

— August 28th —

Pavement Design and Preconstruction Activities

7:30 AM — 8:00 AM – Continental Breakfast

8:00 AM – 8:15 AM – Welcome and Workshop Agenda (Gary Mitchell, ACPA)

This presentation will welcome everyone to the workshop. The attendees will provide self-introductions and ACPA Vice President—Airports and Pavement Technology, Gary L. Mitchell will outline the content of the workshop and discuss the objective of the concrete paving industry in holding this all-important workshop.

8:15 AM – 8:30 AM – FAA Western-Pacific Region Welcome (Mark McClardy, Director: Western-Pacific Region, Office of Airports)

8:30 AM – 9:00 AM – FAA Western-Pacific Region Discussion of Regional Issues (Alberto Cruz, FAA Western-Pacific Region)

This presentation will welcome all to the FAA Western-Pacific Region. Western-Pacific Region pavement engineer, Alberto Cruz will discuss expectations of the FAA for paving projects as well as highlight and discuss some of the issues important to the FAA Western-Pacific Region.

9:00 AM – 9:45 AM – United States Department of Defense’s Air Force Welcome, Introduction, and Discussion of Agency Concerns (Dr. Craig RUTLAND, Pavement Subject Mater Expert, Air Force Civil Engineering Center). - *(Invited)*

In this presentation, Dr. Rutland will discuss the various aspects of airfield pavement requirements from the government’s perspective. The discussion will center around the airfield pavement using agency’s concerns and why strict requirements for high quality, durable pavements are so important.

9:45 AM – 10:00 AM – Break

10:00 AM – 10:45 AM – Concrete Paving Fundamentals (Angela Folkestad, CO/WY Chapter ACPA)

This lesson will discuss basic terminology of airfield pavement, critical design aspects, important components for pavement performance, various distresses and their causes, and quality in airfield pavements. In addition, implication of poor quality, lack of process control, and the effect of variability will be discussed.

10:45 AM – 11:15 AM – Overview of Department of Defense Guidance (UFC’s & Engineering Technical Letters) (Harold Honey, Michael Baker)

Numerous guide documents exist that must be followed for the design and construction of military pavements. This lesson will present a brief discussion of the required guidance and engineering technical letters that should be follow for military airfield pavement design and construction.

11:15 AM – 11:45 AM – Overview of Federal Aviation Administration Guidance on Pavement Design and Construction (Advisory Circulars & Engineering Briefs) (Doug Johnson, FAA)

Numerous guide documents exist that must be followed for the design and construction of commercial pavements using Airport Improvement Program (AIP) funds. This lesson will present a brief discussion of the required guidance and engineering briefs that should be follow for FAA airfield pavement design and construction.

11:45 AM – Noon – Pre-Construction Activities (Gary Mitchell, ACPA)

Various pre-construction activities must be undertaken prior to beginning construction of airfield pavements. Numerous items that must be considered during the pre-bid, bidding, and pre-construction phases of a project will be discussed. Some of these items include the pre-bid meeting, partnering, qualifying construction materials, and pre-paving conference.

Noon – 1:00 PM – Lunch (Provided)

1:00 PM – 1:45 PM – FAA Specifications for Subbase, Base, and Stabilized Base Construction (Doug Johnson, FAA)

Subbase, base, and stabilized base construction are all important for proper airfield pavement construction. The lesson will present and discuss FAA specification requirements for P-154, P209, P304, and other specification items in AC 150/5370-10.

1:45 PM – 2:30 PM Mix Design Constituents and Processes to Meet the Corp of Engineers Requirements (Harold Honey, Michael Baker)

There are many misunderstandings pertaining to the Corps of Engineers requirements for mix design constituents and processed to meet the requirements of 32 13 14.13. The Corps of Engineers requirements are more rigorous than other agencies. This lesson will present the process and what is required for the mixture design submittal to meet the 32 13 14.13 requirements.

2:30 PM – 2:45 PM — Break

2:45 PM – 3:15 PM — Concrete Mixture Optimization for Concrete Pavements (Gary Mitchell, ACPA)

The U.S. Department of Defense and FAA require concrete mixture to meet certain coarseness and workability requirements. These requirements require concrete mixture optimization. This lesson will be a continued discussion from the previous presentation and present what concrete mixture optimization is, why we want to do it, and how to do it. Some examples and discussion of mixture optimization tools will also be presented.

3:15 PM – 4:00 PM — Plant Certification, Plant Management, and Uniformity Testing (Gary Mitchell, ACPA)

Concrete batch plants must meet certification requirements and produce consistent high-quality concrete to be delivered to the paver. This presentation will discuss what is require for plant certification, concrete plant management requirement, and uniformity testing requirements to meet military and commercial airfield pavement requirements.

4:00 PM – 4:45 PM testing Requirements for Airfield Pavements – What Do They Really Tell Us? (Toy Poole, CTL Group)

Various testing requirements are referenced in the military and commercial airport concrete pavement specifications. These testing requirements contain instructions on how to conduct the testing, tolerances, repeatability, and significance. In addition, interpretation of various testing protocols and specification requirements will be discussed.

4:45 PM – 5:00 Day one wrap up, discussion, and questions and answers.

— August 29th —

**Construction Techniques, Quality Control,
and Inspection**

7:30 AM – 8:00 AM – Continental Breakfast

8:00 AM – 8:15 AM – Review and Q & A from Day 1

8:15 AM – 9:00 AM – Construction Techniques (Gary Mitchell, ACPA)

This lesson will discuss various considerations for construction techniques. Topics of discussion will include: concrete placement issues, dowel bar installation and tolerances, concrete consolidation/vibration effort, finishing/curing, protection against rain, etc. In addition, this lesson will include a detailed discussion of joint type and layout as well as joint sealing.

9:00 AM – 10:00 AM – Contractor Quality Control/Quality Assurance Requirements for Quality Concrete Pavements (Martin Holt, IHC)

In this lesson, attendees will learn what should be included in a contractor quality control program. Topics of discussion include process control requirements, contractor QC requirements, testing requirements, control charts, reporting, etc. Emphasis will be from the contractor point of view as to what should be included in a QC program to exceed the specification requirement.

10:00 AM – 10:15 AM – Break

10:15 AM – 11:00 AM – Using HIPERPAV High Performance Concrete Paving Software to Monitor Uncontrolled Cracking Risk (Sabrina Garber, The Transtec Group) (invited)

A temperature management plane is important for paving in warm weather. This lesson will discuss using HIPERPAV to monitor theoretical thermal stresses during concrete placement, finishing, and curing as a contractor's tool to monitor the risk of early-aged, uncontrolled cracking.

11:00 AM – 11:45 AM – Construction Inspection – What the Department of Defense is Looking For (Cpt. Jason Hernandez, Air Force Institute of Technology) (invited)

Construction inspection is an important part of airfield pavement construction. Many times, the contractor or construction team may not fully understand the requirements to meet the specification; likewise, the inspector may not fully understand the intent of the specifications. This lesson will provide the attendees an understanding of construction inspection requirements from the agency point of view.

11:45 AM – 1:00 PM – Lunch (provided)

1:00 PM – 2:00 PM – Concrete Paver Set-Up and Operation to Meet P-501 and 32 13 14.13 Requirements (Ron Guntert, Guntert & Zimmerman)

This lesson will discuss slip form paving equipment and requirements to meet the concrete pavement specification. Important components of the slip form paver, operations, concrete mixture requirements, etc. will be discussed.

2:00 PM – 3:00 PM – 3D Stringless Control Systems (Mathew Morrison, GOMACO)

The state-of-the-art method for slipform paving is stringless technology. This lesson will present the current methodologies for stringless control systems, how they work, and how to produce high quality, smooth pavements without using stringlines.

3:00 PM – 3:15 PM – Break

3:15 PM – 4:00 PM – Airfield Pavement Smoothness (Michael Gerardi, APR Consultants)

In this lesson airfield pavement smoothness will be presented. Discussion will center around short- and long-wave length smoothness, effects of rough pavements on aircraft, and various methods of measuring airfield pavement smoothness.

4:00 PM – 4:45 PM – Airfield Pavement Marking (Donna Speidel, Sightline, Inc.)

Airfield marking is often incidental to an airfield paving project. When the pavement marking process is done correctly, the marking can last for several years; however, when poorly installed, pavement markings can fail within weeks or months. This presentation will focus on best practices that will result in quality materials installed by appropriate equipment that comply with basic application requirements. A brief discussion of the standard specifications, construction techniques and practices that will result in longer lasting markings, and commonly encountered problems in meeting project specifications will be

presented. In addition, identification of practices that result in premature failure and poor performance will be discussed.

4:45 PM – 5:00 PM – Day two wrap up, discussion, and questions and answers.

— August 30th —

Construction Planning and Specifications

7:30 AM – 8:00 AM – Continental Breakfast

8:00 AM – 9:30 AM – P-501 Federal Aviation Administration Concrete Pavement Specification (Doug Johnson, FAA)

FAA Advisory Circular 150/5370-10, Item P-501 is the guide specification for airfield concrete pavement construction. In this lesson, the attendees will gain an understanding of the requirements and intent of the airfield concrete pavement specification. Discussion will define the agency requirements for producing high quality, durable, pavements. Topics will include aggregate and other material requirements, tolerances, strength requirement, and acceptance criteria.

9:30 AM – 9:45 AM – Break

9:45 AM – 10:15 AM – Planning for Hot or Cold Weather Paving (Gary Mitchell, ACPA)

Often, airfield paving projects must be performed during hot or cold weather. Discussion in this lesson will center around construction methods for hot and/or cold weather paving.

10:15 AM – Noon – Unified Facilities Criteria (UFC) 32 13 14.13 Concrete Pavement Specifications (Gene Gutierrez, USACE Transportation System Center)

Unified Facilities Criteria part 32 13 14.13 is the guide specification for airfield concrete pavement construction. In this lesson, the attendees will gain an understanding of the requirements and intent of the airfield concrete pavement specification. Discussion will center around agency requirements for producing high quality, durable pavement. Topics will include aggregate and other material requirements, tolerances, and expectations of the contractor performing the work. Contractor Quality Control expectations will also be discussed.

Noon– 1:00 PM –Lunch

1:00 PM – 2:00 PM – Lessons Learned from When Things Go Wrong (Jim Lafrenz, Tigerbrain Engineering)

Sometimes during airfield pavement construction things do not always go as planned. In these cases, many lessons have been learned. In the lesson, the attendees will be presented with lessons learned from when things went wrong. The discussion will center around specific instances and examples where problems and issues occurred, and how these issues were dealt with.

2:00 PM – 2:45 PM – Final thoughts (Doug Johnson, Alberto Cruz, Gary Mitchell, Craig Rutland, Gene Gutierrez)

In this lesson, attendees will have the opportunity to discuss various topics and ask questions of the pavement engineers representing the FAA, Air Force, Industry, and USACE Transportation System Center. Discussion will be held in an open format with opportunity to discuss items that may not have been covered during the workshop or items of particular interest to the attendees.

2:45 PM – 3:00 PM – Day three wrap up, discussion, evaluation, and questions and answers.