International Military Airworthiness Regulation Conference

INTERNATIONAL COLLABORATION IN CERTIFICATION PROGRAMS

Luis Davila Ponce de Leon Lopez
- **Past Experience**: from 1980
  
  International programs with different criteria. “Start from cero”.

  Examples:
  
  EF 2000 specific rules
  TIGER use civil approach (FAR29) but with German procedures TIR TIP,
  NH90 approach to JAR21 but not fully
  A400M divided in a EASA portion and a 100% Military certification

- **INTA decision for the CN-235 certification**: adapt FAR 21 to our process
International programs: from 2000

Delegation case by case:

- EF2000: SP delegate in NETMA for specific issues.
- A400M: The CQO is not fully supported by nations
- NH90: Foundation nations divide the activity not official
- TIGER: HAP in case by case but not formally stablished
“PARALYSIS” OF EF2000 WITHOUT RECOGNITION

- From 2005: facts
  - Excessive bureaucracy: first step: Initiative Project foundation: more bureaucracy
  - Costs out of control: CCB at the end of decisions
  - Complexity: clearance is based in systems
  - Each Nation approves each document
  - BMR exercise 2012
  - Ministers of Defence decision: EMAR 21 principles
SP PROBLEMS WITH TIGER AND NH 90

- Both programs launched in 1980 without Spain
  - SP has decided to buy those helicopter 20 years after
  - It is difficult for us accept the original certification road map with criteria used today
  - ....
  - We have certified the NH90 a few moth ago0
  - The TIGER (HADE B2) will be certified in 2018
KEY DECISION FOR INTERNATIONAL PROGRAMS

- Reduction of costs, resources, timing
- Improving process
- Standardization of requirements
  
  The new way that answer the needs: common scenario mutual recognition

Before EMAR (From 2005)

• INTA ROC procedure:
  – US ARMY (Chinook) 2005
  – NAVAIR (Harrier) 2006
  – WTD61 (Germany) (AB212) 2006
  – ARMAEREO Italy (bilateral ) Engine NH90 (close to EMAD R)
-Current scenario: EDA.
  
  Approval of EMAR 21

  The authority is still in each nation

  Bilateral recognition is defined (EMAD R) as a Guidance
Definition of TC Holder or Type Design Holder responsibilities
- MDOA responsibilities,
- In service events,
- Airworthiness directives,
- Continued airworthiness,

EF2000 implement the T.D. Coordinator or T.C. Coordinator
NHI requirements to be TC Coordinator. PC requirements to be MDOA
TIGER: Airbus Helicopter Tiger: Launched the process
A400M: the most easy adaptation to EMAR 21… but not so easy
EMAR 21 ADVANTAGES

1. Transition to EMAR: means reduction of costs, times, and human resources
   - MDOA privileges to Industry (mods, repairs...)
   - Mutual Recognition:
     - Between Participating nations (PN)
     - Between all NAA (at program level could be necessary)
   - Approval of Major Mods: if a PN approves a major mod of its SDR, this approval shall be recognized by all if mutual recognition is in place
   - Support in Continued Airworthiness (EMAR definition)

Before initiating a transition to EMAR principles in an existing program, it is necessary to have a clear picture of what is the start and where we want to go.
RECOGNITION INVOLVING INTA OUT OF EMAD R

• MRTTs: Bilateral recognition (T.A.) with France for RSAF

• GSPA (NH90) Bilateral recognition with Italy for SP ARM

• Brazil (P3 ORION, CN 235) Bilateral recognition with CTI

• NAVAIR (CN235 DEEP WATER unilateral recognition for US Coast Guard

• NAVAIR (Harrier) unilateral recognition for SP NAVY

• US ARMY (CHINOOK) unilateral recognition for the SP ARMY
RECOGNITION INVOLVING INTA BASED IN EMAD R

• EF 2000: EMAR 21 principles (Certification of Recognition signed on January 28th 2016)

• A330 MRTTs: Bilateral or Mutual recognition (T.A.) with:
  - France for FAF
  - COA
  - Singapore (bilateral recognition) in signature process
  - Netherlands (bilateral recognition) (Expected in February 2017)
  - Republic of Korea (bilateral recognition) (Expected in 2017)
  - Colombia (bilateral recognition) (C295) (Expected in November 2016)
## A330 DERIVATIVES AAR AIRCRAFTS

### Agreements with INTA

<table>
<thead>
<tr>
<th>Country</th>
<th>Agreem. Type</th>
<th>Specific?</th>
<th>Programme</th>
<th>Organizations</th>
<th>Date</th>
<th>Activities</th>
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<tbody>
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<td>Australia</td>
<td>MOU</td>
<td>No</td>
<td>A330 MRTT</td>
<td>DMO COA/INTA</td>
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<td>TA 2015</td>
<td>SCP</td>
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<td>CA</td>
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<td>No</td>
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<td>DE&amp;S/INTA</td>
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<td>A330 MRTT FAF</td>
<td>DGA/INTA</td>
<td>2015</td>
<td>Certification - CA</td>
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- **TA**: Technical Agreement
- **SCP**: Specific Certification Process
- **SQP**: Specific Qualification Process
- **CA**: Continued Airworthiness

The Authorities that recognized INTA have declared that the support shall be extended for the entire life cycle of affected aircraft.

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October 20th, 2016
<table>
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<tr>
<th>AUDITS</th>
<th>ORGANIZATION</th>
<th>YEAR</th>
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<td>UK Audits</td>
<td>DE&amp;S</td>
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<td>CAA</td>
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<td>Brazil: IFI</td>
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<td>USA: NAVAIR</td>
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<td>SINGAPORE</td>
<td>2013</td>
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<td>FAC Colombia</td>
<td>2016</td>
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<td>Republic of Korea</td>
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<td>EF 2000</td>
<td>GE, IT &amp; UK in the frame of the EF2000 Mutual Recognition</td>
<td>Sept 2015</td>
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EMAD R AND INTA ROC:

Before EMAD R: INTA procedure for recognition (ROC)

EMAD R published new edition in February 2016

new INTA questionnaire issued in line with new EMAD R
EMAD RECOGNITION APPROACH AND STEPS

1. Follow the EMAD R as the way for mutual recognition. This means:
   - Questionnaire submission
   - Audits to MNAAs
   - Implementation of M DOA Plan
   - Certificate of Recognition or Technical Arrangement

2. Define the scope of activity: Key point
   - Type Certificate Holder
   - Classification of modifications
   - Approval of minor mods by the Industry
   - Approval of Major Mods by recognized MNAA

3. Management of Continued Airworthiness:
   - Event management
   - Airworthiness Directives recognition
   - Mandatory SB approval process
PROCESS OF RECOGNITION (1)

Interchange of documents: Questionaire of EMAD R process, procedures, organization, legal aspects and rules
PROCESS OF RECOGNITION (2)

Audits:
Showing visibility of Process, Procedures and Organization, Staff, Personnel, training
Degree of compliance with EMAR 21
Legal scenario
Rules
PROCESS OF RECOGNITION (3)

• Results:
  Scope of recognition:
    including support in Continued Airworthiness
  General Agreement: legal aspects
  Annexes per programmes (SCP) (SQP)
• ACTIVITIES:
  UP TO INTA TC: Initial Certification
      Regular Meetings:
      Technical Forum
      Steering Comitee
  AFTER INTA TC:
      Support in Continued Airworthiness(A330 MRTT CAF)
      Support in Improvements to the Type design
Before a common military authority is established:

Nations will adopt EMAR 21

An Organization (EDA?) will lead the process of recognition between nations: no more duplication of recognition process and audits. At the end of this process, this organization grant that a specific body is able to conduct a certification process:

Replace bilateral recognition by multilateral recognition

A set of human resources will be defined for new international programs: possibility to have international Certification Teams: members from different nations
A common military authority under EMAR will be established:

The Paradise is coming

This is the goal but not easy to achieve:
- How to balance the common certification with individual nations requirements
- Independence and autonomy of nations

But is the solution:
- Complexity of new programs
- Distribution of cost
EXCERCISE

INTA QUESTIONNAIRE
2016 11 14 COA International conference 14 15 nov\Questionaire EMAD-R - INTA V00.xls
AVOID!!