One Page Tip #6
When is the Next RATAs Due, RATA Activities During the Day, and Let's Move On

Regulatory references:

P75 Appendix A, § 3.3 and 6.5, Appendix B § 2.3.1, P75 Policy Manual Section #8 (Relative Accuracy) and StackVision User Guide.

Pre-RATA Activities - When are the RATAs Due?

1. Find and review the in-house RATA procedure prepared for the CEM systems at your facility.

2. Generate a copy of the "QA Test Status Report". This report will provide the answer to the second question below, plus other information about your RATA history, and other relevant information.

3. Preparation is the key to successfully passing a RATA and achieving good results.

4. Verify in SV when the last RATA was successfully complete for all your P75 systems and when the next RATA needs to be completed by. Performing RATAs for Hg, HF and HCL systems will be addressed in the OPT's for P63.

5. For P75, some systems might require the next RATA to be completed within two (2) calendar quarters or within four (4) calendars. Check the results from the last RATA for <u>each system</u>.

6. Perform a review of the operating load records recorded in SV for a period of not less than four calendar quarters. Each quarter needs to contain at least 168 operating hours to qualify as a "QA operating quarter". Use the "Operating Load Analysis Report" (Reports → Part 75 → Operating Load Analysis) starting with the first day following the completion of the last previous RATA for each system. Gas RATAs are not necessarily performed all on the same day so review your previous RATA records carefully.

7. Every five years, the flow RATA must be performed in each of the three operating load ranges, so review the existing RATA record to determine when the last three load flow RATA was performed.

8. During the flow RATAs, their loads need to be separated by no less than 25% of the normal operating range.

9. The load analysis results need to be reported or updated in the "Load" records of ECMPS.

10. The RATA for the gas systems is conducted at a single load and must occur in <u>either</u> of the two most frequently operated load ranges identified in the Load Analysis report.

11. Prepare for the RATA itself by selecting the date for performing it and schedule it for that date with the various parties involved (your boss, the operating staff, etc.). In many cases, the dates for the RATA need to be scheduled at least several weeks to several months in advance.

12. Most state and local air quality agencies require advance and written notice (email is sometimes accepted) about when these performance evaluation tests (RATAs) are to be conducted. This notice is submitted under the signature of the Designated Official. Notification is also required to be sent to the regional office of the EPA at least 21 calendar days in advance of the scheduled test date. This notice requirement can be avoided under certain recertification provisions, but review section §75.61(a) for further details.

13. Review the records from the most recent RATA. Duplicating those operating conditions should replicate the emission conditions and hopefully achieve successful RATA results.

14. Make sure all preventative maintenance activities have been completed successfully on the CEM systems which will undergo the upcoming RATAs.

Day of RATA Activities:

Preparation is the key to successfully passing a RATA and achieving good results.

1. Review your in-house RATA procedure making sure you understand it and can answer questions from those whom you will work or interface with.

2. Be sure to review the testing schedule for that day with the control room operator and the supervisory operating staff. Having steady operating conditions should generate steady or consistent emissions conditions. Give them an estimate for how long it will probably take to complete today's testing.

3. Be sure to discuss with your stack testing lead person the overall strategy of how the RATA will be conducted. Discuss whether the gas or flow RATAs will be performed first, at what load, and how long each run will last. Decide how often results will be exchanged and reviewed, and the number of overall runs you intend to perform. You should compare the RATA results generated by StackVision and the results calculated by your stack testers. The two sets of results should match.

4. Each year, a stratification test should be performed by the stack testers prior to beginning the gas RATA to determine the number of sample points needed for the stack testers to get a representative set of readings for each run for the gas RATA. This requirement is identified in Appendix A, §6.5.5., §6.5.6.1., and at other locations as well. Stratification test results are to be retained on site and are part of the RATA supplementary records.

5. Prior to beginning the flow RATA, the reference method traverse points must be selected using the Performance Specifications listed in Appendix A, §6.5.6. and following reference method 1 of Appendix B to Part 60.

6. After entering the data sets from about six or seven RATA runs, review the projected relative accuracy in SV, and decide if you need to run more than ten runs to allow the opportunity to drive the RA lower if close to 7.0%. Your final relative accuracy results need to be < 7.5%.

7. You **must report** the gas cylinders used by the stack testers to perform their calibration checks in the QA EDR file. You need to get copies of the certification sheets for the gas cylinders that the stack testers used in the QA checks on their monitors and enter them into the "Cal Gas Manager" section of SV. Once the certificates are entered in the Gas Manager, they can be linked in the gas RATA records in the RATA Editor for each gas RATA performed.

8. Be sure your stack testing company identifies who is the "Qualified Individual" for this RATA. You need to have the required information about this individual in StackVision, so it can be linked to the Part 75 RATA results through the RATA Editor. This can be found in the "AETB" tab under "QA and Certificates" in SV.

9. Exchange the averages recorded for each run for each monitor/system between yourself and the stack testers after every two to three runs.

10. After recording the results for seven or eight runs, compare the relative accuracy results calculated by SV and the results calculated by the stack testers. The two sets of results should match. If the results don't match, go back and review the results that both parties have recorded in their data systems and correct any discrepancies.

11. The P75 regulations require that at least nine sets of RATA runs be performed and recorded. ESC recommends performing at least ten (10) runs.

12. Acceptable RATA Relative Accuracy (RA) results are: P75 gas and flow must not be > 10.0%. If RA is >7.5 and < 10.0%, then the next RATA must be performed within the next two (2) calendar quarters. If RA < 7.5%, then the next RATA must be performed within the next four (4) calendar quarters.

    Many CEM operators strive to achieve a relative accuracy < 5%. Repeating a RATA is possible and certainly advisable, but remember, to keep the stack testing team on site costs money (probably $3,000 - $5,000). Bringing them back on site will cost even more because of additional mobilization costs. And, controlling the dispatch of the unit for a second day will involve added operating costs. Talk with all those parties involved.

13. Once the RATA runs begin, you have 168 operating hours in which to complete all of the necessary runs, although most single load RATAs can be completed within one (1) to six (6) hours.

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14. In the RATA editor, there is an option to "Optimize" the RATA results. When this option is selected, SV will evaluate all the data for your RATA data runs and determine which set of nine pairs will give you the lowest relative accuracy (RA) results. If ten runs are recorded, SV will select the nine runs which give the best relative accuracy results. If eleven or twelve runs are recorded, SV will still select the best set of nine results and unselect the remaining runs.

15. Besides reviewing the relative accuracy results, and the duration for when the next RATA must be performed (two or four calendar quarters), look at the Bias Adjustment Factors (BAFs) derived for each of the RATA results. The BAF calculated by the stack testers and in SV need to match. BAFs are not used or applied by either a CO_2 or O_2 hourly data.

Wrapping Up and Moving On:

It's important to wrap up these test results, nail them down and move on.

1. When you receive the final RATA report from your stack testers (usually within 2-3 weeks), review and compare each of the averages recorded for each run, the relative accuracy results, and the other results shown on their summary page versus what you have recorded in the RATA Editor. If the two don't agree, then you need to contact your testing contractor and work out the differences.

2. In the RATA editor, there is an option to "Optimize" the RATA results. When this option is selected, SV will evaluate all the data for your RATA data runs and determine which set of nine pairs will give you the lowest relative accuracy (RA) results. If ten runs are recorded, SV will select the nine runs which give the best relative accuracy results. If eleven or twelve runs are recorded, SV will still select the best set of nine results and unselect the remaining runs.

3. Review your in-house RATA procedure for updating hourly data based on the RATA results. If, during final review, you changed any data in SV, you need to reprocess the hourly data due to a change in a BAF may also trigger the need to accumulate daily, monthly, quarterly or year to date (YTD) totals or averages. Be sure to consult and follow your existing data processing procedures. The reprocessing begins with the first full hour following the completion of the last RATA run of the affected monitoring system.

4. When your RATA records are finalized in SV, then generate a QA EDR file and run it through ECMPS. If the evaluation report shows and critical errors, they must be resolved in SV, a new file generated, and evaluated again in ECMPS. It is important you resolve these errors now.

5. When the RATA is completed, make sure the data and results are saved.

6. When the RATA is completed, it's a very good idea to review the hourly data for the hours surrounding when the RATA was being conducted. There should be enough data points recorded in each hour for a valid hourly average.

7. Do you need to update your RATA procedure? Are there any lessons learned or better steps to follow that you uncovered during this round of testing? Update them now to improve your chances for success.

8. Consider locking down your RATA data base so that it does not get accidentally changed or altered. Use the "Data Locking Wizard" found under "Tools" under the Main Menu page of SV.

For questions, suggestions, or for a general chat, please do not hesitate to contact me.

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