

One Page Tip: May 2020

Stack Flow-to-Load or Gross Heat Rate Evaluation Checks

Regulatory references: P75 Appendix B § 2.2.5 (Flow-to-Load Ratio or Gross Heat Rate Evaluation), P75 Policy Manual Section #3 (Flow Monitoring) and StackVision™ User Guide.

Background: The purpose of Flow-to-Load Ratio or Gross Heat Rate Evaluation checks is to ensure that flow monitor(s) have maintained their accuracy between scheduled RATAs. The evaluation of the flow monitor can be performed using just flow and load data or can be made by using gross heat input (based on flow and diluent data) and load as well.

This One Page Tip will address the Flow-to-Load (F/L) test, but this discussion can be applied to the identical Heat Input-to-Load (H/L) evaluation.

The F/L test is based on the fact that if the same load and operating conditions from the last flow RATA are re-established and repeated, then the hourly Flow-to-Load ratio should be similar to the Flow-to-Load ratio determined from that last flow RATA. In this way, the validity of the hourly flow rate data can be checked and compared against the flow monitor's performance during the last RATA. If there was a shift or decrease in the performance of a flow monitor, the result would be reflected in the hourly F/L ratios, and this shift would lead to an investigation of the flow monitor itself.

The results of the quarterly checks are automatically reported to the EPA in the quarterly emissions file. Abbreviated Flow-to-Load checks may also be required after corrective actions are taken in response to instrumental malfunctions. Review the Acid Rain Policy Manual Section #3 and Question & Answer #12.10, pages 12-20.

F/L and H/L in StackVision

Setup Activities: The flow or gross heat input parameters must be first configured through StackStudio, which is StackVision's configuration editor. Then these checks can be performed manually or as a configured sequence in ProcessNow.

Reviewing the Data Reports:

- To ensure that this comparison between RATA related data and hourly data are accurately performed (a Granny Smith apple compared against another Granny Smith apple), a few exclusions are allowed. These "non-representative" hours can be excluded. Thus, when interpreting test results, be sure to consider the which set of flow RATAs should be used for developing the baseline ratio and compared against the hourly ratios.
- To review the flow to load data, select **Tools > QA and Certification > Stack Flow Monitoring** from the Main Menu. The default view is the Flow/Load tab. By selecting the parameter of interest, and clicking the **Retrieve** button, all the data and results associated with the previous and current Flow-to-Load tests will be displayed.

Do you need to update your in-house Stack Flow-To-Load review procedures? Are there any lessons learned or better steps to follow that you uncovered while performing these activities? Update them now to improve your chances for success.

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