



May 2, 2023

Meeting – Density Subcommittee

Location: Truax Antigo Conference Room / Teams Meeting

Date: May 2, 2023

Time: 9:00 am to 12:00 pm

Attendance

Members:

X = Present

Bureau of Technical Services (BTS):

- Ali Arabzadeh – HMA Supervisor X
- Dan Kopacz – Asphalt Products Engineer X
- Deb Bischoff – Quality Management Program Engineer
- Brian Jandrin – Statewide Nuclear Program Specialist (RSO) X

Subject Matter Experts:

- Jon Wixom – Rock Road X
- David Hose – Mathy X
- Deb Schwerman – Wisconsin Asphalt Pavement Association X
- Zach Lemke – Stark Corp X
- Neal Atanasoff – Walbec Group X
- Justin Hoffman – Pitlik and Wick X
- Tim Hendrickson – Murphy Inc
- Bill Adair – MTE Services

Optional Attendance

Northcentral Region (NC):

- Steven Hunter – Independent Assurance, Rhinelander X
- Brent Ferguson – Independent Assurance, Wisconsin Rapids

Northeast Region (NE):

- Jamie Cynor – Independent Assurance X
- Bryce Cibulka – Independent Assurance X

Northwest Region (NW):

- Tom Portman – Independent Assurance, Eau Claire
- Tom Rossmann – Independent Assurance, Superior

Southeast Region (SE):

- Jeff Bruesewitz – Independent Assurance, Mega X
- Suzan Rolbiecki – Independent Assurance X

Southwest Region (SW):

- Steve Ames – Independent Assurance, La Crosse
- Jeanette Frazer – Independent Assurance, La Crosse
- Scott Syron – Independent Assurance, Madison
- Matt Platt – Independent Assurance, Madison



Guests –

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Agenda Items

1. Welcome and Introductions – Brian Jandrin

- a. Recording of Meeting
- b. Introduction of Members:

2. Non-Nuclear Devices / Exempt Nuclear Device

- a. Troxler - EGauge Combo Asphalt & Soil Density Gauge
 - i. [EGauge Combo Model 4540](#)
 - Meets ASTM D2950 Asphalt Density
 - Meets ASTM D8167 Soil Density
 - License Exempt nuclear density gauge, only available through Troxler.
 - 90 microcuries (3.33 MBq) vs. 10 mCi (370 MBq)
 - b. Instrotek – NoNuke Asphalt Only
 - i. [NoNuke](#)
 - Meets AASHTO T343 and ASTM D7113
 - c. Trans Tech Systems – PQI 380 Asphalt & SDG 200 Soils
 - i. [PQI 380 Asphalt](#)
 - Conforms to ASTM D7113 and AASHTO T 343-12
 - ii. [SDG 200 Soils](#)
 - Conforms to ASTM D7830
- Standards will be lowered for radiation exposure to cover the EGauge combo and will still require a license.
 - Some contractors will be using non-nuclear gauges on core pilots/test strips to verify the gauges and use them for informational purposes only/process control.
 - Benefits: licenses, weight, safety (radiation exposure), single test is about 3 seconds to measure.
 - Any other states using non-nuclear gauges? Illinois tollway is using it for acceptance. In addition, 8-9 states are currently using non-nuclear gauges for acceptance.
 - Are there methods to verify tests are legitimate? Such as D count / W count to back calculate test results. The gauge does supply an M count and other data such as GPS coordinates to verify a test was legitimately taken.



- Offsets are larger on non-nuclear gauges. These gauges give moisture count, but no one was sure about the accuracy of the measure value.
- Instrotek and Trans Tech systems are willing to work with DOT personnel for sharing more information, Brian needs to be involved and kept in the loop.

3. **PWL Shoulder Density**

- a. D Kopacz update/discussion
 - Currently in PWL there is no incentive or disincentive on shoulders.
 - Changes were made to add disincentive to shoulders to match our non-PWL projects, however there is no incentive. Starts with May 2023 lettings.
 - Reminder: spec says do not operate continuously below spec. Stop production and make changes to meet the specs.
 - There were concerns regarding the dispute resolution approach that needs to be followed for the measurement of density on shoulders

4. **OnStation**

- a. <https://www.onstationapp.com/>
 - i. Time Saving (Locating Lathes or Lack of Stationing)
 - ii. Safety (Crossing Live lanes, night work, etc.)
 - iii. Accuracy (2-4 Feet)
 - Use for Stationing only?
 - Tape Measure for Offsets
 - There are time saving and safety benefits to using OnStation.
 - There are some questions regarding the accuracy of the system.
 - Industry wants to make sure it has the department's blessing to use this software, and not just use it since the spec does not say we cannot use it.
 - Newer devices have better accuracy than older ones. May have to spec out newer devices that are more accurate.
 - The project leader and staff need to be reached out to see if OnStation can be used on each project. If those individuals are comfortable using it, then BTS will have no objection.

5. **Density Offsets**

- a. Not defined to the nearest tenth in CMM
 - i. HTCP Density Class Noticed this
 - Stationing should be rounded to the nearest foot, offset from the centerline should be rounded to the nearest 0.1 foot. Currently spec does not say this. May come with future spec update.

6. **Region Blocks**

- a. Used for verifying if gauge needs constants changed
 - Can be used to identify issues with gauges whether they need to be ran over the BTS high low blocks. Coordinate with Regions IA to identify issues with the gauges.



7. QMP Density Acceptance (Future Potential Changes)

- a. Albert update/discussion
 - As part of AWP spec rewrite, we are re-evaluating the compliance to the CFR of the current QMP density program.
 - Wisconsin is one of the only states to be using uncorrelated gauges for acceptance.
 - WisDOT is currently investigating using PWL (without test strips) for acceptance instead of averaging. Also looking to use more cores on lower tonnage jobs where it does not make sense to correlate a nuclear gauge.
 - o Additional consideration will be given to providing field offices with water baths to measure the cores onsite. Consultants are another possibility for testing cores.
 - Industry wants to be involved in the restructuring discussions.

Action Items – NEW

1. Update CMM to include longitudinal/transverse offset precision as described in the notes above.

Action Items – OLD

1. None

Action Items – Long Term / Idea Reminders

1. Share proposed changes regarding QMP/PWL density programs that are compliant with the CFR.
2. Non-Nuclear Gauges gather data from PWL and Coring projects.
3. On Station being used on projects.

Upcoming Meetings

- August/September

[HMA Density Subcommittee Meeting-20230502_090539-Meeting Recording.mp4](#)