TNI Stationary Source Audit Sample (SSAS) Expert Committee August 24, 2015 Teleconference Minutes

Attendance:

Tom Widera – Chair ERA (Provider)	Committee member	Present
Charles Simon – Vice Chair VOC Reporting, Inc. (Laboratory)	Committee member	Present
Mike Hayes Linde (Provider)	Committee member	Absent
Paul Meeter, Weston Solutions (Stationary Source Tester)	Committee member	Present
Bob O'Brien Sigma-Aldrich (Provider)	Committee member	Present
Michael Schapira Enthalpy (Laboratory)	Committee member	Present
Katie Strickland Element One, Inc. (Laboratory)	Committee member	Absent
Ed MacKinnon – TRC Environmental Corp (Stationary Source Tester)	Committee member	Present
Danny Wong New Jersey DEP (State Government)	Committee member	Absent
Andrew Chew EPA (Federal Government)	Committee member	Present
Maria Friedman – Test America (Laboratory)	Associate member	Absent
Michael Klein New Jersey DEP (State Government)	Associate member	Present
Gregg O'Neal North Carolina DAQ (State Government)	Associate member	Present
Jim Serne TRC Environmental Corp (Stationary Source Tester)	Associate member	Absent
Stanley Tong EPA Region 9 (Federal Government)	Associate member	Present
Nishant Bhatambrekar GE Power and Water (Stationary Source Tester)	Guest	Present
Tom Maza Michigan Dept of Environmental Quality (State Government)	Guest	Present
Katie Shonk AQS	Guest	Present

Call to Order

Tom Widera called this meeting to order at 1405 hours EDT. There was a quorum present.

Review of minutes

The meeting minutes from July 15, 2015, were reviewed. Mike Klein's comments were incorporated. Correct first sentence on page 3 to read "stated" instead of "sated". Stanley Tong and Gregg O'Neill – change from Committee Member to Associate Member. Need Maggie's last name from Catalyst Air Management. Tom Widera will take care of it and will have the membership updated and forwarded to TNI. Tom Widera called for a motion to accept the minutes with the edits that were discussed. Charles Simon seconded the motion. All members voted "aye" with one abstention (Paul Meeter). The minutes were accepted with the noted edits.

Charter Review

Tom Widera reviewed the charter. There have been many changes to the committee membership during 2015 and we need to send an update to TNI. The following on the Membership line right now are Maria Friedman, Michael Klein, Theresa Lowe, Gregg O'Neal, Jim Serne and Stan Tong. Either as a result of change in jobs or term expiration, they will be coming off the list of committee members. Gregg O'Neal and Michael Klein will be eligible to reapply for membership at the end of 2015 if interested. Danny Wong is temporarily replacing Michael Klein until the end of 2015, Ed MacKinnon is replacing Jim Serne and Andrew Chew is replacing Stanley Tong. They are welcome to remain as associate members since we can only have one committee member from each organization. Tom Widera wants to make sure our stakeholder balance is set. We have three laboratory members (Charles Simon, Mike Schapira and Katie Strickland). From government, we have Danny Wong and Andrew Chew. As testers, we have Paul Meeter and Ed MacKinnon. As providers, we have Tom Widera, Bob O'Brien and Mike Hayes. Nishant Bhatambrekar has applied for membership. His company does stack and field testing. He will be categorized as a tester. Currently we are waiting for all members to vote. Tom Widera reviewed the membership eligibility requirements. No other changes or updates to charter were noted. Tom Widera will forward membership changes to TNI for posting. Paul Meeter asked if the Method 8 subcommittee should be listed in the Charter. Tom Widera indicated that it was noted as a milestone. Tom Widera informed the new committee members that they are eligible for two consecutive three-year terms.

Method 8

Mike Schapira has a summary of Method 8 – where we are and where we want to go.

William Daystrom was able to get Mike a spreadsheet with the Method 8 audit samples and their associated information. Mike Schapira has sorted and is now ready to put into individual spreadsheets by company so that we can send directly to them. He has taken the edits on the Word document to go with it. Some company's information was missing from the spreadsheet. Tom Widera and Bob O'Brien will take a look at it and, if they have the information readily available, they will update the spreadsheet in the next few days. Mike Schapira will send to the subcommittee members this afternoon and hopefully they will reply in three weeks. Tom Widera requested that once Mike Schapira sends it out that we let him know if we need to have a special meeting or send out as is. Charles Simon asked if Mike Schapira had noticed any trends in the data and Mike Schapira indicated that he did not have any of the pass/fail information.

Method 25 Audit Sample Discussion

Tom Widera spoke with Bob O'Brien and had a meeting with some staff members at ERA. Tom has a lot of questions that he needs to discuss. Tom Widera received some information from Ray Merrill at EPA regarding the number of samples they had been doing when EPA was delivering the samples. They stopped delivering samples at the end of 2009. It looks like they were getting roughly 130 samples per year sent out. That was six years ago and Tom Widera is not able to determine just how extensive the requirements for the audit samples were back then but at least it gives us a rough ballpark of what they were sending out. Ray Merrill also sent Tom Widera information about the other audits that they were delivering at the time. Tom Widera anticipates that the number of audits will be greater than it was back then based on the greater number of samples that are currently being sent out for other methods based on what EPA had been sending out over their seven or eight years of data. The average is 130 per year but Tom Widera expects that to be greater. Michael Klein asked if the number represented 130 samples or 130 pairs. Tom Widera did not have that data.

Tom Widera and Bob O'Brien are both concerned with the amount of work that needs to be done and the number of samples going out and that making a profit from their standpoint would be difficult. Tom Widera is not overly optimistic that they are going to say yes to this but as a committee he wants to be able to provide an opportunity. ERA has a lot more questions that need to be answered first.

Stan Tong questioned if either Tom Widera or Bob O'Brien could come up with a number that says X number of audit samples ordered for Method 25 would be a breakeven point for profitability. Tom Widera stated that from a testing standpoint, TNI has pretty strict requirements for the testing. Charles Simon said that he could provide quotes to Tom Widera. Tom Widera needs to send Charles Simon an email with all the specific requirements and he will go to the two vendors that he has purchased from and ask them what they can do for us. Charles Simon suggested to Stan Tong, if

Tom Widera and Bob O'Brien do all this and decide it's still a no go, let's consider through EPA that we made an earlier suggestion (about three years ago) to OAQPS which was rejected to let the gas vendors supply them directly and put them under the same requirements as we do for the calibration gases for CEM methods where the mid level gas (bias gas) is the audit. They are currently doing this for Method 25A. Paul Meeter noted that since Method 25 is a manual sample train we will also need some sort of a rotameter, manifold, and sample line system to allow the audit gas into the traps at ambient pressure and not under pressure. Wayne Stollings and Charles Simon went through that a few years back with the committee. They wrote the rules, described the device and what they would do is put that in the box of equipment with all the controllers, tanks and traps and tell them to use it and in which way. Using our system would be mandatory. That was a big failing in the past. People would put something together to make it happen. Not everyone did it correctly. The procedure is embedded in Method 25Z which was submitted to OAQPS three times. We do have the text and we can extract it and, when we get the program going, say here's the procedure and the laboratories who do the analysis will supply the hardware to hook up to the cylinder. Charles Simon discussed the necessary steps to empty an audit gas cylinder to below 25 psig in order to ship as non-hazardous.

Tom Widera said we need to better describe who will handle what and how it's going to be taken care of so that each of the parties involved in this know what their responsibilities are and that is going to generate and determine the cost that each of us is going to associate with this. Because it is a TNI program, there is an issue of accreditation. One question they had was who is going to hold the accreditation. Is it going to be the provider or is it going to be the gas supplier. Charles Simon suggested that we consider getting these cylinders from a supplier, the supplier tells us what they are and we assume that is correct and we do all of the TNI required testing at the provider facility. We are then safe in knowing the provider has the entire program surrounding this Method 25 audit in house. We should consider approaching OAQPS and OECA and tell them our situation and ask if we can work something out with the gas vendors directly.

Tom Widera asked if we are going to have the gas suppliers manufacture the cylinders and then the providers are going to basically do everything else. Charles Simon believes that is what costs should be calculated on. Realistically, the providers will need to be accredited and maintain accreditation and include the associated costs. Charles Simon suggested that maybe accreditation audits could be performed remotely by video.

Another question that Tom Widera brought up was, because they are going to have to make multiple batches of these, based on the rules of how often we can send a particular sample to a lab and the varying concentration range, we have to take into consideration that there is going to have to be multiple batches of these available to ship out because you can't send the same sample to a lab twice in a row or you can't send the same sample to the lab more than once a month. We are going to have to make sure we have multiple batches available. We are concerned about the length of stability of the gas in the cylinders. Charles Simon stated these would not be batch products but rather would be made in master cylinders. It is the provider's responsibility not to provide the same sample. Paul Meeter asked and then Charles Simon discussed the possibility of the gas providers becoming SSAS providers. If Tom Widera and Bob O'Brien decide that they will not go forward, Tom Widera wants to

be able to iron out all the details. Then maybe we can go to the gas suppliers and let them know what their requirements are going to be. Tom Widera said that if Stan Tong can get some kind of a commitment from the states saying how many cylinders they are going to do in a year then we can present that information to someone else in case they are interested in becoming a provider. Charles Simon stated that New Jersey is fully committed but other states have not been in the past.

Charles Simon has gotten two audits for each source in the past (for example an asphalt plant which is not controlled). It would be up to the state to decide if they would want two audits for the single source or go down to one audit. That would be another question for the state people.

Stan Tong stated that in our last call, Michael Klein had pointed out that having two audits for an asphalt plant was not the way Method 25 was set up – mainly for destruction efficiency. So, if it's just an asphalt plant, it would be one sample.

Tom Widera asked for clarification on the methodology. Method 25A only kicks in when you are below 50 ppmc. Charles Simon stated "no, not exactly". There are a lot of places that you can use Method 25A. The basis requirement is that you know how the analyzer responds to the organic compounds in the gas stream you are measuring. For example, at a coating company, they apply the paint, it's got all the solvents in it, and they put it through the oven and you're sniffing the inlet duct to some control device with 25A. And you are sniffing the outlet. If the control device has a charcoal absorber, for example, it doesn't change the compounds that slip through. It responds in the relative sense the same at the outlet or the inlet. If you're doing something like a capture efficiency and you really need to know the response, then you use Method 204A or 204F and you take a sample of the coating material and you put it in a system that basically dries off the solvent and pushes the solvent, it dilutes it with gas and pushes it to the analyzer and you calibrate the analyzer versus propane with Method 204A. 204F you distill the paint and you use the distillate. The rule is 25A can be used when its response to the organic compounds is known. That breaks down when you have a lot of moisture, when you have a very complex stream and there are not three compounds or two, there are 200 and lots of combustion gases. Then 25A kind of loses its accuracy and its reproducibility. Method 25 precision is high. The accuracy is there. We look at the organic several different ways that are all basically a total organic carbon type of method in developing these. That is why Method 25 can be used in many places. Sometimes they use 25A and 25 simultaneously and they develop an insitu response factor with Method 25. That has been accepted many times in many states as long as the coating operation does not change its solvent mix.

Tom Widera said since ERA uses gas cylinders for their air and emissions PT program, he is fairly familiar with the whole master cylinder scheme and diluting them into the smaller cylinders. If the process is to do them individually, obviously each individual fill will be its own sample, but then each sample is going to need to be tested before it can go out. The process they go through now is the group that they work with has the master cylinder and, because as a PT we're doing a round robin study, we have to have consistency throughout a certain number of cylinders. The company they use right now has a manifold system where they can fill say 12 cylinders simultaneously and that's considered a single batch. We test a random number of those samples throughout the batch to

determine whether the value that's going to be assigned to the compound, the analytical verification is met for that and to make sure that we've got homogeneity in the fills. We've found that that's a little bit more economical of a process where you fill a number of gas cylinders off a manifold from one master cylinder because the analytical cost is really where the main cost is. We have to take into consideration that if it is going to be an individual fill from a master, each one of those samples is going to have to be tested and that's going to add a cost.

Charles Simon stated that he can read the requirements but he can't understand how ERA's business operates in order to make a profit. For Tom Widera to accurately price something, they need to know the process that the gas suppliers go through as well and we need to know exactly who is going to be doing what so that they can add in whatever cost needs to be added in based on what our requirements are going to be.

Gregg O'Neal asked where is the big cost – is it the cost of the cylinder, the cost of the testing, the cost of the shipping? Tom Widera said that the hope is to be able to do something that is successful at a reasonable cost for everyone involved. The rules are written. We need to make sure that it is clear as far as who's going to be responsible for every portion of this so that each of the parties involved know what their requirements are so that they can figure out what their cost is going to be.

Charles Simon said that they also did a pilot study so, as a committee, we have the option of accepting the pilot study results. Charles Simon and Wayne Stollings had agreed that below 100 to 150 ppm that ± 30% was attainable if blank corrections were allowed. Michael Klein believed that the acceptance criteria currently on the table is too loose and that data from the pilot study may be a better option going forward.

Tom Widera definitely wants the committee to forge forward with this and do whatever is necessary to be able to provide these. We need to do our due diligence as a committee to make sure we are presenting all the information that's necessary so that somebody can hopefully jump in and provide these samples.

Mercury on Filter

Tom Widera did get with William Daystrom and had him present some data on the mercury on filter audit samples. The EPA had taken mercury on filter off of their requirements because there wasn't enough information with respect to the sample design and the concentration range and the acceptance limits. Bob O'Brien and Tom Widera are still accredited for it on their scope. They are still providing samples but it's more on a voluntary basis. We have ~ 200 data points on it. Tom Widera sent it to everyone to take a look at and believes that once we have enough data we can evaluate it and update the potential concentration ranges and acceptance limits and get that put back on the required table for EPA. Is this something that as a committee we want to forge forward and get this put on the required table and, if so, how do we massage the data so we can come up with limits for this?

Charles Simon did take a first pass at this. We are ± 25% acceptance criteria, 97% acceptance rate. We have two failures out of six that have a factor of two involved in them. The others are outside the acceptance limits by 6%, 8% and 12%. Personally, Charles Simon thinks the ± 25% looks good and it's an excellent place to start. Charles Simon looked at the data to see if 20% would work and it showed a 91% acceptance rate. Therefore, the current method of preparing these samples is working. Tom Widera agreed.

Tom Widera stated that all of the data is based upon the new audit sample design which includes a blank filter and a spiking solution. Michael Klein pointed out that the calculation tool assumes that all of the mercury is collected on the filter which is not normally the case depending on the metal.

After discussion, Tom Widera said this is something to think about. Our plan all along was to make sure we got enough data points and when we did see if what we have is appropriate and see what we can do to get it back to a requirement. Charles Simon asked what do we have to do to get it back on the table as a requirement. We have the data, we did a statistical analysis and it just now showed that the 25% acceptance criterion is appropriate, 20% is not appropriate. The method of making it is appropriate with a 97% pass. If we do put it as a requirement, we do need to put an expanded footnote. This discussion will be continued. Tom Widera may reach out to Candace and Ray and get their input on what exactly we need to do for them to accept our recommendations to go to get this back on the table.

Stan Tong had one housekeeping issue. He said that some time ago we made some changes to Volume I Module 1 and Module 3. Candace has not received any updates since two or three years ago. Stan thinks that we have something newer than that. Tom Widera agreed that we do have something newer. Maria had brought up putting some editorial changes. They don't need to go through the voting process. They just need to be made. There may be some miscommunication. Tom thought she was going to take care of that and submit to William. Tom will confirm and get back to Stan on that.

Adjournment

Tom Widera made a motion that we adjourn the meeting. The motion was seconded. All agreed. The meeting was adjourned at 1540 hours EDT. Tom will email everyone with a proposed date for our next meeting. Tom suggested that the meetings be held more frequently.