

Airfield Pavement Design, Evaluation & Analysis Workshop

Kansas City, Missouri

October 4-6, 2017

WEDNESDAY, OCTOBER 4, 2017

- 7:30 – 8:00** **REGISTRATION and BREAKFAST**
- 8:00 – 8:20** **Course Introduction**
- 8:20 – 9:00** **Overview of Airfield Pavement Design**
Evolution of Airfield Pavement Design
Empirical Procedures
Mechanistic-Empirical Procedures
- 9:00 – 9:50** **Airfield Pavement Types and Pavement Performance**
Overview of Pavement Types (Flexible, Rigid, Composite)
Paving Materials
Base/Subbase Materials
Pavement Performance
- 9:50 – 10:10** **BREAK**
- 10:10 – 11:10** **Subgrade Soils and Granular Materials**
Characterizing Pavement Materials
Evaluating in Place Conditions
Determining Inputs for Pavement Design
Frost Protection Considerations
- 11:10 – 12:00** **Aircraft Traffic**
Gear Types and Naming Conventions
Cumulative Damage Factor (CDF)
Pass-to-Coverage Ratio (P/C)
Characterizing Aircraft Loads in FAARFIELD
- 12:00 – 1:00** **LUNCH**
- 1:00 – 2:00** **Flexible Pavement Design**
Failure Mechanisms
Required Input Variables
Flexible Pavement Design
Using FAARFIELD
- 2:00 – 3:10** **Workshop: Flexible Pavement Design**
- 3:10 – 3:30** **BREAK**
- 3:30 – 4:20** **Rigid Pavement Design**
Failure Mechanisms
Required Input Variables
3-D Finite Element Model
Rigid Pavement Design
Using FAARFIELD
- 4:20 – 4:50** **Current Airfield Pavement-Related Research**
- 4:50 – 5:00** **Daily Wrap-Up**
- 5:00 – 6:30** **WELCOME RECEPTION**

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THURSDAY, OCTOBER 5, 2017

- 7:30 – 8:00** **BREAKFAST**
- 8:00 – 8:50** **Workshop: Rigid Pavement Thickness Design**
- 8:50 – 10:20** **Rigid Pavement Design Details**
Slab Size
Joint Considerations (Types, Spacing, Sealant)
Load Transfer
Reinforcing Steel
- 10:20 – 10:40** **BREAK**
- 10:40 – 11:30** **Workshop: Rigid Pavement Design Details**
- 11:30 – 12:00** **Pavement Design for Airfield Shoulders**
Purpose of Shoulders
Material Requirement
Shoulder Design Procedure
- 12:00 – 1:00** **LUNCH**
- 1:00 – 1:50** **Overlay Design**
HMA over HMA
HMA over Rubblized PCC
HMA over PCC
PCC over PCC
PCC over HMA
- 1:50 – 3:10** **Pavement Evaluation and Overlay Considerations**
Pavement Evaluation Process
Analysis of Existing Pavements
Overlay Considerations
Reflection Crack Control Measures
- 3:10 – 3:30** **BREAK**
- 3:30 – 4:50** **Workshop: Overlay Design**
- 4:50 – 5:00** **Daily Wrap-Up**

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FRIDAY, OCTOBER 6, 2017

7:00 – 7:30 BREAKFAST

7:30 – 8:50 ACN-PCN Background and Concepts)
History and Background
Concept, Purpose, and Definitions
FAA Advisory Circular and COMFAA Program
Advisory Circular 150/5335-5C

8:50 – 9:00 BREAK

9:00 – 9:30 PCN Approach for Rigid Pavements
How to Determine PCN for PCC Pavements
PCC Pavement Sample Problems and Solutions

9:30 – 10:10 Workshop: PCN Determination for Rigid Pavement

10:10 – 10:20 BREAK

10:30 – 11:00 PCN Approach for Flexible Pavements
How to Determine PCN for HMA Pavements
HMA Pavement Sample Problems and Solutions

11:00 – 11:40 Workshop: PCN Determination for Flexible Pavement

11:40 – 12:00 Wrap-Up Session