

40 Years of the Quality Assurance Workshop

The following are accounts given at the 40th Mid Atlantic's Quality Assurance Workshop. The annual workshop was held, for the first time in Atlantic City, NJ.

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Last May at the Planning Meeting the Steering Committee for the Mid-Atlantic Quality Assurance Workshop requested that I give you the history of the QAW in a few minutes this afternoon. After reviewing many documents, I found the task impossible so I am going give as many of the highlights of the 40 meetings in the time allowed and Woody Hood will follow with additional items, which are underway.

The basis for the First QAW was two reports completed in 1967 by Peter Traber, FHWA Region 2 Quality Assurance Engineer: The first covered the excellent process control of the Cement Industry and the second covered a statistical analysis of Size 57 Aggregates in the Region 2 States.

Following the Blatnick Committee investigations many changes were forced by the Bureau of Public Roads on the State Highway Departments. Joe Burdell and Pete Traber knew that there was a better way to make changes and improvements. The First QAW was planned to introduce statistics into the development of highway specifications and to take advantage of industry process control procedures. A decision was made to have State representatives present the case for each successful item in hopes that the those present would listen more intently to their peers and hopefully take home the information message it and apply it to their State's Specifications. Also several items coming out of formal research would be presented in hopes of generating support from the States.

This worked. The First report showed that the process control systems in place in the Portland Cement Industry were dependable enough – that the existing system consisting of testing by the States and sealing each bin was outdated and costly to both the industry and to the States. The States took this information home, looked it over and within three years all of the Region 3 States had dropped the previous system for a Cement Certification System by the Portland Cement Industry. Virginia DOT reported a savings of over \$100,000 in Portland cement testing costs. Each State and the Cement industry reported savings of time, cost and the number of bins needed for the industry, without a reduction in the quality of the cement being delivered and used.

The Second Report, consisted of taking samples of Size 57 Aggregate at five locations from production to incorporation in the final product in each State. The statistical analysis showed that in this commercial size segregation did not occur and the existing practice by the States of extensive aggregate gradation testing was not worth the cost, which at the time was 50% of the total cost of all Highway Materials testing. The States took the report home made

analysis of the overall aggregate testing and all made many adjustments to their specification requirements that reduced the number of samples and the cost of aggregate testing.

Many other items coming out of formal research were presented over the next several years that were also handled by the states after listening to their peers make presentations of success stories at the QAW. Concrete and Asphalt were added in 1969. In 1972 Ohio had been moved to FHWA Region 5. They hosted the only two Region QAW that we have had. Several other regions have conducted similar QAW Meetings over the years.

PENNDOT was the first state to develop a long-range plan to develop Quality Assurance Specification based on well-developed statistical evaluations. Several other States followed and the FHWA promoted these plans through several national efforts. One of the items missing was adequate Text Books that could be used to teach and promote Statistical concepts in the highway industry. PENNDOT under the leadership of Leo Sandvig developed an excellent text and a weeklong course at PENNSTATE to teach the concepts. This text and course was picked up by the National Highway Institute and I am sure is still being taught today. The need for a shorter practical course to reach technicians etc was seen and also developed by the same persons in PENNDOT and PENNSTATE, and taught by the National Highway Institute many times. You may remember some of the names Dr. Willingbrock, Jim Moulthrop, Ron Comminski, and Bob Nicotera.

In the early 70's the Bridge Deck Deterioration problem hit us hard. As a spin-off committee of the QAW- the Region 3 Bridge Deck Durability Committee was formed and generated the development of many experimental projects, improvements in inspection, specifications and the use of new materials such as epoxy coated rebar. The first Epoxy Coated Rebar Project was built in Philadelphia using Research Specifications. The Region 3 States successfully lead the country in this coordinated development of improvements for bridge decks.

In the spring of 1983, after he had retired, Pete Traber coordinated a three-week course on Portland Cement Concrete Design. This was something that he had wanted to do for many years. Ed Galaway, Chuck Kline, Gary Robson, Dick Hay of the FHWA Labs and several others were the instructors for the course that covered mix design, laboratory work and problem analysis. Twenty five students from all over the country participated and learned a great amount that they could make practical use of. The success of the endeavor was the result of the cooperation between personnel from all of the Region 3 State Highway Departments and the FHWA to approach a problem and contribute to the solution for the benefit of all. Although I do not believe that that exact course was ever taught again I think that it was one of the best spin-offs of the QAW. Pete Traber gave a historic summary at the 30th QAW in Hagerstown in 1997. He died several years later. Last week I heard from his wife Flo, she is doing well. There were several other coordinated events such as coordinated training of FHWA Area Engineers in various material areas in each State with the help of various State and industry personnel such as George Ayres of the Cement Industry a long time Steering Committee member, who had developed friendships through the QAW.

In the late 80's David Gendell, then in the Washington Office prior to becoming the Region 3 Administrator, called me and asked me if I knew Why 60% of all the contacts between the FHWA Research Laboratory and State Highway Departments in the Country were with Region 3 States. (He was part of a management review of our Research Facility at the time) I did know the answer.

The answer was easy the QAW had from the beginning introduced many of the FHWA Researchers to the State personnel of Region 3. In turn the Region 3 States responded to many of the research project needs by assisting in supplying samples of many products such as epoxy coated rebars from the first project in PADOT, structural steel items and inspecting Portland cement concrete to be used at the facility by the Virginia DOT.

The First QAW in March of 1968 had 72 State and Bureau of Public Roads (now FHWA) participants. We only had a few sessions. Over the next several years we introduced several additional subject areas, but still only State and FHWA personnel participated. In the early 1970's, in West Virginia a group of industry representatives was invited to participate in the QAW.. They made an analysis of a proposed West Virginia Asphalt Specification during a separate session and reported their findings and recommendations at the closing Session. The private industry representatives did a great job. Over the next two years more industry representatives were invited to give presentations and participate in each of the sessions and all of our sessions have been open to all since for the benefit of all. During this time a Metals Session was started and in Delaware in the late 1970's the Maintenance Session was added. Having 5 major Break Out Sessions on the Second day of the QAW was a strain on many hotels over the years. Several years ago we reduced it to four breakout sessions operating at the same time, while still having five separate sessions. We also have combined two of the sessions when a common subject was considered important for the last session of the day. Such as for ASR (alkali silica reactivity). This also has worked out well.

The numbers of participants have increased from the original 72 in 1968 to over 600 in Lancaster Pennsylvania a few years ago. We have almost 400 here today. There are many persons that have been involved for many years. Of the original group Larry Michael and I are still on the program in 2007. We obviously do not know when to quit. Several speakers such as Dr. Fisher and Sanford High and several Federal Highway Administrators in the opening sessions come to mind as doing great jobs.

We have also had speakers from many other State DOT's such as California, Florida, Michigan, Illinois, Tennessee, North Carolina, Vermont and from industry representing various parts of the country. We have had many States outside of the Region participate. New Jersey joined the mid-Atlantic QAW several years ago and has done a great job in hosting the QAW for the first time.

At the 20th QAW 5 speakers make a review in their areas. Mr. David Thomey of Maryland Materials, who supply aggregates to four states, reported that the QAW had generated many inspection and specification improvements for the Aggregate industry over the years that were of great value to all. In the early years adopting the AASHTO simplified practice grading system, that had been promoted, minimized the number of stock piles from as many as 16 to 4 for four common sized aggregates. The cost of maintaining multiple stockpiles was reduced and the

possible errors by the trucking of the wrong pile to a state project were eliminated by the improved process. He noted improvements in communication between state specification writers, the move toward end result specifications, reduction of inspectors taking samples and the elimination of inspectors in scale houses writing out tickets – now being done by computers. Dan Barto of High Steel reported on many of the improvements that had been made in items such as Pictorial Standards, economic fabrication activities, shared testing by States, improvements to painting specifications and many other items that he felt were the result of the QAW. Mr. Ed Galloway of VADOT reported that the States had taken on many new methods and successfully turned over many of the testing items that they were previously doing to the industry in the areas of Cement, concrete and aggregates.

Mr. Oliver Briscoe of MDSHA reported that the QAW had played an important role in creating an awareness regarding Quality Control among states in Region 3 by generating open lines of communications between various government agencies and Asphalt industries. That the QAW has influenced the creation and adoption of improved specifications and has accomplished the intended goal by getting people to talk about their concerns and to be willing to share their accomplishments. Mr. Larry Michael, MD SHA commented on many of the items covered and noted that we seem to repeat the same subjects every few years and hopefully we will eventually get it correct. Mr. Gerry Potter of FHWA reported on the many Metals items that had been accomplished by the Structural Committee on Economic Fabrication, started as a follow-up to the QAW. They met this morning and are still meeting several times per year. Their accomplishments are many and many of their standards have been adopted nation wide. The Chairman Mr. Lou Triandafilo told me this morning that they are now part of the National Bridge Alliance (NSBA).

There have been some interesting items that have occurred during some of the QAWs such as snow several times, the worst was in West Virginia. At one meeting in Williamsburg, VA the temperature one day was 72 and we went home in a snowstorm the next day. Many will remember the ice storm in Dover, Delaware during which the city lost power for three days. The hotel did great with their emergency power and the meeting continued, but most of the adjacent hotels, where many were staying, did not have power. In 1974 and 1977 we all had a problem standing in Gas lines to be able to get to the QAW.

For many years we had the Session Chairman give summaries of each break out session. It was a lot of work and has not been done for several years. We also produced minutes of the QAW for many years and I can assure you that this was a lot of work. They are no longer being produced, but we are now putting all of the presentations on the Web Site. We had tried several times to get a web site started and finally did so. (www.midatlanticqaw.com)

The QAW developed Operating Procedures. The first to put these together was Luther Martin of DCDOT. We now have a formal operating Manual, Charter, Bylaws and record keeping. Mr. Robert Kardian of Virginia DOT has been the prime person in these developments. We owe him a big thank you for all of his work. We have a close out session for the Standing Committee following the QAW. The committee meets several times per year to plan the QAW and has done a great job over the years. The Committee consists of representatives of the Severn States, FHWA and many industry representatives. They will be introduced this evening. They deserve a great deal of credit in making the QAW a continued success.

Follow up to the QAW has always been most important. Many items have been improved by this follow up. We need to continue this in to the future. Your recommendations for follow up items are requested.

Mr. Woody Hood will now give you an up date on another follow up to the QAW, that we had tried several time to get started.

In closing it is not what we have done over the years that is most important---but what we will do in the future. We all request that you all listen to the many view points that are presented at the QAW and take them home with you, digest them, and find way to apply the ideas and concepts to your own problems and return with success stories that will assist many others with their highway systems.

Thank you for the opportunity to review the 40 QAW Meetings this afternoon. As many of you know I could talk on this my favorite subject all day, but I will quit right now.