

# Modifications to Standards



Federal Aviation  
Administration



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# Modifications to Standards - Policy

- **AIP Grant Assurance #34 Policies, Standards and Specifications**
  - obligates a sponsor to comply with all applicable FAA standards and specifications for AIP and PFC approved projects.
- **FAA Order 5300.1, Modification to Agency Airport Design, Construction and Equipment Standards**
  - establishes the criteria for modifying a FAA standard or specification.
  - requires that all modifications to design and construction standards be approved by the FAA prior to incorporation into projects funded through AIP.



# Modification to Standards

- **Requests for Modifications to Construction Standards will not be approved after construction has occurred.**
- **Costs associated with unapproved construction modifications to FAA standards are automatically ineligible for AIP participation.**
- **If no FAA standard exists then AIP eligibility can be established in the modification to standards process.**



# Modifications to Standards

- There are three types of Modifications to Standards:
  - Design (Standards)
  - Construction (Methods & Material Specifications)
  - Equipment (Specifications)



# Modification to Standards

Appendix 2

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION NORTHWEST MOUNTAIN REGION

## MODIFICATION OF AIRPORT DESIGN STANDARDS OR CONSTRUCTION STANDARDS REQUIRING OFFICE OF AIRPORTS, AAS-100 APPROVAL (Reference FAA Order 5300.1)

BACKGROUND		
1. AIRPORT: Portland International Airport	2. LOCATION(CITY,STATE): Portland, Oregon	3. LOC ID: PDX
4. EFFECTED RUNWAY/TAXIWAY: Taxiway C, Taxiway E, Taxiway F	5. APPROACH (EACH RUNWAY): N/A <input type="checkbox"/> PIR <input type="checkbox"/> NP <input type="checkbox"/> VISUAL	6. AIRPORT REF. CODE (ARC): D-V
7. DESIGN AIRCRAFT (EACH RUNWAY/TAXIWAY): Group V		
MODIFICATION OF STANDARDS		
8. TITLE OF STANDARD BEING MODIFIED (CITE REFERENCE DOCUMENT): Federal Aviation Administration, Advisory Circular 150/5370-10F Standards for Specifying Construction of Airports, Item P-501 Portland Cement Concrete Pavement, Paragraph 501-2.3a Fly Ash		
9. STANDARD/REQUIREMENT: AC 150/5370-10F, Item P-501, Paragraph 501-2.3a, states that class F or N flyash for use in mitigating alkali-silica reactivity (ASR) shall have a total equivalent alkali content of less than 3 percent.		
10. PROPOSED: This modification to standards would remove the requirement that the total equivalent alkali content be less than 3 percent for the Taxiway C West Rehabilitation (AIP No. 3-41-0048-068) and South Airfield Taxiway Improvements (AIP No. 3-41-0048-067) projects at Portland International Airport. It would allow for use of locally produced flyash which has proven to mitigate alkali silica reactivity (ASR).		
11. EXPLAIN WHY STANDARD CANNOT BE MET (FAA ORDER 5300.1): This modification to standards is requested as there are no flyash producers in the Pacific Northwest capable of meeting this requirement. Typically flyash produced in the Pacific Northwest has a total equivalent alkali content of between 3 and 5 percent with a total available alkali content of between 1 to 1.5 percent. Locally produced flyash when utilized in combination with the locally available aggregates has historically mitigated ASR when tested in accordance with ASTM C 1567.		
12. DISCUSS VIABLE ALTERNATIVES (FAA ORDER 5300.1E): The primary alternative to flyash is blast furnace slag. However slag has historically not produced consistent test results. Concrete produced with slag tends to not be as workable as concrete produced with flyash. When slag is used in combination with locally available aggregates it also has not shown to mitigate ASR as effectively as flyash. Additionally, an issue with slag clumping has been seen within the Pacific Northwest. These inconsistencies have led to rejection of work, project delays and increased costs for contractors and the sponsor airports. Overall, these issues create a condition where concrete performance and life expectancy is reduced and maintenance costs are increased.		

Requests for modifications to standards must be submitted with MODIFICATIONS TO STANDARDS request form. See below ASO website for MOS templates.

<http://www.faa.gov/airports/southern/engineering>

MOS requests will be electronic in the near future. Web based application in the Airports GIS program.



# Modification to **Construction** Standards

Modifications are only allowable in unique circumstances where:

- ✓ A clear need dictates the MOS.
- ✓ Will provide a product that will meet FAA acceptance criteria.
- ✓ The finished product will perform for its intended design life.



# Modification to **Construction** Standards

- The Sponsor's reason for the modification should address the following criteria:
  - ✓ Does the proposed modification provide a level of performance equivalent to or greater than the FAA standard?
  - ✓ Does the proposed modification provide a level of safety equivalent to or greater than the FAA standard?
  - ✓ Does the use of the proposed modification result in an unreasonable increase in cost to the AIP when compared with using the FAA standard. (An exception to this rule is the application of life cycle analysis where the Sponsor can demonstrate the higher cost option is cost beneficial over the life of the finished product.)



# Modification to **Construction** Standards

- ✓ A Sponsors justification for modifying a FAA standard must sufficiently explain why the modification is necessary.
- ✓ Sponsor's preference or engineer's discretion does not represent an adequate justification.
- ✓ If the Sponsor cannot make a compelling reason for why they cannot use the FAA standard, the FAA project manager has cause to reject the requested modification.





# Modification to **Construction** Standards

- To request a modification to construction standards, the sponsor must:
  - Describe the proposed modification.
  - Discuss viable alternatives for accommodating the unique conditions.
  - Provide a justification for all proposed changes.
  - Provide documentation that supports the justification for the MOS request.



# Pavement Related MOS

## What to avoid when submitting a Pavement MOS ?

- **Submitter clearly does not understand the system/product being submitted; unclear of quality control/acceptance; etc.**  
**Lack of knowledge and/or unwillingness to obtain knowledge.**
- **Keep it simple and stick to the facts. Avoid personal opinions.**
- **“Excuses” – with no other substance**  
**It’s cheaper – It’s local - It’s green – It’s more time efficient**  
**Results in better product – based on contractor’s years of experience doing it “this way”**  
**It’s easier**



# Pavement Related MOS Approved Quickly

- In most cases approval will be **Conditionally Approved**
- **Want/Need it Quick? As simple as “HELP US HELP YOU”**
  - Call/Email prior to sending
  - Submit using the MOS Form with all applicable blocks filled out cleanly, clear, and precise.
  - Submit with all applicable information and data needed therefore saving the time it would take us to find.
    - Supporting information with a highlighted summary of changes
    - Supporting test data
    - Drawing/Sketch clearly indicating where and what
    - A comparison Tabulation if MOS to use different material
      - Test requirement in Standard
      - Tests of material being submitted



# Paving Standards – P 501



- Don't ask for a MOS to use a side-form paver 3 days before the NTP !



# Modification to **Construction** Standards – Use of State Standards



- The use of state material standards in lieu of FAA material standards does require the sponsor to submit a request for modification to FAA standards except when:
  - pavement design with gross weight of 30k lbs or less
  - or
  - runway is less than 5,000ft and serves aircraft with gross weight of 60k lbs or less (note: 10 yr. grant condition and 20yr. ALP condition)



# Modification to **Equipment** Standards

- **Modification of standards for equipment such as ARFF vehicles, sweepers, snow plows, etc. should be justified and approved the same way as modification of construction standards.**
- **Bid the FAA spec!**



# Modification to Standards

Questions?

