Modifications to Standards: ICAO Exceptions

The Five Ws & One H

Presented at: Workshop for the Implementation of Procedures for Initial Aerodrome Certification & Continuing Aerodrome Safety Oversight

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Mr. Cruz has almost 25 years of successfully completing airport engineering projects. He has worked over 13 years working at San Francisco International Airport (SFO) and at Bob Hope Airport (BUR) as the Airport Engineer and Department Manager for Airport Engineering Design.

Mr. Cruz serves as the Regional Engineer for the FAA Western-Pacific Regional Airports Division, Safety and Standards Branch. In this capacity, he serves as the subject matter expert for airport design, pavement, and construction standards. He is the region’s point of contact and provides guidance to the Airport District Offices (Engineers & Planners), airports and their consultants for processing Modifications to Airport Standards.

Mr. Cruz is a California Registered Professional Engineer, a Certified Member of the American Association of Airport Executives, and a director at-large for the local ASCE’s Air Transportation Technical Group.
SAFETY

Organizational culture eats strategy for breakfast, lunch and dinner

- Peter Drucker
Session Objectives

A. Background

B. The Five Ws and One H

C. Lines of Business Review

D. Best Practice(s)
Laws and Regulations

• Airport and Airway Improvement Act:
  - 49 U.S. Code § 47105 – Project Grant Applications - (b)(3) requires compliance with FAA standards.
  - An application for a project grant under this subchapter may propose airport development only if the development complies with standards the Secretary prescribes or approves, including standards for site location, airport layout, site preparation, paving, lighting, and safety of approaches.

• Airport Improvement Program:
Laws and Regulations

• Airport and Airway Improvement Act:

• Airport Improvement Program
  - Grant Assurance No. 34 – Policies, Standards, and Specifications requires Sponsors to “carry out the project in accordance with policies, standards, and specifications approved by the Secretary.....”
  - Grant Assurance No. 29 – Airport Layout requires Sponsors to maintain an updated ALP. Changes to the airport that do not meet FAA standards require FAA approval of any proposed Modification of Standards regardless of source of funds for the project.
Laws and Regulations

• Airport and Airway Improvement Act:

• Airport Improvement Program:

• Passenger Facility Charge (PFC)

➤ Title 14 CFR Part 158, Passenger Facility Charges, Appendix A states, “The public agency hereby **assures and certifies**, with respect to this project that:...It will carry out the project in accordance with FAA airport design, construction, and equipment standards and specifications contained in advisory circulars current on the date of project approval.”
SPONSOR CERTIFICATION

• Sponsor Certification of Project Plans and Specifications (FAA Form 5100-132):

  1. The plans and specifications were prepared in accordance with applicable Federal standards and requirements, so no deviation or modification to standards ...is necessary other than those previously approved by the FAA.

If the MOS is not approved in advance, alterations made may jeopardize FAA’s ability to fund/reimburse the expenditures!
Session Objectives

A. Background

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Modification to Airport Standards…

1. **What** is it?
2. **Where** does it take place?
3. **Why** should one be proposed?
4. **When** should one be proposed?
5. **Who** is involved?
6. **How** is it proposed?
What is it?

Any deviation from, or addition to standards, applicable to airport design, material, and construction standard, or equipment projects resulting in an acceptable level of safety, useful life, lower costs, greater efficiency, or the need to accommodate an unusual local condition on a specific project, when adopted on a case-by-case basis.
Modification to Airport Standards...

1. **What is it?**

   **How is it proposed?**

2. **Where does it take place?**

3. **Why should one be proposed?**

4. **When should one be proposed?**

5. **Who is involved?**
Where does the MOS take place?

It takes place where there’s an issue or challenge meeting FAA standards for:

- Design
- Construction
- Equipment
MOS cannot be used for to modify:

**EXAMPLES:**
- ICAO Runway Strip/RESA or its dimensions
- ICAO OLS dimensions
- Approach/Departure Surfaces
Sponsor must submit an MOS for:

- **Design:** if cannot meet geometry or pavement design stds., NAVAID siting or other spacing requirements

- **Standards for Specifying Construction:**
  - if the available (local) materials cannot meet the requirements of the spec, or are at a significantly higher cost, or entirely new spec.
  - construction installation method and tolerances. If proposed can show a cost savings or greater efficiency without sacrificing safety or useful life.
  - general provisions of AC 150/5370-10G. If the proposed changes are required to conform to local laws and regulations.

- **Equipment standards** request. The request must show that the MOS is justified by unusual local conditions.
Modification to Airport Standards...

1. **What is it?**

2. **Where does it take place?**

3. **Why should one be proposed?**

4. **When should one be proposed?**

5. **Who is involved?**

6. **How is it proposed?**
Why should one be proposed?

Should answer these basic questions:

- What are you trying to fix and why are you proposing to fix it this way?

- Does what you are proposing provide an acceptable level of safety, economy, greater efficiency, or necessary to accommodate local conditions?

- IF Applicable:

  What **mitigations/procedures** are you willing to implement and/or accept as a result to address the sub-standard condition?
Modification to Airport Standards...

1. What is it?

2. Where does it take place?

3. Why should one be proposed?

4. When should one be proposed?

5. Who is involved?

6. How is it proposed?
When should one be proposed?

• **At the earliest time possible:**
  – Project Planning and Programming
    • ICAO Master Planning
  – Airport funding request meetings
  – Project Design
Modification to Airport Standards...

1. What is it?
2. Where does it take place?
3. Why should one be proposed?
4. When should one be proposed?
5. Who is involved?
6. How is it proposed?
Who is involved?

- Aerodrome operators (with consultant, if any)
- (CAA) Agency Engineers & Planners
- Regional Office
  - SMS specialist, Cert Inspector, Regional Engineer
- Lines of Businesses (LOB)
- FAA Headquarters
Modification to Airport Standards...

1. What is it?

2. Where does it take place?

3. Why should one be proposed?

4. When should one be proposed?

5. Who is involved?

6. How is it proposed?
How is the MOS proposed?

<table>
<thead>
<tr>
<th>1. AIRPORT NAME:</th>
<th>2. AIRPORT LOCATION (CITY,STATE):</th>
<th>3. LOGID:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

4. AFFECTED RUNWAY/TAXIWAY:  

5. APPROACH (EACH RUNWAY):  
- PIR  
- NPI  
- VISUAL

6. AIRPORT REF. CODE (ARC):

7. DESIGN AIRCRAFT (EACH RUNWAY/TAXIWAY):

8. TITLE OF STANDARD BEING MODIFIED (CITE REFERENCE DOCUMENT):

9. STANDARD/REQUIREMENT:

10. PROPOSED:  

- Brief description of MOS, Attach copy of proposed specification using ‘tracked changes’ and other supporting documents so that it is clear what you want to change

11. EXPLAIN WHY STANDARD CANNOT BE MET (FAA ORDER 5300.1F):

- Thoroughly Explain why the standard can not be met

12. DISCUSS VIABLE ALTERNATIVES (FAA ORDER 5300.1F):

Where is project on airport,?  
RW / TW / Apron /Other
Session Objectives

A. Background

B. The Five Ws and One H

C. Lines of Business Review

D. Best Practice(s)
FAA - Lines Of Businesses'

- Operates Control Towers, TRACONS, Centers
- Develops Flight Procedures and impacts during construction
- Technical standards to ensure safe flight procedures
- Installs and maintains FAA communications, navigation and surveillance equipment
- Manages system-wide traffic flow management during good and bad weather days, and construction
- Construction safety and airport certification
- Gateway to the ATO, including integration with capital planning and reimbursable agreements for NAVAIDs implementation

ATS: Air Traffic Services
AJV: Mission Support, Flight Procedures Team
AFS: Flight Standards
AJW: Technical Operations
AJR: System Operations
ARP: Airport District Office
AJV: NAS Planning and Integration
How do we manage Coordination?

### ASN: 2017 AWP-670 NRA

Click on the division for response details.

<table>
<thead>
<tr>
<th>Division</th>
<th>Responded By</th>
<th>Responded Date</th>
<th>Response Type</th>
<th>Response</th>
<th>Duration (Days)</th>
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<td>AT - ATCT/Facilities</td>
<td>Jeff Cunningham</td>
<td>03/27/2017</td>
<td>No Objection with Provision</td>
<td>LAX Tower agrees with the change to prohibit ADG-VI aircraft from using Taxiway H between Taxiways T and U. LAX Tower agrees with the NGS to use Taxiway H between Taxiways T and U for ADG-V and smaller aircraft. We don't think it should be renamed as a &quot;Taxilane&quot; just to meet ADG-V standards. Concur with ATCT</td>
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<td>Mark Griffin</td>
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<td>No Conflict with USAF Confix Program</td>
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<td>Air Traffic Obstruction</td>
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MOS PROCESS

MOS Request → MOS → OR → MOS Approved

MOS Request → Line of Business Review

Line of Business Review → Safety Risk Management

Safety Risk Management → Line of Business Review

MOS Request → Safety Risk Management
## MOS Process
### BEST PRACTICE(s)

<table>
<thead>
<tr>
<th>Coordinate with the Various LOBs FIRST!</th>
<th>Show them the DRAFT MOS</th>
<th>Ask for their Comments and Resolve them!</th>
<th>Modeling might be needed to support/alleviate the concern</th>
</tr>
</thead>
</table>

- **Operational Mitigations may be needed**
  - Air Traffic Control Tower may need Letter of Agreement to memorialize the mitigations
  - Air Traffic Control Tower may need to create/implement Standard Operating Procedures
  - Depending on complexity, Airport might need to prepare for an SRM Panel
1. Associated with Design standards expire no later than 5 yrs. from approved date. If you need the MOS extended, must **re-submit** the MOS;

2. All MOS associated with design standards must be reviewed whenever there is an opportunity to meet standards, when situations change, or if an MOS is no longer required.

An approved MOS cannot be modified. A new MOS is required if changes are needed.
ANY change to FAA Standards require an MOS approval

Five Ws and One H

Line of Business Coordination

Best Practice(s)
Discussion