

International Civil Aviation Organization
ATS Quality Assurance Seminar
for the NAM/CAR/SAM Regions
Mexico City 16 - 20 October 2000

Quality @ Airports

Michiel Vreedenburgh

Regional Officer Aerodromes & Ground Aids
North American, Central American and Caribbean
Regional Office - Mexico

Initial Thought

Airports and Aircraft Operations are the elements of air navigation which have the most direct contact with the public.

The actual and perceived quality is therefore the most critical in relation to safety, security, efficiency and service.

Introduction

- ICAO defines international regulations, identifies deficiencies in adoption, but can not enforce compliance with SARPs
- Several States are ensuring compliance through legislation, regulation and verification but enforcement is sometimes lacking
- Quality Management Systems new to Airports
- Increasing trend in Airport Certification primarily in the areas of efficiency and service for commercial objectives
- Quality systems should also include safety and security to combine ICAO, State, Airport and User interests

Quality Definitions (ISO)

Quality – the totality of features and characteristics of a product or service that bear on its ability to satisfy a given need.

Quality Policy – the overall quality intentions and direction of an organisation as regards quality, as formally expressed by top management.

Quality Management – that aspect of the overall management function that determines and implements the quality policy.

Quality Definitions (ISO)

Quality System – the organisational structure, responsibilities, procedures, processes and resources for implementing quality management.

Total Quality Management – a management approach of an organisation centred on quality, based on the participation of all its members and aimed at long term success through customer satisfaction and benefits to the members of the organisation and society.

Quality Assurance – the activities an organisation carries out to provide to external and internal parties confidence that the organisation will consistently meet the requirements for quality.

Airport Elements

Processing Elements

Airside – Aircraft and vehicles

Terminal Area – Passengers and Cargo

Landside – Vehicles and rail

Physical Elements - Airspace, Site,
Infrastructure, Facilities, Equipment

Operational Elements - Services,
Procedures, Organization, Administration

Airport Users

Entities - Airport Administration, Airlines, Agents, Concessionaires, Emergency and support service providers

People - Passengers, Employees, Visitors

Mobile Objects - Aircraft, Vehicles and Rail

Airport Quality Elements

Safety

Security

Efficiency

Service

Capacity

Environment

Health



Airport Quality Framework

International Regulation

National Legislation

National Regulation

Airport Certification

International Oversight

国际民航组织

9

International Regulation

- Convention on International Civil Aviation – ICAO Standards and Recommended Practices
- Annex 14 Volume I - Aerodrome Design and Operations (Safety)
- Annex 17 – Security
- Annex 9 – Facilitation (Efficiency and Service)
- Annex 16 – Environmental Protection
- Regional Air Navigation Plans/Facility and Services Implementation Documents (Safety and Capacity)

Amendment of Annex 14 Vol. I

Certification of Aerodromes

New Definitions

Aerodrome Certificate – A certificate issued by the appropriate authority under applicable regulations for operation of an aerodrome.

Safety Management System – A system for the management of safety at aerodromes including the organizational structure, responsibilities, procedures, processes and provisions for the implementation of aerodrome safety policies by an aerodrome operator, which provides for control of safety and order at, and the safe use of, the aerodrome.

Amendment of Annex 14 Vol. I

Certification of Aerodromes

New Standards

- States shall certify aerodromes used for international operations in accordance with the specifications contained in this Annex through an appropriate regulatory framework. (Recommendation for all aerodromes)
- The regulatory framework shall include for the certification of aerodromes.
- As of 27 November 2003, a certified aerodrome shall have in operation a safety management system as part of the certification process. (Recommendation from 1 November 2001)

Amendment of Annex 14 Vol. I Certification of Aerodromes

New Recommendation

- As part of the certification process, States should ensure that an aerodrome manual which will include all pertinent information on the aerodrome site, facilities, services, equipment, operating procedures, organisation and management including safety management system, is submitted for approval/acceptance prior to granting the aerodrome certificate.

New Guidance Material

- Manual on Certification of Aerodromes.

National Legislation

Aviation Law

Airport Law

Regulations

Standards



National Regulation

Regulatory Authority – Organisation

Regulation System

Regulations/Standards

Certification Procedure

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9

Airport Certification

Certification is a means of demonstrating that an organisation has implemented its quality management system appropriately, involving audit by a neutral party.

Alternatives are self-certification and customer certification.

Safety Management System

Quality Management System

Specifications, Procedures, Inspections

International Oversight

- ICAO State visits, Air Navigation Shortcomings and Deficiencies, USOAP expansion to include Annex 14 (2002), AVSEC Mechanism programme, planned Security Oversight Programme
- IATA Airport Consultative Committee, New Airport Checklist, Airport Operational Assessments, Deficiencies List, Global Airport Monitor, Manuals
- IFALPA Annex 19 Part 3 Aerodrome/Airspace Deficiencies
- ACI Facilitation & Services Standing Committee, Surveys and Handbooks
- ISO 9000 series Quality Standards
- Performance Benchmarking

ICAO Guidance – AGA Manuals

Airport Planning Manual

Aerodrome Design Manual

Airport Services Manual

- Rescue and Fire Fighting
- Pavement Surface Conditions
- Bird Control and Reduction
- Removal of Disabled Aircraft
- Control of Obstacles
- Airport Emergency Planning
- Airport Operational Services
- Airport Maintenance Practices

ICAO Manual on Certification of Aerodromes (Draft) - Contents

Aerodrome certification regulatory system

Pre-requisites for the introduction of the system

Basic aviation law

Basic principles for certification regulations

Implementation of regulations

ICAO Manual on Certification of Aerodromes (Draft) - Contents

Aerodrome certification model/sample regulations

Structure of the aerodrome certification regulations

General

Aerodrome Certification

Aerodrome Manual

Obligations of the Aerodrome Operator

Exemptions

ICAO Manual on Certification of Aerodromes (Draft) - Contents

Aerodrome Manual

General Information

Particulars of the Aerodrome Site

Particulars of the Aerodrome reported to
Aeronautical Information Services

Particulars of the Aerodrome Operating
Procedures and Safety Measures

Aerodrome Administration and Safety
Management System

ICAO Manual on Certification of Aerodromes (Draft) - Contents

Aerodrome certification procedure

- Certification process
- Dealing with the expression of interest
- Assessment of formal application for an aerodrome certificate
- Grant or refusal of a certificate
- Incorporation of the aerodrome's certified status and details in the AIP
- Transfer of an aerodrome certificate
- Surrender of an aerodrome certificate

ICAO Manual on Certification of Aerodromes (Draft) - Contents

Regulatory Authority

Organization – Directorate of Aerodromes

Standards and Safety

Functions and responsibilities

Technical library and records

Typical Staffing

Qualifications, duties and responsibilities of aerodrome inspectors

ICAO Manual on Certification of Aerodromes (Draft) - Contents

Appendices

Schedule of aerodrome certification
regulations – Contents of Aerodrome Manual

Aerodrome certificate application form

Aeronautical studies

Aerodrome certificate form

Organizational structure of a typical
aerodrome safety and standards directorate

References including State examples

ICAO Security Manual for Safeguarding Civil Aviation Against Acts of Unlawful Interference

Organization

Preventive Security Measures

Management of Response to Acts of Unlawful Interference

Human Factors

Protection and Storage of Security Documents

Security Technologies and Techniques

ACI Handbook on Quality of Service at Airports: Standards & Measurements - Contents

Airport Customer and Service Analysis

Flow Processes

Quality Chain

Quality of Service Criteria and Measurement

Objective

Subjective

Certification

ISO or equivalent

Self-certification

Customer certification

ACI Handbook on Quality of Service at Airports: Standards & Measurements - Contents

Airport Survey results

512 members, 120 responded

88 monitor quality

45 have quality management systems

41 certify to ISO standards

Objective Service Quality Criteria —
Measurement Methodologies

Airport Quality Process

Evaluation of user needs and expectations

Design and implementation of service

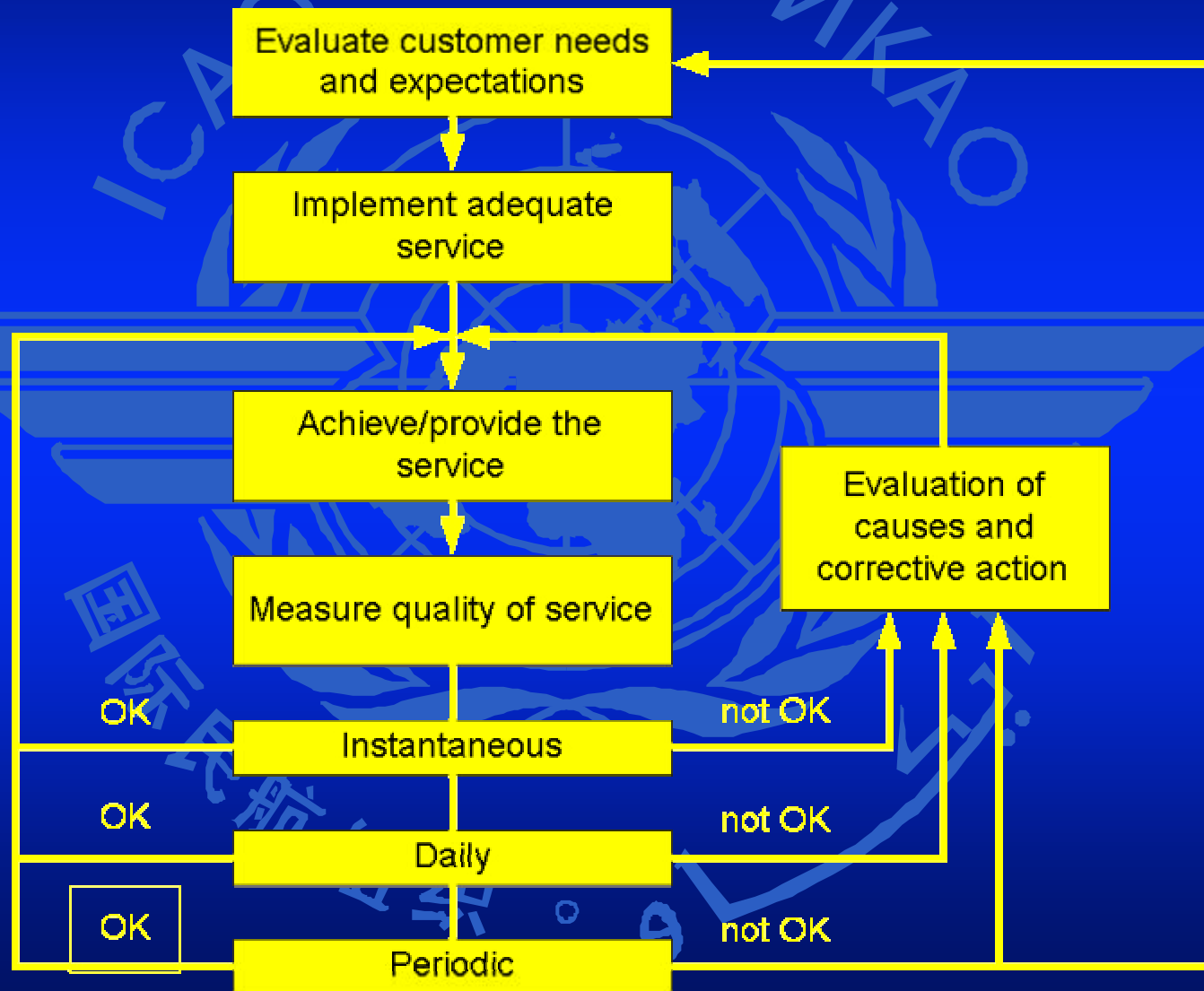
Operation and achievement of service

Measurement of quality of service

Evaluation and Corrective action

国际民航组织

Airport Quality Process



National Airport Regulations, Certification and Licensing

Canada – Transport Canada - CARs

United States – FAA - FAR Part 139

Mexico – SCT/DGAC

Jamaica – CAA

Brazil - DAC

Argentina – ORSNA

United Kingdom – CAA - CAP 168

Australia – CAA - CAR & CAAP

Hong Kong – CAD – Aerodrome Licensing

Mexico

Organisation

Ministry of Communications and Transport

General Directorate of Civil Aviation

Airports Directorate

Control of Airports (Safety)

Control of Security

Verification of Obligatory Auto-inspection

Air Safety Directorate

Airport Commandants

Mexico

Legislation and Regulations

Civil Aviation Law and Code of Regulations

Airport Law and Code of Regulations

Basic Safety Standards

Airport Verification Manual

Mexico

Regulated Airport Activities

Airport Authorities

Concessions and permits

Infrastructure

Administration

Operation and services

Tariffs

Security

Environmental protection

Inspections

Verification

Sanctions

Airport Quality Management Systems

Several Airports in Europe and Asia/Pacific are certified to ISO quality standards, few in Americas and Africa

Hamilton Int'l Airport – ISO 9002

Teterboro Airport – ISO 9002

INFRAERO (17 airports) – ISO 9001

Dublin Int'l Airport – ISO 9002

BAA (7 airports) – QSM - Quality of Service Monitor

Dublin International Airport – Aer-Rianta

ISO 9002 (1993) – first in the world

Airport Operations

Airport Maintenance

Airport Emergency Services

CIQ Services

Health and Safety

Retail

Administration

Human Resources

Infraero – Empresa Brasileira de Infra-Estrutura Aeroportuaria

ISO 9001 (1997) – first in the Americas - 17 Airports including Guarulhos – second busiest airport in Latin America

Aircraft Ground Operational Management

Airport Safety and Emergency Planning and Response

Airport Infrastructure and Systems Maintenance

Passenger and Public Care, Attention and Information

Airport Services and Commercial Concessions Management

International Air Cargo Terminal Operation

Passenger and Public Information Systems

Human Resources Management

Airport Tariffs and Charging Process

Administration and Finance Management

John C Munro Hamilton International Airport – Ontario, Canada

ISO 9002 (2000) – first in North America
Airfield Maintenance

Security and Emergency Services

Leasing and Airport Administration

Teterboro Airport, New Jersey, USA

ISO 9002 (2000) – first in USA

Operations

Maintenance

Accounting

Noise Abatement

Administration

Mexico

Airport Operational Safety Self-Inspection Programme

24 ASA

9 ASUR

12 GAP

13 GACN

GACM MEX – busiest airport in Latin America

Airport Inspections

Daily

Continuous

Periodic

Special

Mexico

Daily Airport Inspections

Aircraft Pavements

Runway and Taxiway Strips

Markings and Signs

Airfield Lighting

Visual Aids

Obstacles

Aviation Fuel Storage Facility

Ice and snow

Construction

Rescue and Fire-fighting Services

Wildlife Hazards

Airside Vehicles

Access

BAA (formerly British Airports Authority)

- 7 Airports in the UK, concessions in Australia, US, Italy and Mauritius, including Heathrow – busiest international airport in the world
- Health, Safety, Security & Environment Management System (Responsible Management) – self assessment and audits by HSSE Compliance Team
- Measuring, Monitoring and Improving Service Quality
- “If it moves, count it. If it stops, talk to it.”
- Subjective Measurement of Customer Satisfaction – passive (feedback) and active (QSM)
- QSM – Quality of Service Monitor – Rating System
- (processes, retailing, catering, lounges trolleys)
- Objective Measurement of Service Delivery (performance) – records and surveys
- Benchmarking – time, internal, external

Benefits of Quality Management

- Quality Culture
- Sets high standards
- Productivity and efficiency
- Service performance
- Customer satisfaction
- Customer perception of organization's quality
- Personnel communication, morale and job satisfaction and understanding
- Competitive advantage
- Documentation
- Reduced costs
- Increased Market Share

References

Amendment to Annex 14 Volume I Design and Operations of Aerodromes, 3rd ed. July 1999 on Aerodrome Certification (proposed), International Civil Aviation Organization

Manual on Certification of Aerodromes (draft), International Civil Aviation Organization – includes national references

Quality of service at airports: Standards & Measurements, 1st ed. 2000, Airports Council International – includes worldwide survey of current practices

References

Airport Capacity/Demand Management, 3rd ed. 1996,
Airports Council International / International Air
Transport Association

Airport Development Reference Manual, 8th ed.
1995, International Air Transport Association

International Organization for Standardization
ISO 9000 - 9004 Quality Standards

Final Thought

Quality management at airports ensures safety, security, efficiency and service thereby stimulating air traffic growth and increasing financial profit

“Quality controls are not a luxury, they are essential to your business” - ACI



Thank You