25th Annual Asphalt Conference

A G E N D A

Welcoming Remarks (District 7, ACAF Specifications Chairman)

Housekeeping Issues:

Introduction of Panel Members:

Dave Hay (APAC – ACAF Specifications Committee Chairman)
Greg Xanders (FDOT State Construction Engineer)
Gale Page (FDOT State Bituminous Materials Engineer)
Bruce Dietrich (FDOT State Pavement Design Engineer)
Jim Musselman (FDOT State Bituminous Engineer)
Jim Warren (ACAF – Executive Director/HMFIC)

Presentation of 2001 Carroll Lance/University of Florida Memorial Scholarship Winners:

Sonja Govantes
Elia Govantes-Twigg
Virgil Harrison

Special Presentation: *ACAF 2001 Service Award*

Dave Drehmer - APAC

Presentations:

QC2000 Status (Specification Overview and highlights)

Jim Musselman of the State Materials Office gave an overview of the most recent QC 2000 specification, which is currently out for Industry Review with a target implementation date of July 2002. (See attached presentation)

Research Activities (FDOT In-house/APT/UF Projects)

Greg Sholar of the State Materials Office gave an update on some current research activities; in-house, at the Accelerated Pavement Test Facility and at the University of Florida. (See attached presentation)

July 2001 Supplemental Specification highlights

Pat Upshaw of the State Materials Office gave an overview of the recent specification changes that became effective with the July 2001 letting. (See attached presentation)

SUBMITTED QUESTIONS:

Construction:

1. Changing the roller weight requirement on rolling FC-5 to a more reasonable PLI requirement. There was discussion moving to a range of 135 to 200 PLI or so -- status? (ACAF)

   With the implementation of the new QC 2000 specifications, Section 337 will be revised as follows:

   Compaction of FC-5*: Provide two, static steel-wheeled rollers, with an effective compactive weight in the range of 135 to 200 PLI [2.4 to 3.6 kg/mm] as determined in 337-8.4. (Any variation of this equipment requirement must be approved by the Engineer.) Establish an appropriate rolling pattern for the pavement in order to effectively seat the mixture without crushing the aggregate. In the event that the roller begins to crush the aggregate, reduce the number of coverages or the PLI of the rollers. If the rollers continue to crush the aggregate, use a tandem steel-wheel roller weighing not more than 135 lb/in (PLI) [2.4 kg/mm] of drum width as determined in accordance with 337-8.4.*

   This change will become effective with the July 2002 letting.

2. There was discussion on mix storage in silos being restricted to less than the current 72 hours – What has been decided? (ACAF)

   A laboratory study was initiated to determine the effects of holding an asphalt mixture at an elevated temperature (300°F) for an extended period of time. Unfortunately, storing the mixture in a sealed container in a laboratory oven did not effectively simulate storing the mix in a storage silo (the lab study resulted in a heavily crusted/brittle sample in less than 24 hours). Consequently, the study was put on hold until some field projects are identified. Anyone with a project that will be storing mixture for over 24 hours should let either Jim Warren (850) 222-7300 or Jim Musselman (352) 337-3150 know.

3. Why can't the DOT open up the requirement to paveback on a milled surface the same day if there is adequate pavement left and there is no problem with drop-off? It improves the bond between layers and helps speed up construction. Why does it have to be the exception rather than the rule? (ACAF)

During the design stage, the designer will consider the MOT operations and other related site conditions of the project to determine the time frame between milling and the repaving operations. The time frame will be indicated in the Contract documents. The QC 2000 specifications, Section 327-3 was revised to open up the requirement.

4. If we put down FC-2 at 45 lbs. per sq. yard at 60 F, why does FC-5 put down at 80 lbs. per sq. yard need to have a minimum temperature of 65 F when doing so shortens the FC paving season in central and South FL substantially (as well as North FL), especially for night work. The FC-5 is going down at nearly double the thickness of FC-2. Can it be lowered from 65F to 60F? (ACAF)

   If the ambient temperature gets too cold, the texture and appearance of the surface of the Open Graded Friction Course (FC-2, FC-5) can be significantly affected. Unfortunately, texture and appearance are subjective characteristics, which can result in potential conflicts between the Engineer and Contractor. However, the QC 2000 specification will be modified to allow paving FC-5 in the 60° to 65°F range, provided the Contractor can demonstrate to the satisfaction of the Engineer that the surface texture and appearance are satisfactory.

5. Are FC-6 projects being let with the overbuild mix contingency as discussed last year? (ACAF)

   See Item No. 6.

6. Is anyone having projects with single lift FC-6 and cross-slope correction? How do you meet the minimum thickness, proper x-slope, and get a decent ride out of the project? What is the solution? Is there another option? (ACAF)

   Designers should be checking existing cross-slopes and asphalt thicknesses, and getting construction input during design, so that cross-slope correction is achievable with the design and quantities shown in the plans. New guidelines have been implemented in the Plans Preparation Manual that provide for limited design surveys to get existing cross-slope information for resurfacing projects without a great deal of expense. When designs do not reflect existing conditions, construction should provide feedback to design to help avoid having the same problems on future projects. In curb and gutter areas there is often not enough existing asphalt to provide multiple lifts of asphalt with a 1.5 inch FC-6 layer. A considerable amount of smoothness can be achieved with milling machines and paving contractors should require this of their milling subcontractors. A new specification for an FC-9.5 fine graded mix is out for review that will allow a one-inch lift of friction course. On some projects this may allow an additional structural or overbuild lift in some curb and gutter sections without milling into the base or filling up the gutter. However, this new mix should not be used as an excuse not to get a smooth milled surface or to require more asphalt where it is not needed.

CTQP:

7. Status of CTQP Training – how many people have been trained in each category? (ACAF)

Asphalt Qualifications by DOT and Private Industry

Class Name	DOT	Private Industry	Total
Asphalt Paving I	541	1171	1712
Asphalt Paving II	321	654	975
Asphalt Plant I	185	460	645
Asphalt Plant II	65	218	283
Asphalt Mix Designer	17	35	52

8. Status of the QC Manager Course? When will it be available? (ACAF)

   See Item No. 35.

9. Will there be an Asphalt QC Manager through the CTQP qualification program? Or will there be an all-knowing, all-seeing "generic" QC Manager that will be "qualified" to manage QC in all disciplines? When and how often will whichever course be available? When is it anticipated that it will be a bona fide requirement to have one to do FDOT asphalt construction? (ACAF)

   See Item No. 35.

Mix Design/Testing:

10. Discuss conversion of mix designs from TL-Number to TL-Letter. Any questions or problems? (FDOT)

    Effective with the July 2001 letting, the Superpave Traffic Levels changed from 1 – 7, to A – E. For existing mix designs, the conversion is as follows:

    TL-1 = TL-A
    TL-2 = TL-B
    TL-3 = TL-B
    TL-4 = TL-C
    TL-5 = TL-D
    TL-6 = TL-D
    TL-7 = TL-E

    Probably the biggest issue being encountered is converting from TL-4 to TL-C since the requirements for $N_{initial}$ are different. Either the original design must meet the TL-C requirements for $N_{initial}$ ($\leq$89.0% G_{mm}), or there must be either production data or laboratory data (from laboratory fabricated mix) showing that

the specification criteria are met. If the $N_{initial}$ criterion is not met, the mix must be redesigned.

11. What can be done to decrease the turnaround time on mix designs and mix design revisions? (FDOT)

    The State Materials Office (SMO) is looking into several ways of decreasing the turnaround time on mix designs and mix design revisions. Contractors can assist in this process by submitting paperwork that is filled out completely and correctly; submitting the correct materials; and by making sure that all testing equipment used during the design process is properly calibrated and functioning properly. The SMO is also developing a mix designer grading system (See Item No. 15), and is also in the process of purchasing a gyratory angle validation kit that can be used by Department and Industry personnel in determining if the correct angle is being applied on the gyratory specimen during compaction.

12. Using the Core-Lok device for measuring G_{mm} and G_{sb} – Is this an option for use now? (ACAF)

    No. Although the preliminary research indicates that the Core-Lok device shows promise in determining G_{mm}, G_{mb}, and aggregate specific gravity (G_{sb}), there are still problems with getting consistent results for a variety of aggregate types. When research indicates that it can be used for all aggregate types, the appropriate test methods and specifications will be developed/revised to allow its use. One method of reducing the time to run the maximum specific gravity test (with the currently required dryback procedure) is to develop a correlation between G_{mm} (determined w/out dryback) and G_{mm} (determined w/dryback). The Department is conducting research to determine if this can be done and if so, it could be ready to go by as early as July 2002.

13. Performance Testing – Do we have a simple test to measure performance available? (ACAF)

    No. The Department has looked at the Asphalt Pavement Analyzer as a "performance/strength test" but relating it to performance as well as the testing variability has generally not been acceptable. Nationally, the Department is participating with other States in the support of research in this area, and some potential tests have been identified. Test methods (including ruggedness and precision) are in the process of being established. When a device is ready to go, the Department will implement and will work with Industry to give enough advance notice in order to have the test equipment available when the specification is changed.

14. When will terminal-blended antistrip be accepted in place of hydrated lime for FC-5? (ACAF)

    There are no plans at this time to eliminate the requirement for hydrated lime in FC-5 with granite. The FC-5 specification was adopted from a Georgia DOT

specification and in order to obtain FHWA approval in Florida, the hydrated lime was required for FC-5 mixes containing granite. After the evaluation of several test projects, the Department was able to include oolitic limestone as an alternate to granite for FC-5 without requiring the use of lime. All asphalt technologists will generally agree that stripping of an OGFC mix is a rare, if ever, occurrence due to the high voids of the OGFC. Another result of the high voids in the OGFC, however, is that AASHTO T 283 cannot be used to effectively determine the moisture susceptibility difference (if any) between lime and liquid antistrip. The Department is continuing to work on this issue.

15. Mix design verification process – expedited approval process for designers with high passing rate? Discussed last year, any progress? (ACAF)

    A task team comprised of Department and Industry representatives is in the process of being formed with the intention of developing a system of grading mix designers based on: 1) how the materials and paperwork are submitted to the State Materials Office for testing, and 2) how closely the designer's data matches the SMO data during the verification process. Once the system is on line, it is envisioned that designers with a high grade would not have to have every mix design verified by testing, but rather by a paper review, with actual verification testing at a lesser frequency. The system would ultimately reward good designers for doing good work.

16. Can PG 76-22 be used in lieu of ARB for friction courses? Which ARB would it replace or could it be used as an alternative? (ACAF)

    A recent specification change allows the substitution of PG 76-22 for ARB in Friction Courses (small quantities only). The Department is also looking at other situations where it might be advantageous to use PG 76-22. There may be a performance advantage in replacing ARB-5 with PG 76-22. The QC 2000 specification allows the use of a PG 76-22 in FC-6 if so called for in the plans.

17. How are acceptance samples being handled when the random number comes up on the first load or two, or a shutdown load? Do you move the sample two loads or so? (FDOT)

    No. If it's good enough to be sent to the road, it's good enough to be sampled for acceptance and/or Independent Assurance.

18. Discuss approved Lot termination due to "extended delay in production." Project personnel have requested changing from 60 days to a longer period of time. (FDOT)

    This issue was discussed at a recent District Bituminous Engineers meeting and it was agreed to standardize lot termination for extended delays in production at 60 days. This will be incorporated into the new QC 2000 specifications.

19. Discuss the need to increase laboratory size (FDOT)

This has been an on-going issue. There needs to be adequate room in the laboratory to run both acceptance and quality control tests. Sometimes it's an issue of layout even when there is enough area in the lab - it seems there is never enough space. The new QC 2000 asphalt specification increases the minimum lab size to 220 square feet, and also requires a phone and computer in the lab.

20. Discuss adding the following requirements to the specifications: Increase the size of the lab; and add a fax, phone and personal computer. (FDOT)

    See Item No. 19.

21. Is they any consideration being given to completely do away with the solvent method for determining A/C content? I know the specification requires the ignition method unless the calibration factor exceeds 0.50%. Maybe we shouldn't approve a design that exceeds 0.50%. Having to keep solvent on hand and testing equipment set up in the Lab is becoming a problem. (FDOT)

    Yes, the QC 2000 specifications will no longer allow the use of solvent extractions (FM 5-544). Mixes that have a calibration factor greater than 0.50% will have to have a gradation factor developed (by the designer) to account for any potential degradation due to the ignition oven (certain aggregate types tend to degrade at high temperatures). The test method is in the process of being revised and should be ready by the July 2002 letting.

22. If the daily production exceeds 1,000 tons the specifications require that QC perform the extraction gradation analysis of the mix a minimum of two times per production day. It needs to be clarified when to obtain the second sample (AM & PM, after 1,000 tons are exceeded?). (FDOT)

    The intent of the specification wording (and as interpreted by most) is that a second sample/test is taken/performed only after the 1000-ton production is actually exceeded.

Pavement Design:

23. Use of 76-22 in problem intersections – how can we get some projects built? (ACAF)

    Superpave mixes with polymer modification to a PG 76-22 specification have shown good performance in regards to rutting on some test projects and in accelerated load testing at the State Materials Office and the NCAT test track at Auburn. Current design guidance allows the use of PG 76-22 in areas that have high potential for rutting. It is recommended that design project limits be set to utilize a minimum of 1000 tons of modified mix to provide for practical and economical production. Specification revisions to allow for PG 76-22

modification of FC-6 mixes are out for review. The effect of polymer modification on the cracking properties of Superpave mixes is being studied to estimate the overall cost effectiveness of the modification. Early indications are that crack resistance may be improved and that the polymer modification may also be cost effective for delaying cracking on high truck volume facilities. This may lead to increased use of PG 76-22 mixes in the future, if funding is available.

24. For designing pavements and Life Cycle Cost analysis, what additional credit are we getting for use of Superpave? Colorado announced they are increasing their pavement performance life 2-3 years due to Superpave. What is Florida doing in this area? (ACAF)

    The initial benefits from Superpave are anticipated to be a reduction in projects with premature rutting. A considerable amount of research is underway, both nationally and in Florida, to better quantify the effects of Superpave on other performance parameters, such as cracking. It is expected that this research will soon provide new methods to enhance performance life such as new gradation controls, VMA criteria and polymer modification guidance. You can also expect to see new material concepts such as dynamic modulus, creep compliance and fracture energy to be used to estimate pavement performance in the future.

25. Can FC-5 be used in areas for noise reduction where the other option would be to build noise barriers/walls? (ACAF)

    FC-5/noise barrier is not an either or situation – both can be used. Win Lindeman of our Environmental Office is more familiar with the measurement of roadside noise.

26. What are guidelines as to when a pavement composition report will be available and where will it be located? (FDOT)

    The requirement for a Composition of Existing Pavement Report has been changed from greater than 3000 tons of RAP to greater than 5000 tons of RAP. This guidance is in the Department's Flexible Pavement Design and Rehabilitation Manual, and the change has been communicated within the Department. The composition report is now available on the Internet at the following address:

    http://www11.myflorida.com/statematerialsoffice/Bituminous/CentralBitLab/AsphaltCompositions/Compositions.htm

Project Administration/Contracts:

27. Method of pay for asphalt curb pads (ACAF)

    For urban construction projects where asphalt base is required, a new typical section detail has been developed for carrying the first lift of asphalt base under

the curb. This will speed construction by allowing the subgrade to be sealed from moisture prior to curbing operations. The cost of the asphalt curb pad will be included in the cost of curb and gutter by a standard plan note. This may change in the future as new specifications on the control and payment calculation for asphalt base are developed.

28. Warranty – what is the status of the asphalt warranty specification? (ACAF)

    The Asphalt Warranty Specification is still under development by a task team consisting of representatives from FHWA, Industry and FDOT. For the first phase, the length of the warranty period will be 5 years to allow the contracting and bonding industries to gain experience and confidence in this contract method. But the long-term goal is to have pavement warranted to remain non-deficient for longer periods (such as 10 years). In order to minimize some of the uncontrollable factors that could affect the pavement performance during the warranty, project selection criteria have been developed that will be used as a guide by the Districts in their selection of pilot project. The first phase of the implementation of the Asphalt Warranty Specification (on pilot projects) will be in July 2002.

29. Lump Sum projects – Are the project selection guidelines being used properly to identify projects? Seems like we are seeing projects being advertised that shouldn't be Lump Sum. (ACAF)

    The FDOT/FTBA Lump Sum Task Team has looked into this problem and have addressed this through the Lump Sum guidelines and discussion with Upper Management of the DOT. Projects identified as "not good" candidates for Lump Sum in the guidelines now require State Roadway Design Office's approval to be let as Lump Sum project. We will continue to watch for "bad" lump sum projects. The State Roadway Design Office and the State Construction Office presently and will continue in future to evaluate any such concerns from industry on a project-by-project basis and take appropriate steps to rectify.

30. Add pay item for driveways instead of including with SP tonnage price (composite of productive work and very slow work). Tonnage installed from the right of way line to edge of main line and /or turn lane would be for driveways. (ACAF)

    The State Construction Office will discuss this with Flexible Pavement Committee and Roadway Design Office to resolve this issue.

31. Has FDOT considered closing a major roadway section for a fixed period of time (like a weekend) to allow full access and expedited construction? This technique has worked in some other states like Washington on the I-405 interstate rehabilitation. Are there any situations in FL that this might work? (ACAF)

The Department will continue to explore this approach. There have been instances when local communities agreed with the Department to close a section of roadway in order to get the project finished quicker.

QC2000:

32. QC2000 – Implementation date? (ACAF)

    The QC 2000 implementation date has been set for all projects beginning with the July 2002 letting.

33. QC-2000 -- How many pilot projects have been built? What has been learned? (ACAF)

    To date, there have been approximately 15 to 20 QC 2000 asphalt projects, with a number of different “phase” specifications in use at various times. A number of things have been learned, with the biggest thing being that the specification at first was way too complicated. We have since toned it down some in its complexity, and it is now easier to comprehend and administer. It is still imperative that Districts and Contractors get as much experience with the new specifications prior to full implementation in July 2002.

34. Does the FDOT want to build and pay for any more QC2000 pilot projects by SA? (ACAF)

    Yes, the Department is anxious to have more QC 2000 pilot projects built so that FDOT and Industry can gain more experience. At the same time, feedback from the pilot projects constructed to data will be evaluated to fine-tune the specification.

35. Will there be some additional QC2000 specification training before full implementation? (ACAF)

    Yes. We will have a QC Orientation, QC Manager and a one day QC 2000 "Asphalt Refresher" training course before full implementation.

    The **QC Orientation course** is a four-hour course that teaches basic QC 2000 principles, and is **not** a required course. The target audience is a DOT lead inspector, Contractor Foreman and Contractor Superintendent. Courses are already on the CTQP schedule.

    The **QC Manager course** is presently a 12-hour course (this can change) that teaches the trainee what the duties of a QC Manager are and how to write and review a QC plan as required in the QC 2000 specifications. The target audience is a DOT Project Engineer, DOT Materials Specialty Engineer and the Contractor QC Manager. The CTQP QC Manager qualification **is required** of everyone

acting as the QC Manager on all QC 2000 projects beginning July 1, 2002. Classes will be offered beginning in January.

The **Asphalt Refresher course** is designed for everyone that holds a CTQP Asphalt Paving Level II qualification or a CTQP Asphalt Plant Level II qualification. It will give these individuals the changes in asphalt specifications and asphalt data forms that will be needed in order to perform their jobs competently on QC 2000 specification projects. This 8-hour course will be **required** of everyone that has a current CTQP Asphalt Paving Level II and CTQP Asphalt Plant Level II qualification as of July 1, 2002. These courses are expected to be given beginning in April 2002. While there will be a charge for this course, the individuals that successfully complete the one-hour examination will have their level II qualification extended for 5 years from the date of successfully passing the examination.

36. Contractor Laboratory Qualification: Procedures, Deadlines. (FDOT)

    Laboratory Qualification is being handle by CMEC. The qualification procedures are given at their web site (www.cmec.org). The deadline is July 2002.

37. Under QC2000, can someone clarify what the Department's intent is in regards to completing daily reports, paperwork, inspections, that used to be done by the inspector? If the contractor is going to have to do the paperwork and all that, why do we need inspectors at all? (ACAF)

    The new training courses currently under development, such as the QC Manager, QC Orientation and the Asphalt Refresher course that will be offered prior to full implementation will highlight these issues. Although we eventually expect to see a reduction in the Department's personnel on QC 2000 projects, initially we may not due to the learning curve associated with QC 2000. FDOT personnel will still perform Verification testing and will focus on inspection activities under QC 2000.

38. Can someone explain "in laymen's terms" what the differences are from the upcoming QC2K asphalt specification (Section 334) and the FAA specification we all know and love? (ACAF)

    The statistical terms and the formula to calculate the Percent Within Limits (PWL) are fairly standard and are common to most PWL specifications. The tolerances and specification limits, which are in the Department's asphalt QC 2000 specification, were established from actual test values from Superpave projects constructed in Florida. The approach used in the Department's QC 2000 asphalt specification for small quantities, verification, resolution and independent assurance may be unique to Florida. These approaches have been developed and refined over the last 2-3 years as a joint effort between the Department (Central Office and Districts), FHWA, and Industry (Contractors and Materials Suppliers).

Research:

39. What is the status of the two Hot-In-Place recycling projects? Is the DOT planning any additional projects? (ACAF)

    The Department recently constructed two Hot In-Place Recycling projects utilizing the remixing technology in order to determine if this technology might be suitable for some types of low volume FDOT resurfacing projects. The first project is on CR-315 in Putnam County, and shortly after the project was completed the pavement experienced a significant problem with delamination, and the project will probably have to be milled and resurfaced. The second project is on SR-19 in Lake County and so far it is performing fairly well. No additional projects are planned for the near future.

40. NCAT Test Track Update (ACAF)

    FDOT placed two test sections: one fine graded and one coarse graded 12.5 mm Traffic Level D Superpave mixture. Each mixture consisted of a PG 67-22 binder supplied by Ergon and limestone aggregates and RAP from Southeast Florida. The aggregate components for each mixture were the same but the percentages of each varied in order to achieve the fine and coarse gradations. As of October 10, 2001, the fine graded mixture had rutted 0.174 inches and the coarse graded mixture had rutted 0.139 inches. The applied ESAL's are 4.4 million. Overall, the FDOT mixtures are doing well. NCAT has a website for the test track and the web address is: www.pavetrack.com. Go to the "performance" section. FDOT's fine graded section is "S6" and the coarse graded section is "S7".

41. Fine versus coarse-graded traffic level D – any change in thinking yet? (ACAF)

    Not yet, but we are looking at the performance of fine graded traffic level D mixes both at the Department's Accelerated Pavement Test Facility (APTF) in Gainesville and at the NCAT Test Track at Auburn University. It is a possibility for the future, but we aren't there yet.

42. Restricted Zone – any new developments on eliminating it? (ACAF)

    AASHTO will be voting in 2002 to remove the restricted zone from the AASHTO specifications. In addition, there is a new definition of coarse/fine that will be balloted by AASHTO as well. When and if passed by AASHTO, the Department will implement.

43. What are the results of the APT facilities test on AC-30 vs. PG 76-22? (ACAF)

    FDOT constructed seven test sections all containing an SP-12.5 fine graded Traffic Level D Superpave mixture containing Southeast Florida limestone. Four sections consisted of two two-inch layers containing unmodified PG 67-22 binder, two sections consisted of two two-inch layers containing PG 76-22 SBS modified

binder from Citgo, and one section consisted of a two-inch bottom layer containing the PG 67-22 binder and a top two-inch layer containing the PG 76-22 binder. Each of the seven test sections was further divided into three replicate sections. To date, all of the twenty-one sections have not been tested, but some sections from each construction type have been tested. The unmodified sections are rutting the worse (>10 mm). The section containing the modified layer over the unmodified layer rutted approximately 4 mm and the section containing both modified layers rutted the least (3 mm). The APT has now been retrofitted with side panels and heaters so that testing can be accomplished under controlled temperature conditions.

Smoothness:

44. Straightedging of intermediate layers – What is the status of this? (ACAF)

    Based on recommendations from the Flexible Pavement Committee meeting, in the new QC 2000 specifications, Section 330-13 was revised. When the intermediate layer will be opened to the traffic, the Engineer may require the Contractor to straightedge that layer with the 15 foot rolling straightedge to ensure that no smoothness deficiency is in excess of 3/8 inch. All deficiencies in excess of 3/8 inch must be corrected as approved by the Engineer before placing the next course.

45. Are there any problems or concerns with the implementation of project personnel performing final straightedging and surface testing? (330-13.3.1) (FDOT)

    No problems have been noted.

46. Laser Profiler Smoothness Specification Status? Available for use now? (ACAF)

    A Smoothness Specification for FC-5 using a laser profiler was developed by a Task Team in July of last year. During a one-year testing period, we have the test results of four projects (two from D-2 and two from D-4). Two of them have received the incentive payment. The task team would like to see more test projects in some of the other Districts so that we could evaluate the specification performance and modify the specification as needed. You can find the test specification on the State Construction Office Web Site.

47. On projects of mill and place Friction Course, either on a thin-lift of overbuild or on a milled surface, using two smoothness requirements should be considered. (FDOT)

    The Department is looking into some options that can resolve some of the issues associated with placing one lift of FC-6 (1 1/2" thick) directly on a milled surface, such as the development of a fine graded 9.5 mm friction course that can be placed one inch thick. We'd also like to encourage smoother miller operations. It

is unlikely that the Department will utilize two smoothness requirements, however.

Superpave:

48. Discuss implementation of the new PG Binder Specification effective with the July 2001 Letting. When will the Mix Designs require the use of PG Binders? (FDOT)

    Projects let in July 2001 will require PG Binder replacing the AC grading system. Since there are still on-going projects specifying AC grading and since all suppliers need to get their PG Binders on the Qualified Products List (as well as prepare a QC Plan for the PG Binder), a Construction Memorandum was issued on June 14, 2001 which will allow both AC and PG Binders on all projects for a period of time. As an example PG 67-22 = AC-30, PG 64-22 = AC-20.

49. Is the FDOT planning to raise the minimum production air voids for fine SP mixes? (ACAF)

    This issue is addressed in the new QC 2000 specification, where the Master Production Range is 4.0 ∀ 1.50%, which means production air voids lower than 2.5% (for both coarse and fine mixes), will result in a plant shutdown.

50. When is DOT going to lower the minimum VMA requirement on coarse-graded mixtures?

    VMA requirements were developed for fine graded mixes. Research by NCAT, UF and others indicates that a reduction of 0.5% in VMA may be appropriate for coarse graded mixes and will result in the same theoretical film thickness. There does not appear to be a consensus on this approach in the Department or Industry, however. The Department will continue to press for consensus on a course of action. A meeting between the Department, FHWA, Industry and university researchers is planned in October.

51. Status of State Wide Superpave Database (FDOT)

    There isn't a statewide Superpave database, other than the CQR system (There was no additional clarification from the audience on this question).

52. What is the forecast for polymerized asphalts? A time-line and estimated volumes would be great. (ACAF)

    This is strictly a crystal ball approach. A vision for the future is that there may be a performance advantage in using modified asphalt binder (PG 76-22) in the last layer prior to the Friction Course on Interstate pavements (TL D & E) and in FC-6 in urban areas with high truck traffic. That is a vision; the decision will be based on data. An important piece of data is the current ongoing experiment at the

Department's Accelerated Pavement Test Facility. The Department will be making decisions with Industry to develop policy in this area. This has been discussed over the last year at the Department's Flexible Pavement Committee.

53. PG76-22..... How soon?..... How much?…. Where?…. (ACAF)

    See Item No. 52.

54. Discuss Superpave overbuild density requirements. (FDOT)

    If the minimum thickness of the overbuild layer is one inch or greater, density is required. If the minimum thickness is less than one inch or if it is variable thickness overbuild with the minimum thickness less than one-inch, density is not required.

55. Has anyone experienced the rollers when vibrating mixes getting pavement settlement other than in curb & gutter sections consisting of mainly weak storm sewer lines and utilities lines, how is this handled? (FDOT)

    There have been some instances of pavement settlement due to vibratory compaction. In some instances, project personnel required the Contractor to compact weaker areas in the static mode, and in other cases the density requirement was deleted for the areas in question. As a result of these types of problems, a specification has been developed that modifies the acceptance pay table for density when static compaction is determined necessary by the Engineer. Contact Jim Musselman at the State Materials Office (352) 337-3150 or David Wang at the State Construction Office (850) 414-4152 for additional information on the specification. This concept will also be included in the new QC 2000 specification.

56. Discuss vibratory compaction in urban areas and other sections of roadway not suitable for vibratory compaction. (FDOT)

    See answer to Item No. 55

57. Other Questions:

    There were no additional questions.

Adjournment:

Mark your calendars for the 26th Annual Asphalt Conference tentatively scheduled for September 9-10, 2002 in Tampa!