Part 21
Design Organisation Approval (DOA)
Implementation Workshop Industry

27-28 November 2012
HALL 01/MARITIM Conference Room
MARITIM HOTEL KÖLN
Köln, Germany

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Best Practices DO-145 implementation

One example

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28/11/2012
Purpose

➢ To show some of implemented procedures.
➢ To show how a small-medium sized design organisation could take advantage from the published Good Practices.
Sized about 350 people mostly dedicated to maintenance activities of the airlines Meridiana and Eurofly.

Following approval held:

- Part 145 (MOA) Approval ref. “IT.145.0339”,
- Part M Subpart G (CAMO) Approval ref. “IT.MG.1063”,
Maintenance Approval IT.145.0339

**Airframe**

<table>
<thead>
<tr>
<th>Aircraft Type Ratings</th>
<th>STATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAG</td>
</tr>
<tr>
<td>Airbus A319/A319/A320/A321 (CFM56)</td>
<td>●</td>
</tr>
<tr>
<td>Airbus A319/A320/A321 (IAE V2500)</td>
<td>●</td>
</tr>
<tr>
<td>Airbus A330 (PW 4100)</td>
<td>●</td>
</tr>
<tr>
<td>BAe 146/RJ (Honeywell ALF500 Series)</td>
<td>●</td>
</tr>
<tr>
<td>Boeing 737-300/400/500 (CFM56)</td>
<td>●</td>
</tr>
<tr>
<td>MD-80 Series (PW JT8D)</td>
<td>●</td>
</tr>
<tr>
<td>Boeing 717-200 (RRD BR715)</td>
<td>●</td>
</tr>
</tbody>
</table>

- Up to W-Check (excluded)
- Up to A-Check (excluded)
- Base Maintenance

**Workshop**

<table>
<thead>
<tr>
<th>Component Type Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Conditioning &amp; Pressurization</td>
</tr>
<tr>
<td>C2</td>
<td>Autoflight</td>
</tr>
<tr>
<td>C3</td>
<td>Communication &amp; Navigation</td>
</tr>
<tr>
<td>C4</td>
<td>Doors &amp; Hatches</td>
</tr>
<tr>
<td>C5</td>
<td>Electrical Power</td>
</tr>
<tr>
<td>C6</td>
<td>Equipment</td>
</tr>
<tr>
<td>C7</td>
<td>Engine - APU</td>
</tr>
<tr>
<td>C8</td>
<td>Flight Controls</td>
</tr>
<tr>
<td>C9</td>
<td>Fuel - Airframe</td>
</tr>
<tr>
<td>C12</td>
<td>Hydraulic</td>
</tr>
<tr>
<td>C13</td>
<td>Instruments</td>
</tr>
<tr>
<td>C14</td>
<td>Landing Gear</td>
</tr>
<tr>
<td>C15</td>
<td>Oxygen</td>
</tr>
<tr>
<td>C17</td>
<td>Pneumatic</td>
</tr>
<tr>
<td>C18</td>
<td>Prot. Ice / Rain / Fire</td>
</tr>
<tr>
<td>C20</td>
<td>Structural</td>
</tr>
</tbody>
</table>

Specialized Services

- Non Destructive Testing
- Eddy Current Magnetic Particles
- Penetrant Liquid
- Ultrasonic Radiographic
Categories: **Large Aircraft**

Scope:

- **Cabin Interiors and related structures and systems**
- **Structures**
Design Organisation Approval EASA.21J.470

Scope (cont.):

Installation of avionics equipment and associated systems

Electrical, Hydro-mechanical and Environmental systems
Good Practices vs. Handbook

Typical First installation of an STC:
(Ref. EASA_S21_GP001 paragraph 2)

- Arrangement
- Interface Procedures
- Configuration Management
- Modify/Manufacture parts
- STC Development on a/c
- Inspections and Tests
- Flight Test
- STC Approval
Typical First installation of an STC:
(Ref. EASA_S21_GP001 paragraph 2)

Arrangement

- Interface Procedures
- Configuration Management
- Modify/Manufacture parts
- STC Development on a/c
- Inspections and Tests
- Flight Test
- STC Approval

GP paragraph 3.1
Arrangement

Internal MRO

External MRO

In both cases the Handbook procedure describing share of responsibilities as per GP001 Para. 3.1.1
Typical First installation of an STC:
(Ref. EASA_S21_GP001 para. 2)

- Arrangement
- Interface Procedures
- **Configuration Management**
- Modify/Manufacture parts
- STC Development on a/c
- Inspections and Tests
- Flight Test
- STC Approval

GP paragraph 3.3
# Configuration Management

**Pre mod. configuration**
- MOE incoming conditions Procedure
- Interface with CAMO for a/c Status

**Modification development**
- DO-MO interface procedures
- Test configuration status accomplishment

**Ground/Flight Test**
- Ground Test Procedure Accomplishment by MO
- CVE (EASA) witnessing
- Feedback to MO and DO after test for discrepancies
- Test again until final configuration accomplishment

**A/C Return to Service**
- Modification Approval by DO (or EASA)
- Handover to CAMO of approved data
- A/C Certificate of Release to Service by MO
Typical First installation of an STC: (Ref. EASA_S21_GP001 para. 2)

- Arrangement
- Interface Procedures
- Configuration Management
- Modify/Manufacture parts
- **STC Development on a/c**
  - Inspections and Tests
  - Flight Test
  - STC Approval

GP paragraph 3.5
Modification Development

Example of Discrepancy Report managed as per HB Procedure

Deviation application

Deviation approval


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Good Practices vs. Handbook

Typical First installation of an STC:
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- Arrangement
- Interface Procedures
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- Modify/Manufacture parts
- STC Development on a/c
- **Inspections and Tests**
- Flight Test
- STC Approval

GP paragraph 3.6
Ground Test Procedure **prepared** as per DO HB

**Accomplished** by Maintenance Personnel
Qualified as per MOE Procedure
Typical First installation of an STC:
(Ref. EASA_S21_GP001 para. 2)

- Arrangement
- Interface Procedures
- Configuration Management
- Modify/Manufacture parts
- STC Development on a/c
- Inspections and Tests
- Flight Test
- STC Approval

GP paragraph 3.7
Meridiana Maintenance Good Practice Endorsement

Flight Test

- Configuration Management
- "CRS limited to Flight Test purpose"
- Flight Test Program
- Pre-flight briefing
- Post-flight briefing
- Approved Data
- Final a/c CRS

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Part 21 DOA Implementation Workshop (Industry)
Typical First installation of an STC:
(Ref. EASA_S21_GP001 para. 2)

- Arrangement
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- Modify/Manufacture parts
- STC Development on a/c
- Inspections and Tests
- Flight Test

STC Approval

GP paragraph 3.8
Modification Approval

Part production by a PO within the Approved configuration

DO Privilege as per 21.A.263(c)3

The technical content of this document is approved under the authority of DOA ref. EASA.21J.470. This approval is limited to demonstration of compliance purposes only, pending the approval of EASA STC (or minor change) Project Nr. XXX.
Benefits by using Good Practices?

HoOoA Conclusions

- Complete traceability of all activities between both parties (+).
- Robust share of responsibilities (+).
- Process sometimes congested (-).
- Deep qualification process required for external MRO (-).
DOATL Conclusions

- Reached proper coordination and synergy of the tasks associated to the various processes for which the organisation have been approved (i.e.: CAMO/MO/DO);

- Added value of building a team spirit, including the airline in the frame of Flight Testing and Permit to Fly related activities.
Questions?

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