AASHTO re:source (formerly AMRL) In Focus

Evaluating Competency: How do you measure up?

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Raise your hand if you've received a nonconformity related to training and competency evaluations.

Good. The first step is admitting it. Whether the finding has been minor and easily resolved, or it has required you to revamp your entire training and competency evaluation program, just about everyone has been there before. When it comes to the array of requirements, options, and best practices, there can be a lot of confusion about what you are supposed to be doing. AASHTO R 18 and ASTM quality system standards such as, C1077, D3666, and E329 can all have differently worded requirements, which can add more confusion to the issue. This article will help hone your understanding of documenting competence and interpreting the requirements of quality system standards.

Terminology

Let's get a few things out of the way first. Terminology can be a humongous source of confusion – when one standard calls one thing X and another standard calls the same thing Y, it's no wonder the whole thing seems complicated! The following list of terms and their interpretations will help you better understand the AASHTO and ASTM quality management system standards. It should also help you clarify the wording in some of your own policies and procedures.

Training - Teaching and evaluating proficiency when new, unfamiliar, or seldom used procedures are introduced. Training can take on many forms such as on-the-job training, technical training courses, or formal in-house sessions. Experienced technicians may not need to have training for standards for which they have already demonstrated proficiency.

Competency Evaluation - A determination of a person's ability to perform a task according to a given procedure. This can be used in lieu of training when experienced personnel are new to your company. Evaluations should occur at established intervals by any number of means. According to AASHTO R 18, the evaluation must include a demonstration of the test method.

Certification - Typically reserved for external organizations that provide recognition to an individual who has passed the coursework for a given set of practices. They are most commonly used to meet local or contract requirements, or to fulfill the personnel requirements of ASTM quality system standards. A common example of certification is ACI Concrete Field Technician Level 1.

> Note – Some laboratories issue certificates to technicians for attending a class or undergoing some group training activity. AASHTO re:source does not typically recognize this as "certification."

Record – The document that contains a detailed account of training or competency evaluations. It shall include the full date (day, month, year), all test methods evaluated (AASHTO, ASTM, ISSA, state, etc.), the name of the evaluator, and a field for recording comments and/or results.

Demonstration – A performance of the test method for which competency is being determined, where applicable.

Common Problems

So how hard could all this be? Well, it shouldn't be too hard in concept; however, AASHTO R 18 might not be the only standard to which your documentation has to conform. You might have other documentation requirements, tons of technicians, outdated templates, or just don't have the time to document every little thing that goes on in your lab. It seems like the requirements never end! The good news is that a well-integrated quality management system can really help set you up for success. The bad news is that this can sometimes take a while to set up, and it will likely need to undergo a few iterations before becoming something that really works well for your unique situation.

After you finish reading this article, review your own training and competency-related documentation and ask yourself the following questions:

- Have I included all AASHTO, ASTM, or other test method designations where applicable?
- Did I include the full date (month, day and year) that training or competency evaluations took place?

    - In a related issue, some labs show that all technicians were evaluated for every test on the same day. For a lab with a lot of testing and a lot of technicians this is not likely to be possible. Be sure to include the date or range of dates that the evaluation actually occurred, rather than the date that the record was completed.
- Did I include comments or the results of the evaluation, where necessary?
- Do my records reflect the training and evaluation policies outlined in my QMS? (Say what you do; Do what you say.)
- Did I include the name of the person or organization that witnessed each evaluation?

Troubleshooting

So what is a quality manager to do? The first place to start is to review your quality management system policies and procedures to make sure your training and competency evaluation procedures are in place and that they make sense for your company. Maybe the policy was put in place decades ago and is no longer relevant. Maybe the policy was copied out of R 18 and just isn't a great fit for your company. If so… write a new one! When you are adjusting your policies and procedures, think about whether they guide the user by asking yourself some of the questions above.

AASHTO R 18-16, the latest edition, includes new allowances for training and evaluations. In previous versions, competency evaluations had to be performed in-house by employees of your company. Section 5 of the newest edition allows competency to be evaluated any number of ways. Aside from in-house demonstrations of the test methods, R 18-16 allows for the use of:

- Certification program representatives,
- Assessment body representatives, and
- Outside consultants

Clarification

While these updates allow for more flexibility in making sure that your technicians are competent, they can leave the door open for more potential issues. For example, an AASHTO re:source representative can evaluate one person only for the tests in the scope of the assessment. While this may be a great option for a very small lab with limited resources, it may add confusion to a larger lab with more technicians to keep track of. Also, perhaps a manager looks for other criteria that an assessor would not (like following company safety protocol). If you choose to use certification courses to confirm competency, these other options may also require you to have periodic internal evaluations to supplement certifications if a test result or staff competency is called into question.

But wait, there's more! This also means that your policies and procedures will need to be laid out explicitly if they weren't already. If your lab chooses to incorporate different means of training and evaluations, be as explicit as possible – the more details the better. Do you routinely hire experienced technicians that don't need to be officially trained from scratch? Is your lab in the habit of hiring "apprentice" technicians who are in the beginning stages of their careers? Each of these people will have different training needs and steps necessary to ensure their technical competence. As each person gains more experience, they may need less oversight than the new hires. It is extremely important to outline these expectations in your quality manual procedures.

Concluding Thoughts

AASHTO R 18 doesn't lay out exact procedural requirements because each lab has different needs, projects, and resources. It's up to you to determine what will work best to have the most competent employees and have confidence in their work. Your internal audits and management reviews can help you make the decisions necessary to develop a superior training and evaluation program.

At the end of the day, it's important to have confidence in your employees' ability to perform superior testing. There are many ways to evaluate and confirm that high level of competency, but keep in mind how important it is to document those demonstrations so that the agencies who hire you for projects can have the same level of confidence.