



Knowing the Collateral Inside and Out.... Inspections are Good!

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Workshop:
Due Diligence 360



Technical Programs



- Aircraft Inspections
 - Required Element of Appraisals
 - Verification of conformity and compliance
- Asset Management Programs
 - Provides continuous status of an aircraft portfolio
 - Develop higher level of expertise on aircraft and operators
- IATA Operational Safety Audits(IOSA)
 - Review of Airline Technical Management Programs
 - ICAO and Industry Best Practices
 - Formal Registry to share audits with Interested Parties



IOSA Operational Standards



- Audit to standards developed by Industry-Regulator task forces
- Include requirements from ICAO, JAA, DoD/FAA and existing audits
- Include Quality Management System QMS principles
- Bottom line: It will take a well managed airline to meet IOSA Standards



What is the Audit Scope?

Organization &
Management

Flight Operations

Engineering and
Maintenance

Ground Handling

Operational Control / Flight
Dispatch

Cabin Operations

Cargo Operations
(Dangerous Goods)

Operational Security



Different Circumstances for Different Assets



- Amount of Use/Time/ Inspected Condition
- US System
 - Highly Flexible
 - Based on each Operators Approved Program
 - Allowed to adjust intervals based on condition
 - Mechanic Qualifications
- European System
 - Based on Airframe Manufacturers Recommended Regime
 - Manufacturer
 - Formal Quality Management Systems within each Airline
- Russian System
 - Condition not considered
 - Firm Hours/Cycles/Dates



Organizational Indicators that Could Leading to Diminished Aircraft Value



- Airline Maintenance “Risk” Indicators
 - Significant Changes in fleet composition, size or utilization
 - Changes in the airline’s maintenance support –
 - Maintenance Vendors
 - Engineering Capability
 - Quality Assurance Programs
 - Turnover of Key Management
 - Training
 - Incidents
 - Labor Strife
 - Operational Changes; e.g. Route Structure, Area of Operation



Different Circumstances for Different Assets



- Jet Aircraft Generations
 - Second: B727/B737/A300
 - Third: B767/757/A320
 - Forth: B777/A330
 - Engine
 - Airframe Materials
 - Avionics
 - Entertainment Systems
- State-of-Operator and Size



Technical Indicators of Risk

- Inspector Observed Indicators
 - Deferred Items
 - Reliability
 - Cleanliness
 - Quality of Recent Repairs
 - Personnel Attitudes
 - Level Tooling
 - Spares Provisioning
 - Operational Pressures
 - Quality Programs



Special Risks in Aging Aircraft



- National Aviation Aging Aircraft Research Program
- Effects of Aging on Structure and Electrical System
 - Corrosion Varies by Aircraft
 - Aloha Airlines Accident
 - Electrical Fires a persistent problem
 - Average of one in-flight smoke event per day
 - Value Jet, TWA 800, Swiss Air
- Mechanisms and Controls
 - Landing Gear
- Safety Perception
 - Example: TCAS I vs. TCAS II



Lessons Learned



- Deferred Structural Repairs
- Service Bulletin Compliance
- Unreasonable Extension Intervals
- AD Compliance
- AD Termination Status
 - Alternate Means of Compliance
- Substitute Unreliable Components
- Components at low mod-status (Early Version)
- Improper Storage
- Ineffective Quality Programs

