

Southeastern Asphalt User  
Producer Group Annual  
Meeting  
November 17-20, 2008  
Birmingham, Alabama

**WORK FORCE DEVELOPMENT**  
“TRANSITION FROM CLASSROOM TO  
FIELD”

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Thanks

- Mark Woods
- Gale Page

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What's going on in the field  
?

Why aren't the technicians  
doing what they are taught?

Tennessee experience


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Why aren't the technicians  
doing what they are taught


- Instructors -

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What is actually going  
on in the field?



Concentrate on what is  
going on in the plant?

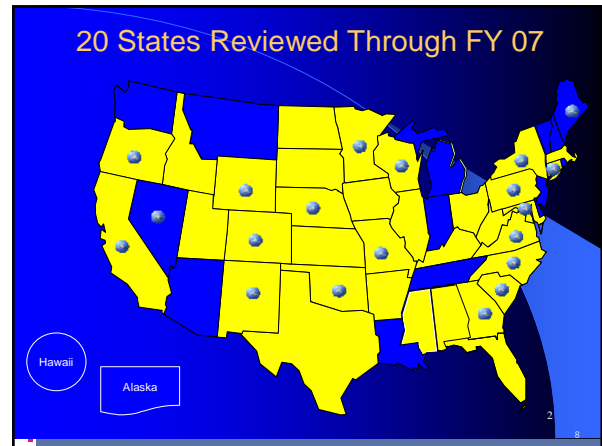
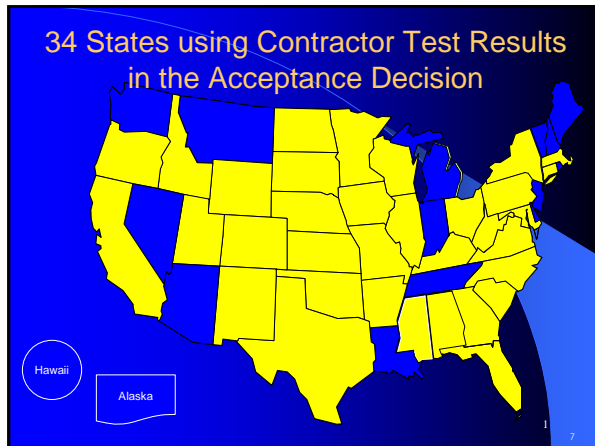


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That doesn't mean that  
there are no weaknesses in  
other areas.

- Binder production – no qc testing
- Aggregate production – wrong aggregate
- Roadway density – non random samples

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- What's going on?
- Agency technician changes results based in advice from qc technician – lack of experience
  - Construction Project Management (PM) lack confidence in agency technicians test results and override contract requirement - initial
  - Construction PM overriding contract requirements often due to different or conflicting goals – error in plans and claims versus quality of material
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- What's going on!
- Agency technicians reporting contractor's results as their own.
  - Random sample taken when plant operator calls the lab and indicates it's time
  - No agency technician at the plant running tests
  - Agency and contractor technicians working together, qc does all the testing and agency records results
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- QC test results are "Banked" to satisfy quantity of samples
- Frequency of agency tests reduced in field
- No sampling and testing for night time work
- No sampling and testing outside an eight hour shift
- Random samples replaced with convenient samples – "You're late!"
- Independent Assurance samples taken by personnel that are not training in HMA

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- Construction PM discontinued sending samples to district lab for testing
- Agency technician elected not to conduct any testing during first few days of initial production
- Truck rejected by contractor once agency indicated they were going to sample
- Test performed improperly – new weights
- Samples prepared improperly



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## What's going on? Roadway

- Agency technician runs multiple tests and elects to send one for acceptance purposes
- Agency technician follows the advice of the contractor to switch location to where the texture is less open
- Agency plant/roadway technician directing contractor to core and transport cores to lab for him to sample

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Why don't the technicians follow what has been taught in the class room?

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Why don't the technicians follow what has been taught in the class room?

- Instructors
  - How a plant operates
  - How a roller operates
  - One on one - taught the wrong means and methods short-cuts

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Why don't the technicians follow what has been taught in the class room?

We took technicians that could run a test and report results to others for action and expected them to be able to analysis test results to detect trends and spot abnormalities AND monitor the qc technician's activities AND enter data AND since we use the contractor's test results there are now fewer of them!

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Why don't the technicians follow what has been taught in the class room?

# Experience

Experience requirements

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Why don't the technicians follow what has been taught in the class room?

## It Depends

- What type of specification the agency has in effect
- How long has it been in effect
- The experience level of technicians
- One on one training
- Oversight

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Why don't the technicians follow what has been taught in the class room?

- Human Nature
  - Lazy
  - Fear
  - Don't know any better
  - No direct accountability

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Why don't the technicians follow what has been taught in the class room?

- Workload, too few technicians
  - Cut backs have one tech handling roadway and plant
  - Not enough time resulting in non random samples
  - Sampling frequency setup without consideration for staffing levels and overtime restrictions.

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Why don't the technicians follow what has been taught in the class room?

- QC tech and plant operator fear they will lose job if they don't control production
- Low pay versus responsibility
- No buy-in to the system
  - Know the system is flawed ( four tests before lunch)
  - Lack of support from supervisor
  - Supervisors lack skill set

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Why don't the technicians follow what has been taught in the class room?

- Lack of skill set or tools to do job
  - Unskilled and intimidated
  - Lack understanding of what is critical
  - What to look for in data
  - Training
  - Tools



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### Why should you be interested?

One paving season, one job, and one mix




- 56% VMA
- 13% of Roadway Density
- 17% of Air Void
- 0% Nominal Sieve
- 8% of 3/8" Sieve
- 5% of No. 4 Sieve
- 5% of No. 200 Sieve
- 59% of Dust Proportions

Pay items or production control

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### Why should you be interested?

- Payment
  - Contractor's electronic results = \$160,600 (+)
  - Source documents results = \$240,340 (-)
  - Difference of \$490,940
- Level Playing Field !!!!!!!!!!!!!!!
- Responsible Steward of the Tax Payers dollar

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### Why should you be interested?



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### What don't we teach!

- Lack of oversight by District
  - Importance of monitoring
  - User friendly tracking systems

We were never taught what to look for !

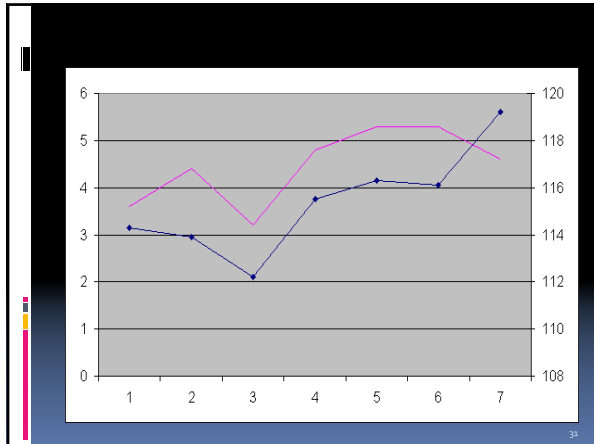
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### How many Agencies have a course on effective monitoring of HMA production and lay down?

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	..8/31	7th	11th	12th	18th	19th	20th
Pill Height	114.3	113.9	112.2	115.5	116.3	116.1	119.2
Air Voids	3.6	4.4	3.2	4.8	5.3	5.3	4.6

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	03/25/03	04/14/03	04/15/03	04/15/03	04/21/03
IA	15,1	15,1	15,2	15,3	15,4
QC	13				
Rice MSG (Gmm):	2.552	2.538	2.546	2.538	2.538
Avg. Bulk (Gmb):	2.406	2.470	2.409	2.412	2.429
Agg. Sp. Gr. (Gsb):	2.661	2.661	2.661	2.661	2.661
Hgt. @N Int.	133.0	124.9	130.7	131.8	131.4
Hgt. @N des.	119.5	113.1	117.6	118.3	118.4
Hgt. @N max.	119.5	113.1	117.6	118.3	118.4
% Air Voids @ Nd	5.72	2.68	5.38	4.96	4.29

### Is all this effective monitoring worth it?

- Attitude change and more support for materials from the construction side. \$\$\$\$\$
- Management support of agency and producer technicians
- Plant up grades – Failure rates

**Can't argue with the numbers**

**Possible solutions**

- Make sure you know what you want
- Find out what is going on in your state
- Find a champion to ensure success
- See how other states are handling
- One on one mentoring
- National IHMA certification program
- "Pack a lunch!"

"The need for an IID is highly recommended by this office as well as several construction managers due the increased sophistication of the HMA acceptance system. This includes the PWL specification, the verification by the Department of the contractor's quality control data and sophisticated testing equipment introduced with the Superpave mix design system....."

....In addition, the loss of experience and the difficulty in filling positions with experienced personnel at the project and District level has lead to the need for the IID Team not to just conduct audit/compliance reviews, but to assist in the training and skill development of those working in the HMA field.”

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## Reviews/Assessments

- Peer Review by another state
- FHWA reviews
- FHWA National Quality Assurance Review

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▪ Thank You

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