

Basics of Quality Assurance

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Basic Concepts

- Components of a Quality Assurance program
- Who is responsible for what?
- Quality Control Plans

What are we trying to achieve?



Definitions

- All federal aid projects must comply with CFR 637.203, Quality Assurance Procedures for Construction
- State and Local Agencies should also have such policies in place for non-federal aid projects

Quality Assurance

- All those planned and systematic actions necessary to provide confidence that a product or service will satisfy given requirements for quality

Owner?

Agency

Quality Control

- All contractor/vendor operational techniques and activities that are performed or conducted to fulfill the contract requirements.

Owner?

Contractor

Independent Assurance

- Activities that are an unbiased and independent evaluation of all the sampling and testing procedures used in the acceptance program.

Owner?

Agency

Who “Owns” Quality?



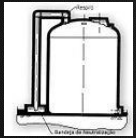
Agg Supplier



Jobsite



Contractor
Constructs



Emulsion
Supplier



- Up to this point, owner?
Contractor
→ Quality Control
Agency Role?
Oversee
→ Quality Assurance

Who “Owns” Quality?

- Once project accepted
→ Agency Owns



Construction
Complete



Agency
Accepts

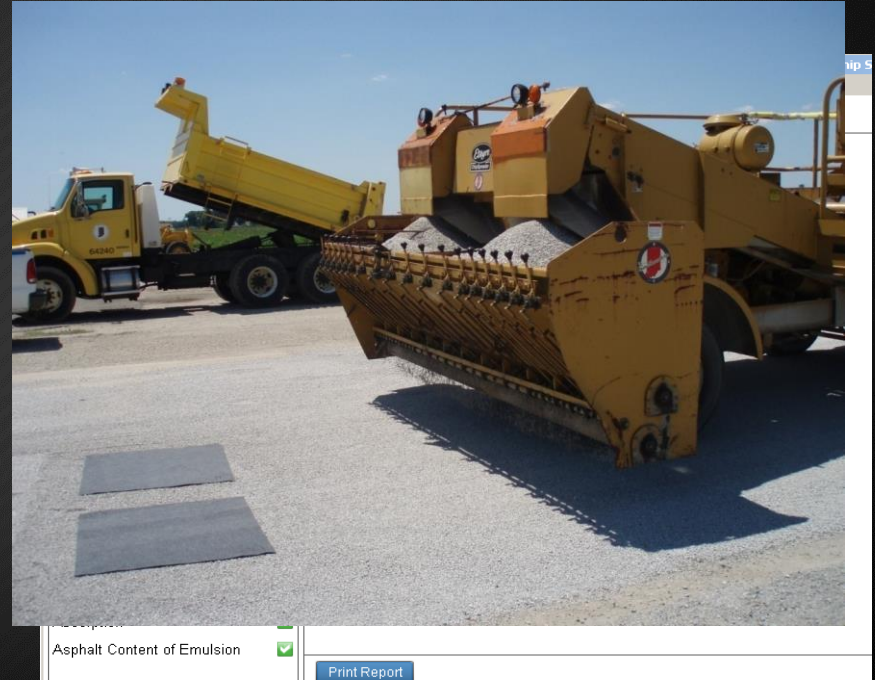
What do we QA?

- Materials
 - Aggregates
 - Emulsions



What do we QA?

- Application rates
 - Mix designs!
 - ETF Specs
 - Equipment Calibration



What do we QA?

- Final product????



Quality Control Plans

- Each material supplier should have their own quality control plan
 - And follow it
- Contractor should have a quality control plan
 - Specific to each job
- Agencies may have guidelines

Quality Control Plans

- Define QC Personnel
 - QCP Manager
 - QCP Site Manager
 - QC Technician(s)
- Process Balance
- Equipment Utilized on Job



Quality Control Plans

- Equipment Calibration Procedure
- Construction Sequence
- Control of Application Rates



Quality Control Plans

- Procedure/schedule for sweeping
- Traffic Control
 - Methods
 - Special Considerations (i.e. intersections)
 - Determination of opening to traffic



Quality Control Plans

- Material Sampling/Testing
 - Response to results
- Documentation
 - How long to maintain records

QUIZ!!

The agency inspector takes a random aggregate sample to check gradation. This is an example of:

- A. Quality Control
- B. Quality Assurance
- C. Independent Assurance

B. Quality Assurance

The contractor performs a yield calculation to ensure his application rate is correct. This is an example of:

- A. Quality Control
- B. Quality Assurance
- C. Independent Assurance

A. Quality Control

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The contractor's response would be to...

- A. Ask the agency to perform a QA test on the emulsion
- B. Increase the aggregate application rate
- C. Stop operations, stabilize and assess the situation, per the QC plan

C. Stop operations, stabilize and assess the situation, per the QC plan

Remember the goal



So how do we get there?

- Good specifications
- Good designs
- Qualified personnel
 - Contractor – actually running the equipment
 - Agency – overseeing and accepting

Questions???



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