

Flexible Pavement Committee

Meeting

May 7, 2004 - 9:30 a.m. to 3:00 p.m.

SMO State Materials Research Park
State Materials Office @ Materials Research Park
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<http://www.dot.state.fl.us/statematerialsoffice/>

Directions:

<http://www.dot.state.fl.us/statematerialsoffice/Administration/PublicInformation/directions.htm>

Minutes:

Welcome by Jim Warren and Gale Page Co-Chairman

The FPC is used as an informal forum including FDOT, contractors, consultants, and materials suppliers to disseminate new and current information, to discuss issues that have statewide impact, and to identify courses of action to address these issues. This is not meant to discuss specific project information. If there are specific issues on specific projects, please refer either to the DOT directly or the ACAF. Note: answers and discussions to questions appear in italics.

Sign in Sheet – Anyone wanting to be added to the FPC email list should send an email to jwarren@acaf.org.

Contract Administration Issues

1. 330-12.4 Correcting Unacceptable pavement. Would like to review this spec. as it is read compared to current variance and implementation.
Testing of mix for repair.

M. Horan: Example structural course. 9.5 traffic level D mix – 5/16" out of tolerance. Specification doesn't specifically address milling as an alternative for repair. It should be an option to allow cold milling to knock off a high spot on the structural course. CPAM does cover addressing alternate repair procedures such as cold milling. It may be time for a spec change. G. Page and J. Chellgren agreed on this. (J. Warren to talk to J. Musselman about getting this in)

2. LIMS Access: multiple labs data entry by single person? Governing status?

This is a problem with multiple labs and plants. This needs some work. S. Blazo will follow up with appropriate people on Monday. It should be resolved shortly.

3. Forms.

Forms task team completed their work and new forms are on the web. Changes will be done semi-annually. FDOT has contracted with ERES to identify means to take spreadsheet directly into LIMS.

4. Exception list for LIMS (like CQR) how do you print out the list?

From S. Blazo: Any questions, contact Susan at (352) 955-6633 or susan.blazo@dot.state.fl.us

1. *Sampling Status Progress Report*

Click on the Reports tab.

Click on the Contract Reports icon.

Click on the Sampling Status Progress Report Option.

Enter a contract number in the pop up window.

2. *Lot Index*

Click on the Reports tab.

Click on the Contract Reports icon.

Click on the Production Reports option.

Click on the General Production Reports option.

Click on the Lot Index Report option.

It will ask you for the project id and material id. You have to enter

BOTH. Enter the fin project number first in the bottom of the pop up

window. Then click on material id in the top of the pop up window. THEN click OK.

Do both actions first before clicking on OK.

5. Lot submittal package – final estimates, is it uniform from district to district, could it be done on the new forms and abbreviated?

Discussion: Can someone get with final estimates and have them approve the new forms. J. Musselman to check with Dennis Barber to accept new forms on-line. The composite testing worksheet eliminates the need for 4 individual pages.

6. Handwriting, typing and retyping multiple forms, too much time involved, why not linking sheets.

Addressed already

7. District paying trainee expense and wages to private enterprise, contractors can't compete.

*Discussion on hiring and training. Have estimates kept up with current situation?
J. Warren to discuss with State Construction Office.*

8. Pilot programs for Verification Plant staffing in Districts 1 and 2.

Construction wants to explore alternative approaches to reduce time of VT techs at plant. How do you do this? D2 and D1 to pilot a concept or concepts of a more efficient use of personnel. How do you handle random numbers? – Different ideas discussed.

Design Issues

9. Discuss the latest Design Memorandum for the January 2005 letting where we will be showing asphalt thickness on plans and will be using PG 76-22 in the friction course for Level D and E projects.

M. Uwabi: Starting January 05 letting designers will show thickness instead of spread rate. Also January 05 letting mandatory use of 76-22 in FC-5 for Interstate type projects.. Get link for Design Memo from M. Uwabi. Put 76-22 into the OGFC on high type projects based on best value and performance. Turnpike: all pavements to use 76-22 in last structural layer and OGFC.

10. Design Guide Overview – Sholar.

Postponed due to time.

Materials Issues

11. Asphalt Rubber status – Proposed hybrid binder research study – digested GTR plus polymer.

G. Page: In the process of addressing some spec and procedure issues with GTR with suppliers and blenders via a working group. PMA performs extremely well and there is a move by FDOT to use PMA in last lift of structural and OGFC on interstate type traffic to take advantage of the benefits (see item 9). The question is: Can your make a hybrid GTR binder perform as well as PMA? Research activities are being initiated via a proposal requested from UF. DEP may help with some research dollars. Proposal will be shared when it is completed. Vision is a 2-year lab study would start in 6 months to evaluate the potential for hybrid binders using digested GTR. Issues of patent rights were brought up. Vision is that hybrid binder would be a generic spec that could allow proprietary processes (just like PMA). Would there be value added using a

hybrid? Value in using recycled products and increased performance. W. Evans: Prefer PMA because of settlement of GTR. G. Page: Intent of hybrid would meet same handling characteristics of PMA.

12. Can contractors switch between anti-strips without re-testing the mix design through the FDOT? Can a contractor upgrade from LOF 6500 to LOF 6500 LSC and not have to re-test the mix design?

J. Musselman: Generally, if DOT has experience with both antistrip materials and the aggregate source, a paper revision would be in order and change of design number letter (A to B).

13. Discuss requirements of FDOT specification for PG76-22 and addition of polyphosphoric acid part of the modifier.

G. Page: Is this an issue? K. Hardin: recommendations from some consultants to use. G. Page: If it is used as a modifier – not allowed by specs (only SB or SBS), if it used as a supplement, not specifically addressed. Need to discuss with G. Page if this is an issue and smaller group will be established to deal with if necessary.

14. Discuss possible replacements for Skelly Solve for Spot Test T-102.

G. Page: Supply of material is no longer available and FDOT is looking for a suitable replacement. Need to work with suppliers to find a replacement. Please contact G. Page directly. Looking at Shell Naphtha and or Decane as a replacement material.

15. Discuss requiring a Max DSR or max viscosity addition to Superpave binder spec for PG67-22, PG 64-22 used with mixes containing RAP.

G. Page: Need an appropriate material when using RAP and a PG67-22 binder will not fit when a softer 64-22 is needed when using RAP. FDOT is still monitoring recovered viscosity and will continue to monitor. AI (G. Fitts) will get with suppliers to develop course of action and get back with G. Page.

16. Discuss RAP limitations for mixes containing PG76-22.

J. Warren: Discussed increased use of PMA and effect on use of RAP and aggregate. Impact of long-term usage of PMA needs to be looked at now. G. Page: Not sure how to address the issue, research on effectiveness of new binder to “rejuvenate” old binder very light. Need a basis to increase RAP with PMA.

17. DAV – update on status. How can we get gyratories to match?

H. Moseley: Described current test method using HMA and described alternatives using HMA simulator (faster). Many times the issue of test differences is related to technique (heating, maintenance). Check maintenance issues first, and if this is not the issue, contact SMO for help. The HMA simulator approach would be the better way, but a test method is not yet established. Once it is, a program to check calibration will be established for FL. T. Trueblood: Forced draft oven should be used to help more uniformly reheat. Watch for overloading.

18. Tack coats:

D. Wang: SCO proposed research on tack coat tracking off project just getting started. Getting the layers to stick together, and also getting it not to track is the key. Technical team to meet and establish a RFP on May 10, 2004.

Specification Issues

19. Upcoming spec changes to 334 and 337 regarding determining spread rates from plan thickness and mix design.

J. Musselman: Proposed spec changes reviewed for January 2005. Will be out for industry review shortly.

20. Take a look at revising PWL specification for first 500-1000 tons of asphalt on jobs. It seems that producers are having difficult time coming out of the box when jobs start. It takes some running to make necessary adjustments to the mix, we find ourselves fighting to leave mix in place with penalty.

M. Horan: This is an issue for the contractors and some leeway needs to be given in this area. To be discussed with the District Bituminous Engineers. FDOT expects all mix to meet specifications.

21. Also would like to raise the bonus on PWL to at least 110%. The penalties are so great (remove and replace) if under 75%. And penalties as low as 80%, it is difficult at bonus money of only 105% if everything is perfect to recoup one bad day.

FDOT is evaluating current project data and go back and revisit the pay factors and the numbers. A group will evaluate the data and recommend any changes needed.

22. Status report on the new laser profiler for construction acceptance.

D. Wang: For Jan04 limited access projects, spec considered faster and easier. 0.1 mile LOTs: 4.00 or above - full acceptance, less than 3.70 R&R, between check with 15ft RSE. Looking at trying to use software to eliminate having to go

back with a RSE. Original data set used to develop criteria was based on FC-5. Surface texture does affect readings, current efforts are being directed at trying to refine values. Remove and replacing currently requires 0.1 mile. Industry would like to see area shortened to affected area (100 feet or so). Pavement management data for smoothness can be found at the PM website and more detail on each project will be available later this year.

23. Are the current ride spec numbers being used for acceptance on projects compatible with the current sampling rate on the profiler (6 inch versus 12 inch intervals)?

6-inch intervals.

24. Redefining a Lot

Joint SCO (Memo 05-04) and SMO (Bulletin 02-04) direction

<http://www.dot.state.fl.us/statematerialsoffice/QualitySystems/bulletinboard/mb02-04.pdf>

25. What new spec. changes are coming? Recent spec. changes and clean up items.

Already addressed in #19.

26. Information cores versus peak nuke density in non-density core areas. 3 in each area or three per day.

Will work on addressing this issue in the next version of the specification.

27. Core verification of open lots: Issue: long term storage of unverified cores
Suggestion: Instead of having up to multiple Lot open, have the plant VT person weekly verify cores present at the contractor lab (or a percentage of them) so cores would not have to be retained longer than a week. Bonus: Better utilization of Plant VT personnel. Examples of properly stored cores losing integrity during storage.

W. Evans: DOT tends to think specs as project per project. Contractors work on multiple projects each week. J. Warren, J. Musselman, A. Prasad, and G. Sholar to discuss and resolve.

28. Coarse mixes on Ramps – Very difficult to vibrate on a steep slope – roller tends to slide off slope. What other options? Fine graded with Polymer?

Discussion: high supers and vibration don't match. Why is pavement section less in a ramp area? Shouldn't ramp be same design as mainline. Any specifics to B. Dietrich.

Independent Verification/ 334-9.4/ EAR Issues

29. Materials Manual update

<http://www.dot.state.fl.us/statematerialsoffice/QualitySystems/materialsmanual/section33.pdf>

J. Musselman: Jim briefly reviewed some of the many changes to the procedures listed above (Section 3.3 Materials Manual) to help District Material personnel manage activities. Became effective April 15, 2004. Everyone is recommended to download and review this manual. Discusses specifically what to do with failing test results. Further elaborates on looking at all available results, trend analysis, when evaluating data. Districts must still exercise good engineering judgment. Acceptable levels are not addressed since they may vary on a case-by-case basis.

Discussion: If a failure on an IV, there is not method to verify that the test was conducted properly. A check system is needed to help preclude more problems in the future, there is a check and balance system on everything else, why not on IV? J. Musselman: Some districts are pulling bigger IV samples. If the same technician tests that same split sample the same way and gets the same result – what is proven? Various participants provided examples and case studies discussing this issue. Need to establish a smaller group to more fully evaluate this. J. Musselman: discussed having an EAR workshop in the next month with reps from each district to help clarify and emphasize issues discussed above. Issues of contract phasing, multiple lift construction in urban areas, liquidated damages, safety, all place extreme pressure on getting answers quickly. D. Ray (APAC) offered to work with the 3rd district to help develop some more procedures and options. Common sense on both sides needs to be applied when looking at these issues. If the material is bad and everyone knows it, there shouldn't have to be a discussion or EAR.

J. Warren discussed not look at all the negatives and look at some of the positives. The trust issue needs to be looked at. All other test results should be looked at in conjunction with the IV test. Is the IV too much of a microscope and not looking at the big picture? Drehmer: overall quality, care of mixes, has definitely improved; need to get some credit for it in the looking at the refinement of the specification.

30. Threshold level for evaluating cores for permeability – can it be lowered? Some materials maybe less permeable (9.5 and 12.5 at same level).

FDOT to look into it about possibly lowering it for small top size mixes.

31. We would like to discuss EAR's as a topic and also contractor PPR's (past performance ratings). There seems to be some lag time involved with getting

core samples in at the same time reports are due and also getting mix designs into the system (LIMS) in a timely manner.

M. Horan: It has affected the PPR in the past but the Henry Fuller task Team will look at. Has been given a non-conformance day.

32. I have experienced differing or changing requirements for EAR's here in District 5. Is the amount of testing performed to conduct an EAR at the discretion of the engineer who is signing and sealing the report, or is this dictated by the Department? Logically this decision should be made by the independent engineer who is conducting the analysis.

One EAR in particular was initiated due to low laboratory air voids in an IV sample. The QC and VT samples both were within the acceptable limits. An EAR was conducted to determine the In-place air voids of three cores taken to represent the 335 tons of mix placed. The Departments response was that three cores were not sufficient data to conduct an analysis.

I disagree with this. The engineer conducting the analysis reviewed all of the QC, VT, IV and Contractors process control tests along with the roadway cores. Also, if three random cores are not enough tests to establish that the asphalt is acceptable, how can one IV test be sufficient to determine that the asphalt is not acceptable?

The main points of this discussion had been discussed previously (item #29).

33. EAR Guidelines

<http://www.dot.state.fl.us/statematerialsoffice/Administration/programs/guidelines/ear.pdf>
http://www.dot.state.fl.us/statematerialsoffice/Bituminous/fieldoperations/flowcharts/visio_ear.pdf

J. Musselman: discussed establishing a set of guidelines for preparing an EAR to be used for future reports. The plan must be approved prior to the EAR being performed. Also recommended that everyone download and read this.

34. 334-9.4 and the triggers - EAR's

J. Warren: need to establish a small group very quickly to provide some direction.

35. Can same company that does mix design also be the same company that could be used to do an EAR?

Need to get with A. Prasad to discuss and resolve.

36. Why can't 2 samples be taken for IV?

Already discussed (item #29) –will be reviewed.

37. Comparison of test results when both machines are in spec but variability causes them to be out.

Working on GTR evaluations (item #17)

38. Lot termination -- if you have to terminate, at what ton? What's included in EAR: point a to point b? When you knew results? What point?

Need to set this up – will work on with smaller group.

39. Air voids criteria: 2 to 6 outside bad, inside good.

SMO will discuss with districts.

OTHER Issues:

40. Area Calculation Spreadsheet is available free at www.acaf.org/downloads.htm as of 5/7/04 FYI

41. HVS Sections for round 3 testing:

4 or 5 tracks will be available soon for rehab. Will put down some fine and coarse mixes side by side to evaluate differences. Possibly use a production mix including a FC-5. DOT looking for input on what else to do.

42. Other.

Partnering and common goals got squashed initially after FHWA Process Review; meeting today was productive and informative. Sometimes we loose sight of what is working well.