first edition
  – Addresses significant changes since 1990s
  – Guidance material for initial & recurrent training
  – Additional guidance on aspects not addressed by ICAO
  – Presents competency-based approach
ICSG : A Joint Industry-Regulatory Effort
ICAO MPSG & IATA MAG: A Joint Effort on Cabin Health
Overview of Chapters

1. Cabin Crew Training Requirements and Qualifications
2. Training Facilities and Devices
3. Competency-based Training Approach
4. Aviation Indoctrination
5. Normal Operations Safety Training
6. Abnormal and Emergency Situations Training
7. Dangerous Goods
8. Human Performance
9. Cabin Health and First Aid
10. Aviation Security
11. Safety Management Systems
12. Fatigue Management
13. In-Charge Cabin Crew Training
14. Management Aspects of the Cabin Safety Training Programme
What the Manual is and What it is not

- **What it is:**
  - Guidance to develop cabin crew competency-based training
  - Content is generic and operators should adapt it to suit their operation
    - Recommendations
  - Guidance for States when approving training programme
  - Training syllabus **should** include all relevant parts of syllabuses suggested in this manual
    - but should not be limited by it
What the Manual is and What it is not

• What it is not:
  – Content is **not** mandatory
    • only SARPs in Annexes are
  – Manual is **not** all-inclusive
    • other means of compliance may exist
  – Content does not represent sole means to meet regulatory requirements on cabin crew training
Points to Remember

• Several ICAO SARPs related to cabin safety in various Annexes
• Specific cabin crew training requirements in Annexes 6, 18 and 19
• Content of the training manual
• Intent of the manual
Session 3

Introduction of Competency-based Training & Assessment Concepts
Overview

• Understanding competency-based training
  – Traditional vs. competency-based approach
• Overview of competency-based training
• Development of competency framework
  – Including components
• Q&A
Understanding Competency-based Training

• Traditional aviation training programmes
  – Designed to acquire standards established to meet qualifications of licence, rating or privilege
  – Embedded in national regulations
  – Standards expressed in quantitative terms
    • prescribe training programme “inputs”
  – Programme design and content influenced by Authority’s testing criteria and methods
Understanding Competency-based Training

- **Competency**: combination of skills, knowledge and attitudes required to perform task to prescribed standard

- Detailed and accurate job/task analysis

- Competency units & elements derived from analysis

- Subjected to further phases of ISD methodologies

- End result is fully integrated and “outcomes-focused” training

- **Goal**: provide graduates with competencies to be safe, efficient and highly effective in performance of duties

- Refer to Manual on Approval of Training Organizations (Doc 9841) for further guidance
ISD: Example of ICAO Course Development

| Category            | Phases                               | Outputs                                                        |
|---------------------|--------------------------------------|                                                               |
| **ANALYSIS**        | Phase 1 — Preliminary study          | Training proposals, their justification and proposed course of action |
|                     | Phase 2 — Job analysis               | Task description and performance standards                    |
|                     | Phase 3 — Population analysis        | Trainees’ characteristics and their existing skills and knowledge |
| **DESIGN AND PRODUCTION** | Phase 4 — Design of curriculum   | Training objectives, mastery tests and sequence of modules     |
|                     | Phase 5 — Design of modules          | Mode of delivery, training techniques and media, draft training material |
|                     | Phase 6 — Production and developmental testing | Production of all trainee materials                          |
| **EVALUATION**      | Phase 7 — Validation and revision    | Try-out of course and revision as required                     |
|                     | Phase 8 — Implementation              | Human resources trained                                       |
|                     | Phase 9 — Post-training evaluation   | Evaluation of training effectiveness; plans for remedial action |

Refer to PANS-TRG (Doc 9868) for further guidance
Competency-based Training & Assessment

- Competency-based approaches characterized by:
  - Emphasis on job performance
  - Knowledge & skills required to perform on the job

- **Competency-based training** aims at progressively building and integrating knowledge and skills required for job performance

- **Competency-based assessments** aim at measuring how well competencies necessary for the job are demonstrated to specified performance standards
Development of the ICAO Competency Framework
Understanding the Framework

- Framework consists of:
  - Competency units
  - Competency elements
  - Performance criteria

- Framework describes:
  - Job requirements
    - i.e. technical competencies
  - What effective performers do
    - i.e. non-technical competencies

- Non-technical competencies (skills) are transportable across different areas of aviation
  - Can be broken down into observable and measurable actions
  - Aimed at improving performance towards excellence
    - beginner to expert
Framework Development Process

• In order to revise training material in competency framework…

• ICAO needed to determine what competencies cabin crew member needs
  – To conduct duties
  – Effectively handle expected and unexpected
    • during normal, abnormal and emergency situations
Framework Development Process

• Accomplished in two-step approach:
  1. Define the end-state first (competencies) that need to be achieved
  2. Reverse-engineer training and assessment based on end-state

• Process of consensus by ICSG
  – Internationally agreed upon baseline for crew competencies
Framework Development Process

**Purpose**
- Job and Task Analysis: Determine what cabin crew are supposed to do
- Population Analysis: Determine what trainees already have in terms of skills and knowledge for the job
- Curriculum Design: Determine training objectives and organize curriculum

**Outcome**
- Competency Framework:
  - Competency units
  - Competency elements
  - Performance criteria

**Guidance material**
Framework Components

• Competency unit:
  – Discrete (i.e. distinct) function consisting of a number of competency elements

• Competency element:
  – Action that constitutes task
    • has triggering & terminating event that clearly defines limits
    • and an observable outcome

• Performance criteria:
  – Simple, evaluative statement on required outcome of competency element
  – And description of criteria to judge whether required level of performance is achieved

• Reference material relevant during training

• Duties assigned to I/C
  – In a multi-crew operation
Relationship between Components

A function: Perform duties and responsibilities during ground and pre-flight operations

A task: Perform pre-flight checks

A simple statement that describes criteria to judge if the required level of performance has been achieved: Report missing or inoperative equipment/systems
Points to Remember

• Differences between traditional and competency-based training approaches

• The two-step approach to develop competency-based:
  – Define end-state first (competencies) to be achieved
  – Reverse-engineer training and assessment based on end-state

• Importance of job and task analysis

• Framework components and their relationship
Refreshment
Break
Session 4

ICAO Cabin Crew Competency Framework
Overview

• Pieces of competency framework
• Framework in relation to training manual
• Example of competency element and guidance material
• Q&A
5 Pieces of Competency Framework

1. Normal Operations
2. Abnormal & Emergency Situations
3. Dangerous Goods
4. Cabin Health and First Aid
5. Security Threats

- Cabin crew skills
  1. Non-technical competencies

- Additional competencies:
  1. Cabin Crew Instructor
  2. Cabin Crew Examiner
  3. Training Programme Developer
Remember the Structure...

A function: Perform duties and responsibilities during ground and pre-flight operations

A task: Perform pre-flight checks

A simple statement that describes criteria to judge if the required level of performance has been achieved: Report missing or inoperative equipment/systems
**COMPETENCY FRAMEWORK FOR CABIN CREW DUTIES AND RESPONSIBILITIES DURING ABNORMAL AND EMERGENCY SITUATIONS**

<table>
<thead>
<tr>
<th>Competency unit: 1. Perform duties and responsibilities during an abnormal or emergency situation</th>
</tr>
</thead>
</table>

The competencies described below relate to duties and responsibilities that are performed by a cabin crew member in the event of an abnormal or emergency situation.

<table>
<thead>
<tr>
<th>Competency element</th>
<th>Performance criteria</th>
<th>I/C Duty</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Apply fire fighting procedure</td>
<td>1.1.1 Detect and eliminate fire hazards</td>
<td></td>
<td>Operations Manual</td>
</tr>
<tr>
<td></td>
<td>1.1.2 Locate source of fire</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.1.3 Identify the type of fire</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.1.4 Apply communication procedures</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>1.1.5 Use appropriate fire fighting equipment and protective equipment, as required</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.1.6 Fight fire</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.1.7 Manage passengers and cabin, as required</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.1.8 Apply post-fire fighting procedure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.1.9 Complete the applicable documentation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
### Structure of Competency Framework & Training Manual Structure

<table>
<thead>
<tr>
<th>1. Competency unit</th>
<th>Guidance material provided on:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Competency element</td>
<td>a) Conditions under which training should be conducted</td>
</tr>
<tr>
<td>3. Performance criteria</td>
<td>• classroom-based training</td>
</tr>
<tr>
<td>4. Reference material</td>
<td>• hands-on exercises</td>
</tr>
<tr>
<td>• needed during training</td>
<td>• etc.</td>
</tr>
<tr>
<td>5. Duties which may assigned to I/C</td>
<td>b) Performance standard</td>
</tr>
<tr>
<td>• in multi-crew operation</td>
<td>• used to verify that performance criteria are met</td>
</tr>
<tr>
<td></td>
<td>c) Knowledge</td>
</tr>
<tr>
<td></td>
<td>• that trainees must possess</td>
</tr>
<tr>
<td></td>
<td>d) Skills</td>
</tr>
<tr>
<td></td>
<td>• to support competencies</td>
</tr>
</tbody>
</table>
Example of CE: Apply Fire Fighting Procedure

Performance Criteria

1.1.1 Detect and eliminate fire hazards
1.1.2 Locate source of fire
1.1.3 Identify the type of fire
1.1.4 Apply communication procedures

Performance Standard

a) Cabin surveillance to identify/monitor potential sources of fire. This includes, but not limited to:
   i. debris in ovens (e.g. oil spills, papers, inserts);
   ii. electrical malfunctions (e.g. tripped circuit breakers, overheating IFE);
   iii. lavatories (e.g. waste bins, panels);
   iv. investigating abnormal smells; and
   v. detecting smoke (e.g. coming from panels, due to electrical systems, etc.).
Example of CE: **Apply Fire Fighting Procedure**

<table>
<thead>
<tr>
<th>Performance Criteria</th>
<th>Performance Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1 Detect and eliminate fire hazards</td>
<td>a) Cabin surveillance to identify/monitor potential sources of fire. This includes...</td>
</tr>
</tbody>
</table>

**Knowledge**

a) Understanding of fire prevention techniques. This includes, but is not limited to:

i. monitoring smoking in the cabin and lavatories;

ii. inspecting the integrity of automatic lavatory extinguisher;

iii. checking that the lavatory waste bin cover flap is closed at all times;

iv. preventing ignited materials from being discarded in trash carts; and

v. identifying and eliminating hazardous flammable materials.
Example of CE: **Apply Fire Fighting Procedure**

**Performance Criteria**

1.1.1 Detect and eliminate fire hazards

**Performance Standard**

a) Cabin surveillance to identify/monitor potential sources of fire. This includes...

**Skills**

a) Communication;
b) Teamwork and leadership;
c) Error recognition and management;
d) Workload and time management;
e) Decision-making;
g) Planning and coordinating resources (for in-charge cabin crew); ...
Example of CE: Apply Fire Fighting Procedure

Reference
a) Operations manual

Conditions
a) Classroom & computer-based
b) Hands-on exercise:
   • on retrieving and operating fire fighting & protective equipment
c) Simulated fire fighting exercise:
   • in representative training device capable of reproducing appropriate environment/equipment characteristics
   • where cabin crew apply operator procedures & associated crew responsibilities for dealing with situation
d) Live fire fighting using fire fighting equipment:
   • e.g. extinguisher, PBE, gloves, axe, etc.
The 5 Pieces of the Cabin Crew Competency Framework
Normal Operations

• Competency units group by duties by phase of flight

• Competencies needed for safe operation of routine flight

• Competency elements include:
  – Duties & responsibilities to be performed (by phase of flight)
  – Management of pax and cabin environment
  – Operation of systems/equipment
  – Communication
    • With flight crew, other cabin crew, and pax
  – Management of abnormal/emergency situation
    • Described in separate framework
Abnormal & Emergency Situations

• Generic competency unit:
  – “Manage abnormal and emergency situations”

• Competency elements not specific to phases of flight

• Competency elements cover specific situations:
  – Fire fighting
  – Smoke removal procedures
  – Cabin pressurization problems and decompression
  – Anticipated and unanticipated emergency landing/ditching
  – Evacuation
  – Flight and cabin crew member incapacitation
  – Rapid disembarkation
Dangerous Goods

• **Competency unit: 1. Safe transport of permitted DG in cabin**
  - DG permitted by passengers and crew
  - Forbidden DG found on-board on ground
  - Forbidden DG found on-board during flight

• **Competency unit: 2. DG incidents during flight**
  - Fire involving DG
  - Fire involving a PED or stand-alone lithium batteries
  - Spillage or leakage involving DG
Cabin Health & First Aid

• Generic competency unit:
  – “Perform duties and responsibilities related to cabin health and first aid”

• Competency elements **not** specific to phases of flight

• Competency elements cover specific situations:
  – On-board medical events
  – Food safety and sanitation
  – Cabin disinsection
Security Threat Situations

• Generic competency unit:
  – “Perform duties and responsibilities related to unlawful interference”

• Competency elements not specific to phases of flight

• Competency elements cover specific situations:
  – Unruly passengers
  – Bomb threat in flight
  – Bomb threat on ground
  – Hijacking
  – Chemical/biological/radiological weapons
About the Content...

- Content focuses on development of **initial** training
  - Recommended only

- For recurrent training, content may vary for:
  - Competency elements covered
  - Conditions used for training
  - Knowledge and skills assessed

- Content of performance standards presents examples
  - Not all items need to be covered like a checklist

- Some competency elements, associated performance criteria and performance standards are repeated
  - For completeness of competencies
  - Do **not** need to be covered multiple times during training
Points to Remember

• Pieces of competency framework
• How manual is structured to provide guidance
Session 5

Management Aspects of the Training Programme
&
Training Facilities and Devices
Overview

• The need for key personnel
  – Cabin crew training manager
  – Instructors and examiners
  – Training programme developers

• Training delivery methods

• Continuous improvement of training programme

• Training devices & facilities

• Q&A
The Need for Key Personnel

• Integral to successful training programmes:
  – Cabin crew training manager
  – Training programme developers
  – Instructors
  – Examiners

• These professionals should:
  – Possess good understanding of learning process
  – Positively influence human behavior

• Operators should:
  – Establish qualifications for key personnel
  – Implement a process for the continuous improvement of training programmes
Cabin Crew Training Manager

• Should be appointed by operator
  – May be subject to approval by State

• Demonstrate thorough understanding and knowledge of:
  – Administrative and practical responsibilities
  – Procedures associated with the position

• Qualifications in accordance with national regulations
  – Where applicable

• Recommended qualifications and responsibilities outlined in Chapter 14
Cabin Crew Instructor Qualification

• Prior to issue of instructor qualification all candidates should hold a cabin crew qualification
  – for which privilege to instruct is being sought

• Does not preclude subject matter expert from being authorized to instruct on their area of expertise

• Qualified & authorized instructors may be assigned to carry out instruction
  – and auditing duties to determine that required performance standards have been satisfactorily achieved

• Qualifications in accordance with national regulations
  – where applicable
Cabin Crew Instructor Competencies

1. Manage safety of training environment
2. Prepare training environment
3. Manage and support trainee
4. Conduct training
5. Perform trainee assessment
6. Perform course evaluation
7. Continuously improve performance

• Refer to Appendix 1 to chapter 14 for Framework
Cabin Crew Examiner Competencies

• Competency unit:
  – Conduct competency-based assessment

• Competency elements:
  1. Apply assessment methodology
  2. Monitor trainee’s performance
  3. Conduct objective assessments
  4. Provide clear & concise feedback
  5. Document training & performance reports

• Refer to Appendix 1 to chapter 14 for Framework
Examiner Reliability

• Reliability is needed to ensure consistency in assessments conducted by examiners

• When examiners use assessment instrument, process should be in place to ensure:
  – consistency or stability of results given by a single examiner to same performances at different moments in time
    • intra-examiner reliability
  – consistency or stability of results between different examiners
    • inter-examiner reliability
Instructors vs. Examiners

- National regulations may require operator to qualify and assign different individuals to fulfill distinct roles of cabin crew instructors & examiners.

- If this is not the case, both roles may be assigned to the same individual.

- Clear distinction in competencies required to perform respective duties.
  - I.e. instructor or examiner.

- If instructor is also examiner on trainees that he/she instructed, should remain impartial during assessment.
Training Programme Developer (TPD)

• Responsible for development of cabin crew training programme
  – That meets regulatory requirements

• TPDs should demonstrate that they possess competencies described in framework
  – Refer to Appendix 1 to chapter 14 for Framework

• Have ability to develop training in accordance with features of competency-based approach to training
  – Refer to chapter 3
Training Delivery Methods

• Variety of training methods should be used
  – Classroom, CBT, hands-on exercises, simulated exercises, etc.
  – as appropriate to subject matter

• Balance between independent learning and supervised training
  – e.g. distance learning vs. classroom training

• Consider various ages, cultures & language proficiency of trainees
Training Delivery Methods

• Various training mediums should be utilized:
  – Any distance training should include technology support
  – Some learners may require more interactive learning techniques
  – Different learning styles should be considered

• CBT or distance training should incorporate learning management system
  – which ensures learning is achieved, recorded and validated

• Hands-on exercises and simulated exercises should be conducted utilizing representative training devices
Continuous Improvement

• Evaluation process should be developed for:
  – The course
  – Training personnel
  – Training material

• To continuously improve quality of training programme:
  – Course evaluation
  – Instructor performance
  – Training material evaluation
Training Facilities & Devices

• Doc 10002, Chapter 2, provides guidance for:
  – Facilities and equipment for classroom-based training
  – Trainee to instructor ratio
  – Representative training devices
  – Safety and emergency equipment
  – Cabin training devices
  – Emergency exit trainer
  – Fire-fighting
  – Water survival
  – Use of other operator or ATO training devices
Cabin Training Devices

- Capable of recreating realistic situations
- Can be used to provide effective training

Should include parts of the cabin containing:
- lavatories
- galleys
- a type of emergency exit used in an aircraft
- some seat rows
- cabin crew seats
- attendant panels
- overhead bins

- Refer to Doc 10002 Chapter 2

Not all components may be needed in single CTD
- depends on types of exercises carried out on device
Points to Remember

• The need for key personnel
• Competencies for instructors and examiners
• Importance of examiner reliability
• Training delivery methods: a balanced approach
• Continuous improvement aspects of programme
• Types of representative training devices
• Selection based on exercises being conducted
LUNCH
(Located in Castilla)
Session 6

Transitioning from Traditional to Competency-based Training
Overview

• What it means for operator to transition
• Communicating the transition
• Prescriptive vs. performance-based regulations
• Link to operator’s SMS
• Importance of scenario-based training
• Developing scenarios for training
• Practical exercise
• Q&A
What it Means for Operator to Transition

• Why transition?
  – Tailored to operator’s needs
    • Targets operational issues
  – Not “one size fits all” approach

• Work involved
  – Transition planning
  – Resources

• Importance of ISD methodology
  – Analysis
  – Design and Production
  – Evaluation

• Challenges
  – Instructor/examiner calibration
  – Data collection and analysis
  – etc.
Communicating the Transition

- As part of transition, operator should develop a communication plan
  - Explains what is competency-based training
  - How it differs from traditional approach
  - What to expect

- Disseminated formally to all cabin crew
  - Crew memos on communication boards
  - Recurrent training
  - etc.
Prescriptive vs. Performance-based Regulations

- **Main shifts**
  - Regulations as risk controls
  - Teaching (hours) vs. learning (competencies)

- **Programmed (prescriptive) vs. planned hours**
Link to operator’s SMS

• Safety risk management and safety assurance
  – Design vs. evaluation

• Data-driven approach
  – Data from operations, training, etc.
  – Auditing
  – Continuous improvement

• Well documented
Importance of scenario-based training

• Why?
  – Simulate realistic flight conditions when human error occurs
  – Look at chain of errors that can cause accidents
  – Builds cabin crew confidence

• Integration of skills
  – Performing as a team vs. an individual
Developing scenarios for training

- Operator should use its own occurrences to build scenarios
  - Important link with SMS and data-driven approach

- As an alternative, operator should look to occurrences from Industry
  - Similar aircraft type
  - Occurrence location
  - Type of operation
  - etc.
Developing scenarios for training

• Using operator’s own occurrences adds value to training experience:
  – Occurred on operator’s aircraft
  – Based on actual events

• Cabin crew will feel connection to training
  – Becomes more meaningful
Developing scenarios for training

- Defining key elements:
  - Objectives
  - Location
  - Training aids
  - Conditions
  - Triggers
  - Distractors

- Incorporating skills (e.g. CRM)

- Capturing different roles

- Guidance for instructors/examiners

- Focus testing scenario
Defining Objectives

• What will be trained or evaluated?
  – Application of operator procedures
  – Operation of equipment or systems
  – Application of skills
    • Communication, teamwork, etc.
  – Understanding of Operations Manual
    • e.g. emergency checklist use

• If all of the above are selected
  – All need to occur during the scenario
    • Applying SOP, using checklist, applying CRM skills, etc.
Defining Objectives

• A single scenario can be developed to evaluate multiple items
  – To a certain extent
  – e.g. Fire fighting and injury treatment
Defining the Location

• **What type of training will be utilized?**
  - Classroom training
  - Hands-on exercise
  - Simulated exercises

• **What does the operator’s training model look like?**
  - One single training center
  - Multiple training centers with different training devices
    • E.g. one training center has hydraulic CTD, others do not

• **Why?**
  - Need to create a fair training environment across centers
  - Ensure consistency in training
    • Particularly for simulated exercises
Use of Training Devices

- Training programme needs to consider consistency in training devices used
  - Across training locations and within same location

- If capabilities differ:
  - Need to consider CTD with most basic features
    - For consistency

- Establish contingency plan
  - In case device breaks down
  - To prevent rescheduling training
Use of Training Aids

• Define what training aids are needed
  – Operator should create list of all training aids required for exercise

• Training aids include:
  – Equipment
  – Props
    • E.g. portable smoke simulator
  – Briefing cards
  – etc.
Use of Training Aids

• Training aids need to be consistent and reliable

• Operator can only build scenarios based on available training aids

• Lack of training aids during simulated exercise can result in trainees performing inadequately
  – e.g. is equipment that should be in CTD missing?

• Operator should reset equipment after exercise
Defining Conditions

• Operator should define conditions pertinent to exercise

• Operator should produce outline of conditions:
  – Aircraft type
  – Assigned crew positions
  – Phase of flight
  – etc.

• Description of flight
  – e.g. wide body aircraft, 3 hrs. in flight, crew is in aisle picking up after service

• Training device and aids must support conditions:
  – To provide a realistic environment for trainees
  – Gives a full context to trainees so that conditions make sense
    • e.g. if occurrence is in cruise flight, doors are armed…
Determining Participation

• Class size is key in developing scenario

• How many trainees can actively participate?
  – **Active**: trainees as operating crew members
  – **Passive**: trainees acting as passengers or observing exercise

• Scenario should be built to match operator’s typical minimum crew requirements
  – e.g. 3 or 4 cabin crew members

• Evaluate how many people are needed to support the scenario
  – Active participants must have clear tasks to accomplish
  – There should be a comparable amount of activity for each trainee
    • Fair amount of work for each active participant
Defining Triggers & Distracters

• **Trigger** is method by which scenario begins
  – e.g. Passenger alerts crew of another passenger being ill

• **Distracters** are planned actions by “passengers” that distract crew from performing specific tasks
  – e.g. Passenger is concerned over missing connection due to medical diversion and becomes unruly
Defining Triggers & Distractors

• Consistency is needed for both triggers and distracters

• Instructor or trainee selected to act scenario must know:
  – *What* to do
  – *When* to do it

• Clear instructions should be provided for each participant playing a role
  – e.g. use of cue cards with information
Triggers & Crew Responses

- Triggers must be very specific
  - Require cabin crew to take action
  - Define what happens and when

- Consistency of triggers is important to trigger same response when scenario is repeated with different participants
Focus Testing Scenario

• **Operator should focus test the scenario**
  – Prior to integrating it into training programme
  – To find potential problems

• **Obtain volunteers to run through scenario**
  – Not knowing what to expect

• **Determine potential improvements/modifications**
Useful Tips

• A scenario should last 10-15 min

• An additional 15 min can be reserved for:
  – Setting up scenario
  – Debriefing

• Participants should be given opportunity to conduct walk around in CTD
  – To familiarize themselves with environment

• Approximately 60 minutes in total time for the entire session
Points to Remember

- Data-driven approach and link to SMS
- Key elements to include in a scenario
- Importance of realism and using existing occurrences
- Benefits of focus testing scenarios
Practical Exercise

Developing a scenario for competency-based training
Context

• You are part of training programme developers’ team at XYZ Airlines

• Operator conducts scheduled passenger flights
  – on both domestic and international routes

• Fleet is composed of A320 and 737-700 aircraft

• Both aircraft types are operated with minimum of 3 cabin crew members
Context (Cont’d)

• Operator has two training centers
  – ABC and DEF

• Center at ABC:
  – Emergency evacuation training device, capable to simulating smoke and motion
  – Static cabin training device, without smoke simulating capabilities

• Center at DEF
  – Static cabin training device, without smoke simulating capabilities
  – Classroom equipped with some rows aircraft seats and mock-ups of parts of aircraft galleys

• Both centers are equipped with portable smoke generators
Context (Cont’d)

• Operator is transitioning to competency-based training

• Will include scenario-based training during recurrent training next year

• Class sized will be 20 trainees

• Training department tasked with developing scenarios to complement classroom and computer-based training
Refreshment Break
Group Activity

• A facilitator will be appointed and will coordinate the discussion
  – Summary of discussion will be written on flip charts

• A member of the group will brief on their findings in a plenary session
Your Task

1. Develop a training scenario using brainstorming techniques:
   a) Describe a scenario used to train cabin crew members on the competency element
      • Appendix A (use a flip chart)

2. Complete attached log (Table 01) as follows for the scenario:
   a) Objectives of scenario
   b) Location (including cabin training devices) of the training
   c) Training aids required
   d) Conditions
   e) Triggers
   f) Distracters
Your Task (Cont’d)

• When defining objective, include the specific information of what will be evaluated:
  – Application of operator procedures
  – Operation of equipment or systems
  – Application of skills
  – Communication, team work, etc.
  – Understanding of Operations Manual (e.g. checklists)
  – etc.
Your Task (Cont’d)

• Define following as part of scenario description:

  1. Number of cabin crew members (trainees) that will participate in scenario
  2. Expected distribution of tasks among cabin crew members during the scenario
  3. Number and role of instructors in scenario
  4. For each trigger and distracter:
     • Who is it assigned to, how and when will they occur in scenario
     • What is desired crew response to each of them
     • How will consistency in triggers/distracters be provided when scenario is repeated by other trainees
### Table 01 – Scenario Log

<table>
<thead>
<tr>
<th>Objectives</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td></td>
</tr>
<tr>
<td>Training aids</td>
<td></td>
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<tr>
<td>Conditions</td>
<td></td>
</tr>
<tr>
<td>Triggers</td>
<td></td>
</tr>
<tr>
<td>Distracters</td>
<td></td>
</tr>
</tbody>
</table>
Welcome Reception
Hall Patio 17:30-18:30
Thank You