



MINUTES OF THE 30TH ANNUAL ASPHALT CONFERENCE SEPTEMBER 11-12, 2006



A. Welcoming Remarks – Jim Warren, ACAF, Inc.

B. FDOT Comments – Ananth Prasad, Chief Engineer

C. Prepared Presentations: Powerpoint files attached to these Minutes

1. State of the Industry Report – Jim Musselman, FDOT
2. FDOT Research Activities – Greg Sholar, FDOT
3. Smoothness Committee Update – Gale Page, FDOT
4. Department Plant Worksheet – Clay Whitaker, FDOT
5. Producer Price Index – Brian Blanchard, FDOT
6. S.E. US Regional Activities – Gary Fitts, AI
7. Polymer Modified Asphalts – Don Siler, Marathon Petroleum

D. ASPHALT CONFERENCE PANEL DISCUSSION

(Questions submitted and grouped by topic)

CTQP TRAINING ISSUES

1. What is the latest with the CTQP Program?

To provide more efficient training, the Department has begun the process of converting training materials to Computer Based Training (CBT). Use of CBTs should significantly reduce the cost of training because employees can complete the training during “down-time” (i.e., weather days when no work is occurring, in between jobs, or during periods when operations are slack) or on their own time. In addition, no travel expenses need be incurred in conjunction with this training and the CBTs will be available at no cost to the user. Proctored exams, administered by authorized providers, will still be required; however, costs should be reduced significantly using this method of training delivery.

Final Estimates, Level 1 is already in a CBT format. The Department currently has two courses under contract for CBT conversion; Earthwork Construction Inspection Level 1

and Asphalt Paving Level 2. The CBTs for these courses are close to completion. We intend to continue with this CBT conversion effort. The next courses identified for possible CBT conversion include: Asphalt Paving Level 1, Earthwork Construction Inspection Level 2, and the Concrete Field Inspector Specification and Lab Technician Specification Courses.

2. What changes have been made to the QC Manager requirements/course and when will they be implemented?

The updated course has an entirely new chapter that presents detailed information about the QC Manager's role and responsibilities. This new chapter was added to address a concern that many QC Managers are not as knowledgeable as they need to be about their role and responsibilities. Existing course topics have been updated and some have been reduced or expanded resulting in a significant overall course change. Since the course has the new Role and Responsibilities chapter and because the existing curriculum has been significantly revised, the FTBA and the Florida Department of Transportation are strongly encouraging current QC Managers to retake the course in person when it is time for requalification. Attending the course in person will provide much better understanding of the critical new chapter on role and responsibilities as well as significant course revisions than will just taking the requalification exam. The new course is now being offered.

Main Topics for the New Role and Responsibilities Chapter

- Participate in Pre-Bid Planning
- Provide Awareness and Interpretation of Contract Document Requirements
- Administer QC Plan and Internal Work Plans
- Evaluate the QC Performance of Production Staff
- Administer the Inspection Program
- Perform Records Management
- Monitor the QC Expectations and Address QC Concerns of the Owner
- Establishing Lines of Authority

CONSTRUCTION ISSUES

3. What will be the effect on the FDOT Projected Work Plan due to higher costs?

Fewer projects will be let. Projects will get moved out to cover the higher costs, which is a concern to contractors/developers/MPO's. The Department is implementing new specifications (max. bid spec, bid options, design-build with a maximum price) to give the Department a better opportunity to let the project in the month we say we will let it. Better estimates will also help reduce changes to the work plan.

4. What is the status of the specification for use of tack-less tack material on FDOT projects? What contractors are using it for non-DOT projects and what kind of experience do they see?

A joint DCE Memo/Materials Bulletin was issued July 27, 2006 that would allow a Contractor to choose to use these two additional materials for tack with a no-cost specification change. Changes to the Specifications will appear in all projects let starting in June 2007. Note: Contractors need to be careful not to mix and match different emulsified tack materials.

5. Paperwork – What can be done to make paperwork simpler, more consistent?

Ananth Prasad has asked the State Construction Office to put together a "policy group" to develop a "bold plan" on paperwork. The group will include some DCEs, some DMEs, and Kim Smith (to address any OIG type issues). At the Henry Fuller Task Team meeting (December 2006), we discussed getting a group of FDOT and Industry people together to brainstorm ways of reducing the field paperwork. We discussed starting with zero paperwork and work up from there, looking at the final estimate process, paperwork needed for the audit process, spec requirements, etc. and try it for projects one million and less, possibly just collecting tickets as a starting point.

6. What is the latest on the District 5 revisions on the Asphalt Roadway Report?

There was a statewide task team that looked at the Asphalt Roadway Report over the last couple of years in an effort to better streamline and make the report easier to use. In addition, District 5 is now piloting a new version of the Asphalt Roadway Report that they developed where the information is input directly into an Excel spreadsheet. Rich Hewitt, District 5 Bituminous Engineer gave an overview of this new report. To date, they have used it on several projects and it seems to be working well.

7. Why isn't there a CPRR Rating for Subcontractors (i.e. stripers, signs, sod)?

The prime contractor is responsible for choosing and hiring the subcontractors, so the Department does not see the need to rate subcontractors. The Department uses the CPRR Rating to calculate the bid capacity as part of the Contractor Pre-Qualification process. Sub-contractors are not pre-qualified.

8. Can you give us an update of all of the latest DCE/DME memos related to asphalt?

DCE memoranda related to asphalt are:

DCE 25-05/DME 10-05 – Gale Page as contact, subject is use of positive spot test for PG Binders, written in reaction to supply issues in 2005.

DCE 26-05/DME 11-05 – John Shoucair/Jim Musselman contacts, subject is use of approved aggregate products without producer certification at hot-mix asphalt plants. This memo allows contractor to use a quantity of uncertified aggregate from an approved aggregate source.

DCE 03-06/DME 02-06 – Musselman/David Wang contacts, subject is clarification of the intent of section 330-2.2 with regard to cutting cores. Specification was being interpreted by some in the districts to mean that 3 cores were required to be cut every day when what was intended was to cut 3 cores on the 1st few days production and then reduce frequency.

DCE 04-06/DME 03-06 - Musselman/Wang contacts, subject was hot mix asphalt QC failures, memo issued to give HMA producers the authority to resume asphalt production operations (following a shutdown due to QC failure) without getting FDOT Engineer's approval. This was done to shift QC related responsibilities more to Contractors. THIS ONLY APPLIES TO QC FAILURES.

DCE 13-06: Wang is contact, subject is to alert DCEs to SCO concerns with some quality issues discovered with rolling straightedging of asphalt.

DCE 15-06/DME 05-06 – Page is contact, subject is spec change to 916-1 Superpave PG Binder, was written to address issues with supply and to rescind Memo 25-05 mentioned above.

DCE 17-06/DME 07-06 – Shoucair is contact, Subject is spec change for Granitic course aggregate, raised max % passing -200 sieve to 2.5%.

DCE 18-06/DME 06-06 – Page is contact, subject is use of Alternative Emulsified Asphalt Tack Coat Materials, written to allow no cost change to allow use of alternative products as tack coat.

CONTRACT ADMINISTRATION ISSUES

9. What is the latest on the Construction Quality Index (CQI)?

A Research Need was identified by the Department to develop a Construction Quality Index that is representative of the entire pavement structure (subgrade, base, pavement). A contract for this research has been awarded to Applied Research Associates (ARA). ARA is using FDOT specification requirements for material characteristics for each layer of the pavement structure along with input (using a Delphi process) from Industry and Department "experts" as to how individual characteristics relate to the performance of the whole. The use and application of the CQI is yet to be determined.

10. Should there be an Index for Aggregate Pricing?

It would be difficult to establish an index for aggregate due to the multiple sources and delivery methods. The Department prefers to migrate towards an overall index based on the Producer Price Index. Pilot projects are in place for using the PPI.

11. What is the status of FDOT implementation of Index for PG76-22?

This index will be implemented starting with projects let in January 2007.

12. Would FDOT consider applying a bituminous index to their jobs of less than 5000 tons of asphalt on future projects?

The Department prefers to simplify paperwork and payment by not applying the index to short duration projects and small quantity projects where indexes have a lesser impact.

13. Can you please discuss the latest on the Department's efforts to obtain property for asphalt plants?

The Department has determined that there are several areas of the state where bidding competition is fairly low, particularly on resurfacing projects. One of the possible causes of this is the difficulty associated with acquiring property for an asphalt plant and getting the plant permitted. In an effort to help alleviate this situation, the Department is in the process of identifying state-owned property that might be suitable for an asphalt plant. Once the property is identified (and acquired if necessary), the Department will get the property permitted for a plant. That property would then be made available for use on specific contracts to the successful bidder. This is only being considered in specific locations within Districts 1, 2 & 3.

SPECIFICATION ISSUES (CQC/SUPERPAVE/Other)

14. Engineering Analysis Reports (EAR's) – What's going on? Is it getting better? Are we moving in the right direction? Is the quality of EAR's improving? Feedback?

There have been several actions which should be improving the overall EAR process. Several specification changes have been made which should hopefully reduce the number of failures, which means less EARs. The Department also held an EAR Workshop for firms that conduct EARs – so hopefully the quality of the EARs will improve. The Department has also provided more detailed guidance to the District Bituminous Engineers in the Materials Manual on how to deal with failures – i.e., which ones require an EAR and which ones do not. Several issues still need to be resolved: 1) the overall timeliness of the process, 2) some Contractors wait until the project is ready for final acceptance to resolve the failure and 3) sometimes it's difficult to get a prompt decision from project personnel.

15. Discuss gyratory compactors. Are there any problems currently being encountered that are due to different brands of compactors?

Neither Industry nor the Department is aware of any consistent systemic problem. Most issues have been related to maintenance of a particular gyratory compactor. The SMO has been and continues to be available to assist in resolving issues between gyratory compactors. As has been discussed at previous meetings with Industry, the Department has investigated the use of an internal angle calibration with the "mixless" device to improve this situation. An AASHTO standard for internal angle calibration is anticipated to be voted on in 2007 at which time the Department will consider adopting.

16. What's the latest on the asphalt plant worksheet upload? Has it been implemented yet? Are there unresolved issues with users?

It has been implemented and is currently available from the Forms and Procedures website. At this time, the worksheet is not mandatory. It is currently being used by QC, VT and IV/IA.

There are no significant issues with the worksheet at this time, however they do arise and are addressed as they come to light. Issues that affect calculated results are corrected immediately. Formatting issues are repaired periodically.

Most problems encountered by users relate to information entered. For instance, the pay item number is often entered without the correct number of spaces. When this happens LIMS cannot find the pay item as entered and returns an error. The error is identified in the return e-mail to the user. The user must use the LIMS syntax for data entered into the sheet.

17. Discuss the status of Removed Restrictions specification changes with and without a modified acceptance program.

In an effort to remove any unnecessary restrictions from the Specifications, the Department is in the process of making a number of specification changes in all materials areas. Specific to asphalt, the changes are as follows:

Mix Design/materials:

- TL-A paper verify Mix Design
- No aggregate consensus requirements for TL-A & B
- Reduce Ndesign gyratory compaction requirement (75 to 65) for TL-B
- Reduced VMA requirement (1%) for TL-A & B
- No T-283 requirement for TL-A & B; mandatory anti-strip (0.5%)
- New provisions for fractionated RAP

Acceptance – TL-C, D & E:

- Visual inspection for quantities less than 2000 tons
- 20 day Lot termination
- IV Sampling & Testing revamped to include split samples
- Master Production Range air voids widened for fine graded (2.0 – 6.0)
- QC Tests: No shutdown for consecutive P-8 failures

Acceptance – TL-A & B (Optional):

- No QC Plan, QC Personnel, QC Lab, QC Testing
- No VT
- One sample/day obtained by District Materials personnel
- One test per four days of production
- All testing/reporting by FDOT
- No bonuses/penalties; pass/fail only
- Tests include: Pb, P-200, P-8 and density
- If this option is not selected by the Contractor, acceptance is the same as for TL-C, D & E.

18. What is the status of the CQC Lite specification and other changes proposed by industry?

See response to Question 17 above.

19. Can you please give us an update on the status of the asphalt plant verification technicians? Will they be required in the future?

Pilot projects were completed in Districts 2, 4, 5 & 6 using different approaches to eliminate the full-time VT at the plant. The modified acceptance program for Traffic Level A & B mixes discussed in Question 17 will not require a VT. The Department is also committed to eliminating full-time VT on all projects, probably beginning in early 2007. The SMO will be working with the Districts and Industry to develop a uniform approach that assures quality. Further changes to IV testing may be proposed to achieve this goal.

20. Local Agency Program (LAP) Specifications. Update on what's going on.

In order to ensure that Federal Aid Contract requirements have been satisfied on LAP Projects, the Department recently developed LAP specifications for asphalt, concrete, earthwork and landscaping. The intent of these LAP Specs is to establish minimum requirements according to Work Category, which can then be used by Local Agencies as a baseline. The LAP specs for asphalt break the work down into three categories, where Work Category 1 is a bike path, and Work Category 3 is a mainline roadway, and acceptance ranges from certification by the Contractor to acceptance testing by the agency. The LAP specifications can be located at the following URL:

MATERIALS (BINDER AND AGGREGATE)

21. What's the latest on binder supply?

2006 was a bad year for binder supply. Hurricanes, warm winter, economics of heating oil versus asphalt, the transfer of Coastal/Patriot terminals to Marathon and South Florida Materials, and overall global issues of supply and demand all came together. The Department developed optional specification requirements and cut paperwork to get the available supply of asphalt to Florida terminals and HMA contractors without sacrificing quality. It appears that the supply is currently stable and no shortages exist, although the price has increased globally.

22. What's the latest on aggregate supply?

It is the Department's understanding that aggregate supply is at an all time high as a result of a downturn in the housing economy over the last six months. Aggregate producers have described aggregate sitting in stockpiles longer. Shipping issues have also improved.

23. Extraction/Gradation Testing Performed on Milling and Resurfacing Projects with more than 5000 tons of RAP. Is this a valuable resource for the contractors bidding work or can it be eliminated?

A poll of contractors in the room indicated that they used the pavement composition information (gradation and asphalt content) to assure the material to be milled is a typical mix with typical characteristics, and would prefer that the Department continue to provide this information.

24. What is the PG76-22 demand and future growth going to be?

The best consistent information on projected demand is the Association of Modified Asphalt Producers annual survey of state DOT's. Florida estimated use of 276,000 tons of liquid binder in 2005 of which 35,000 tons was estimated to be modified. Florida estimated 38,000 tons of modified binder for 2006. The unknown that could increase the amount of modified binder is where a District specifies a modified binder in a non Interstate project that has had a history of rutting.

25. Hybrid GTR/SBS Binder Research updates?

This research project by UF is just beginning. The purpose is to see if hybrid binders have the potential of performing equally with an elastomeric polymer modified binder. There was a delay in starting this project since the suppliers of these binders were difficult to

locate and the DSR creep test used to identify elastic characteristics of a binder was still under development by FHWA. UF will be using their cracking test as part of this project to evaluate hybrid binders as compared to polymer modified binders.

26. What is the Certification procedure for new asphalt products?

Check the Specifications Office web site under Product Evaluation for new asphalt product approval. The certification requirements for each load of asphalt binder are identified in 916-1.3.6. There has not been any changes that we are aware of.

27. Why does FDOT require segregation of aggregate for asphalt if it is coming from the same mine and/or the same supplier?

This issue relates to the same product coming from the same mine, but coming in through different terminals. Consequently it has a different product code and by Specification is treated as if it's a different aggregate. In some instances, different terminals may have different gradations. Basically this boils down to a mix design issue. The Department will look into this further – it appears to be a solvable problem.

28. Has the FDOT considered increasing the minus #200 spec at terminals? Currently 1.75%, same as source, while point of use is at 3.75%

Yes. The Department will consider increasing the minus 200 at terminals provided the asphalt mixes are designated from the appropriate terminal (say in Jacksonville) as opposed to the mine (say in Miami). The SMO will review available data and analyze for statistical trends. A change will require FHWA approval and is not assured at this point.

29. Discussion on the SMO Memo 07/06 Granite Aggregate minus #200 change?

The Granite minus #200 change requested by the Asphalt Contractors in September 2005, is justified by the lower percentage breakdown from mine to terminal to asphalt plant that is traditionally seen for Florida limestones. Results of a Department study are available for review.

30. What are the results of the rut tests on the fine graded Mixes?

A study was undertaken to examine the effect of polymer modified binder on the performance of TL D & E fine graded mixtures. Fifty four mix designs were evaluated with PG 67-22 and PG 76-22 binders. The mixtures were compacted to the Ndesign level of gyrations (100) and rutted in the Asphalt Pavement Analyzer (APA) to determine the rutting potential of the mixtures. All of the mixtures met Superpave criteria. The polymer modified mixtures rutted 1.0 mm less on average than the PG 67-22 mixtures. No rut depths for the polymer modified mixtures exceeded 3.0 mm. No rut depths for the unmodified mixtures exceeded 5.0 mm. In general, the performance of all of the mixtures was good or better.

31. Is anyone currently using or considering using shingles in Asphalt?

There appears to be some renewed interest in this subject, as evidenced by a processor of manufacturer shingle waste (not take-offs) working with an HMA contractor in the Tampa area. A specification will be developed by the Department with input from both the Asphalt Industry and the shingle processors when a supply of this material is assured.

32. Discuss granite only friction course special provision for skid hazard resurfacing projects.

There have been several skid hazard resurfacing jobs completed recently where the replacement mix also had unacceptable friction. In order to make sure that we don't end up resurfacing the same project multiple times over a short period of time, a Special Provision has been developed for a friction course which requires the use of granite. This SP is being piloted in District 5 and will only be used on skid hazard resurfacing projects.

33. Please discuss some of the issues associated with low friction in asphalt mixes containing south Florida (Oolitic) limestone.

The Department is still having problems with low friction in asphalt mixes containing south Florida (Oolitic) limestone. As a result of these problems, several test sections have been constructed using a combination of limestone and granite, in varying percentages. In addition, test sections were also recently completed where a combination of limestone and FC-4 sand was used. It is highly likely that at some point in the future, there will be a requirement to use a combination of oolite and granite (or possibly sand).

34. Has the FDOT done any research using materials other than Oolite and Granite in its friction mixes?

See response to Question 33.

35. Has DOT ever done any research on using small percentages (say 15%) of RAP in dense graded friction courses (FC-9.5 or FC-12.5)?

Not specifically. The issue is not simple because of the binder. However, the Department would be willing to consider a proposal to do such an evaluation where the RAP to be used is similar to the virgin mix with a willing contractor and District.

MIX DESIGN ISSUES

36. With the new gyratory table will there be a need to have new mix designs or will we be able to use the current ones we are using?

The final version of the "new" gyratory table will only affect Traffic Level B, with the gyrations going from 75 to 65. A revision to the mix design for TL-B will be required.

37. Also will there be any adjustments to Traffic Level C Mix Designs VMA with this new Gyratory Table?

No. VMA changes only apply to Traffic Levels A & B.

38. What percentage of the Traffic Level D and E designs are fine graded now? Are there any issues with these fine graded designs? How are they performing?

Approximately 80% of all TL-D & E mix designs are fine graded. From a mix design perspective, the biggest problem is getting the designs to meet the N-initial criteria. So far performance seems to be pretty good.

39. Why can't we make a RAP revision on D mixes?

The Department is very conservative with respect to Traffic Level D & E mixes because they typically go on Interstate projects where good performance is critical. Changing the RAP source basically is the same as changing one of the virgin aggregate components, and is treated as such. However, if there is data which shows the characteristics of the new RAP is similar to the characteristics of the old RAP, the Department will consider a revision. It will be handled on a case by case basis.

SMOOTHNESS SPECIFICATION

40. What is the latest on the incentive/disincentive specification?

This item was addressed in the presentation by Gale Page.

41. For safety sake, can we move the running of the Rolling Straightedge to behind the rollers when the last structural layer is being constructed, versus having to have a separate MOT operation just to run the RSE?

It's already done. This change became effective with the July 2006 letting, and is also included in the new laser profiler re-write.

OTHER QUESTIONS

42. Can you please discuss the recent changes to Section 338 – Value Added Asphalt Pavement?

Following the meeting of the Warranty Task Group, changes to Section 338 were prepared. A summary of the changes is as follows: Editorial changes made to clarify the intent of the Department's monitoring activities. Defined a partial LOT as being less than 0.1 mile. The distress type of settlement/depression equal to or exceeding ½ inch was added to all three categories of pavement types. Deleted approaches, ramps, acceleration/deceleration lanes and turn lanes from Category 1 pavements and added to

Category 2 pavements. The threshold RN distress for Category 1 pavements was lowered from 3.7 to 3.5.

43. Discuss the new open graded crack relief layer.

At Industry's suggestion, the Department is looking into an open graded crack relief layer that can be used instead of an ARMI layer. Hernando County has been using this type of mix for a number of years with apparent good success. The benefits of the new crack relief layer are that it is placed with a paver – minimizing the amount of equipment on the job that can breakdown, plus it can handle traffic in cases where it's not possible to overlay on the same day. The negatives are that we'd be adding a permeable layer inside the pavement structure which could lead to stripping. The Department has agreed to try this on a few projects and evaluate it.

44. What is the latest on Warm Asphalt? What are the potential benefits and costs associated with using it?

A warm asphalt project was constructed on SR-417 (Turnpike) near Orlando by Hubbard/OPC Construction in February 2006. The warm asphalt additive used was "Aspha-min." Approximately 200 tons of FC-5 mix containing Aspha-min was paved and compared to FC-5 without the additive. Both mixtures contained PG 76-22 binder and used a material transfer device during placement. The Aspha-min mix was produced and placed at 30-40°F less than the standard FC-5 mix. Subsequent testing showed equivalent smoothness values as measured by the ride number and no difference in cracking performance as measured in the laboratory with the energy ratio IDT procedure. Potential benefits of warm mix additives are: better workability at any temperature, the ability to pave in cooler weather and still maintain workability, reduced fuel costs, reduced emissions, and the ability to obtain density more easily for dense mixtures.

G. Closing Comments – Jim Warren

Mark your calendars for the 31st Annual Asphalt Conference tentatively scheduled for September 8-9, 2007. Location TBA