

Quality Management of Asphalt QMA

Iowa Quality Assurance Program

Quality Control and PWL:

TA Compliance and PWL Experiences

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The current QMA program

- Initiated in early 1990s
- Developed by a joint agency / industry group
- Based on available knowledge and test technology
- Primary components:
 - Gradation, cold feed belt sample
 - Binder content, tank stick
 - Lab voids, sample behind paver
 - Field density, cores
 - Smoothness

Primary QMA components

MEASURE	SAMPLE/LOT	VERIFICATION FREQUENCY	VERIFICATION SAMPLE
Gradation	3/day	20% (1/wk)	1:1 split
Binder Content	1/day	20% (1/wk)	1:1 retest
Lab Voids	4/day	25%(1/day)	1:1 split
Field Density	7/day	20% (1/wk)	1:1 retest
Smoothness	whole project	10% of proj	1:1 retest

INCENTIVE FOR SMOOTHNESS ONLY

QMA Assessment

- Strengths:
 - Split/retest sample provides daily/weekly testing for verification and assurance
 - Allows for immediate acceptance of a lot
 - Monthly IAP for DOT labs
- Weaknesses:
 - Traceability of verification samples
 - IAP not applied to other labs

Does not comply with TA

TA Assessment

- Strengths:
 - Minimize the perception and opportunity for foul play
 - Encourages “pay for quality”
- Weakness:
 - Focus on statistical tests (f & t) to measure verification

Limitation: agency resources

Developing QMA-2

- Joint FHWA/agency/industry committee
- Interim program implemented in 2007 to maintain federal funds
- April 2007 - draft program
- 2007 construction - data collection
- December 2007 - draft spec
- 2008 construction - pilot projects
- 2009 - Implementation

Primary QMA-2 components

MEASURE	SAMPLE/LOT	VERIFICATION FREQUENCY	VERIFICATION SAMPLE
Aging (Pb+aggr)	Sublot superlot	1/day	1:1 split
Lab voids		1/day	1:1 split
Field voids		1/wk	1:1 retest
Smoothness	project	10% of proj	1:1 retest

INCENTIVE FOR ALL PRIMARY COMPONENTS

Other key QMA-2 components

- IAP for all labs
 - Monthly for DOT labs
 - Every 3 months for all other labs
- Incentive/disincentive criteria based on measured variability (production and testing)
- Other measures used for QC
- Continue to use split/retest samples as part of the assurance program