April 22, 2024
Meeting – HMA Tech Team

Location: Teams Meeting
Date: April 22, 2024
Time: 12:00PM – 3:00PM

Attendance

- Albert Kilger
- Dan Kopacz
- Casey Wierzchowski
- Devin Harings
- Adam Albers
- Heidi Peterson
- Neal Atanasoff
- Carl Johnson
- Mark Zander
- Derek Frederixon
- Peter Kemp
- Taylor Christianson
- James Pforr
- Travis Kurey
- Brian Jandrin
- Paul Eggen
- Jeffrey Anderson
- Scott Syron
- Matt Andreini
- Bryce Cibulka
- Erik Lyngdal

Agenda Items

1. Review PWL Core-Only SPV Changes
    i. Modified coring frequencies for shoulder and appurtenances.
        - FHWA approval has been received.
        - Previously, nuclear gauges were still required to test shoulders and appurtenances. Now the gauges will not be needed, and the shoulder and appurtenant testing can be done with cores at a reduced frequency compared to the mainline depending on the shoulder width.
        - No feedback or concerns from members.
        - WisDOT will change order this version of the SPV in for core-only PWL contracts for 2024.

2. AWP Specification Reorganization.
    i. Discuss any final review feedback.
    ii. Open discussion / questions about quality assurance program specifics from the membership.
        - Discussed PWL Lite Program
            - Essentially the same as full PWL program, except:
                - The Department will collect 3 total volumetric samples from 3 equal intervals based on the cumulative estimated tonnage.
                - No volumetric test strip required.
                - After all testing is complete, F&t will be performed to compare the datasets and determine if dispute resolution is required.
                - Allows JMF changes. Even if F&t doesn't compare because of mixture changes, the worst-case scenario is the region tests out the lots and we use department results with PWL analysis. Wouldn't necessarily affect pay though as long as mix meets requirements.
                    - We may also be able to allow different mix designs following the same logic.
        - How will the department handle low tonnage jobs when the frequency of testing is 1 / 1,500?
            - Same as we do now. If the job is less than 500 tons, testing may be waived, otherwise we will collect at least one sample.
        - Industry requests that the department reconsider including the first 50 tons of production on each day being eligible for PWL sampling due to concerns with F&t comparisons. Claims this could drive up cost.
            - If the material meets the limits, they will still get full pay still. F&t just decides whose data is used.
            - All material should be eligible for testing.
            - Industry claims there are no plants that can start up and be on target on the first ton of production. If 50 tons is wasted every shift, it could be about $3.5M worth of mix wasted.
            - FHWA pointed out some training by NAPA to reduce waste and to be able to get mix on target within 5-10 tons of startup. It's against the CFR to not be able to test the material. It doesn't make sense that the first 50 tons of everyday get placed and paid for at full price without being

able to be tested.

- Contractor testing frequency is based on contract tonnage, not daily tonnage produced. Random numbers will be submitted to the department during the PRECON meeting.
- Data entry was discussed for AWP. Data entry will be required daily according to the AWP reorganized spec. More details and training to come for AWP data entry.
- Discussed Density Programs
    - PWL and Department Acceptance.
    - Correlated gauges or cores only.
    - Correlation strip when conducted with a volumetric test strip will be 750 tons, otherwise if conducted standalone, it will be 2 density sublots.
    - Contractors do not need to stop production after the density test strip unless restricted from continuing production from a volumetric test strip. Data collected can be adjusted once the offsets are determined from the test strip. Contractor can still stop producing if they do not want to take the risk.
    - Contractors can perform their own correlations for nuclear gauges for process control.
    - For unacceptable density (more than 3.0% below the LSL), uncorrelated nuclear gauges can be used by the contractor to attempt to isolate the extents of unacceptable material. However, the cores taken at the extents will be used for acceptance and pay adjustment.
    - Clarifications were made to “operating continuously below the limit”. For PWL, two consecutive completed lots below a 75 PWL. For department acceptance, two consecutive lots more than 1.0% below the lower limit.
    - Industry wants the department to revisit only coring shoulders. There are situations where using the gauge makes sense like on a PWL nuclear density job where the gauge is already correlated, if the shoulder is paved integrally, or miles of asphalt shoulder along a concrete pavement.
    - Regions can decide if they want to do all cores, all gauges, or a combination of both on projects as they see fit.

iii. Discuss next steps / implementation plan:
    1. FHWA review.
    2. Publishing.

3. Worksheets.
4. Training.
5. 2025 Pilots.
    - Won't pilot SMA in 2025 while analysis is being performed to ensure a smooth transition to PWL acceptance from QMP.
    - All projects using the new specifications will be required to include a Mixture Use Table in the Misc. Quantities section of the plans. The table will show the required mixture and density QAP for each application of mixture on the project.
    - New AWP specs will include all the new specs for all materials and will use AWP for data submission.
    - Request from industry that while these pilot projects work their way through PS&E, that industry can offer their input on the construction phasing.

3. WTM T355 Language
    i. Define a high energy source.
        - Defining "high energy source" may not be necessary because the statement refers to something that emits gamma rays with exceptionally high levels of energy. Gamma rays themselves are the most energetic form of electromagnetic radiation on the spectrum, and a high-energy source refers to gamma rays at the very high end of that spectrum. Additional research may be needed, however, for contextual clarification.

    ii. Troxler – EGauge Combo Asphalt & Soil Density Gauge
        i. Meets ASTM D2950 Asphalt Density
        ii. Meets ASTM D8167 Soil Density
        iii. License Exempt nuclear density gauge, only available through Troxler.
            1. 90 Microcuries (3.33 MBq) vs. 10mCi (370 MBq)

4. Standardization
    i. New Standard taken on project.

8.4	*Add Section 8.4 with the following:* ***Reference Site Monitoring Required for all Paving Projects:*** After performing the gauge comparison, establish a project reference site approved by the department. Clearly mark a flat surface of concrete or asphalt or other material that will not be disturbed for the duration of the project. Perform reference site monitoring of the QC, QV, and any additional gauges at the project reference site. Conduct an initial 5 four-minute density tests with each gauge on the project reference site and calculate the average value for each gauge to establish the gauge's reference value. Use the gauge's reference value as a control to monitor the calibration of the gauge for the duration of the project. Check each gauge on the project reference site at least once a day before performing any density testing and if a new density or moisture standard is established, **and before performing any density testing**. Calculate the difference between the gauge's test result and its reference value. Investigate if a daily test result is not within 1.5 pcf of its reference value. Conduct 3 additional four-minute tests at the reference site once the cause of the deviation is corrected. Calculate and record the average of the 3 additional tests. Remove the gauge from the project if the 3 test average is not within 1.5 pcf of its reference value. The regional HMA coordinator will use their gauge to investigate these situations with the QC and QV personnel to determine necessary actions. For non QMP HMA Nuclear Density projects, the regional block can be used as the project reference site. If this option is used, each gauge needs to be within 1.0 pcf of the block's reference value.

- The way the language is written suggests that the reference site would need to be rechecked if you performed a new standard later in the day if there were issues with comparison between the gauges.
- This will be reviewed again internally.

5. Gmm for Target Maximum Density
    i. Status
        - 2024 will using existing methods for determining Gmm.
        - We will submit the changes for 2025 that will use the new methods (Daily average / JMF).
6. Density Offsets
    i. Status: Implementation of new offsets
        - Was changed to 1.0 foot for the unrestricted edge.
        - Is going to be reverted to 1.5 feet for now.