Compilation of questions and responses for the Boiler and CISWI ICR - second edition, June 23, 2009

Question Category	Question	Response
Administrative	Q. What is the Web-site for the Combustion Test Plan	http://www2.ergweb.com/projects/combustion/combustiontesting.html and http://www.epa.gov/ttn/emc/guidlnd/gd-051.pdf
Administrative	Q. What is the Web-site for the EMC guidance document?	A. The plan is to post Q&A documents as we put them together on the Emission Measurement Center website (www.epa.gov/ttn/emc) under "Instruction Materials", then "Guideline Documents" - http://www.epa.gov/ttn/emc/guidlnd/
Administrative	Q: Do protocols need to be submitted to state agencies or the EPA?	A. No. Test plans or protocols are a suggested good practice for any stack testing project but we do not require that a test plan or protocol be submitted to EPA or states for approval for this information collection project.
Administrative	Q: If a test protocol is submitted to EPA will it be reviewed for approval even though it is not required?	A. No. EPA will review test plans only in the context of addressing questions on proposed alternative methods. EPA will not otherwise provide approval or disapproval of a test plan or protocol.
Administrative	Q. Do we need formal written approval from EPA to test an alternative process heater than what was identified in the 114 letter?	A. No formal approval is required; provided that the alternate unit meets the requirements described in your Section 114 letter, you may conduct the testing on the alternate unit. Please explain the reasons for selecting an alternate unit when you submit your test results.
Administrative	Q: Does the 21-Day state notice requirement supersede longer state requirements that may be in Title 5 permits, or apply in addition?	A. We can not say definitively. A state agency may have a notification requirement even for this data collection program that is outside the title V permitting process. You should check with the local or state agency to determine if a test plan submittal and approval process associated with a permit or other regulation applies.
Administrative	Q: Are the 21 days working days?	A. No, this reference is to 21 calendar days.
Administrative	Q: Will you be issuing a revision to the test methods table to address all the changes?	A. No. We will be posting responses to comments and questions including any changes to the information in those tables. In the interest of time, rather than developing and formatting revised tables, we will periodically issue documents such as this one to address questions about testing methods, procedures, and related questions.
Administrative	Q: For facility-specific questions, what is the preferred method of contacting J. Eddinger (e.g., email, phone call, or letter) - we recognize you may be getting lots of questions.	A. E-mail is the preferred method of communication. See Enclosure 1 for whom to e-mail depending on the nature of your question.
Administrative	Q: For boiler testing, is there any accreditation requirement on what labs have to be used for analyses?	A. No. EPA does not have any accreditation requirements for the labs or testing companies for either the boiler and process heater (boiler) data collection project or the CISWI project. On the other hand, EPA expects that labs and field testing companies, whether accredited and unaccredited, will follow the specified or approved testing and analytical methods and document all QA/QC activities and results in the test reports.

Administrative	Q To whom do we request extensions to the test program if we experience testing or lab analysis bottlenecks?	A. Notify EPA (Jim Eddinger eddinger.jim@epa.gov for Boilers/Process Heaters) (Brian Shrager (shrager.brian@epa.gov for CISWI) as soon as you know that you will not be able to make the October 15 deadline in order to request an extension. Depending on the expected delay EPA will work with individual sites as to whether the reports should be submitted in parts or all at once.
Administrative	Q: Will/should the tests be observed by EPA or States?	A. No, EPA will not be observing tests. A state agency may opt to observe testing. You should check with your local or state agency when you provide the 21-day advance notice.
Administrative	Q. The CISWI letter indicates that alternative requests should be "submitted to EPA". Who specifically should these requests go to? Secondly, is there a set process/schedule for review and approval of alternative requests? Given the short period allowed, can we assume approval after a certain period?	A. Requests for alternatives should go to the people listed in Enclosure 1: For questions on the CISWI test plan, including units selected to test, test methods, reporting mechanisms other than the ERT, contact Brian Shrager; For questions or approval of alternative methods contact Peter Westlin, Gary McAlister. For questions on reporting data in the ERT contact Ron Myers or Barrett Parker. Email addresses are listed in the enclosure. You should check the question and response compilations on the web site to see if your questions have been answered already. You should not assume approval without a response from EPA either directly or through the Web site.
Administrative	Q. Several of the test methods are not approved by EPA. Will this create legal issues that could negate the data gathering efforts and expenses?	A. Assuming that this question refers to methods identified in the enclosure table that are not proposed and promulgated test methods (e.g., OTM 27 and 28), we believe that the answer is no. For the purposes of this data gathering in support of regulatory development, we are confident and intend to rely on data collected with these and other approved test methods provided that testers and analysts have followed and validated the results in accordance with those procedures.
Administrative	Q: How do we handle testing for a seasonal operation unit that will not operate until after the 114 deadline?	A. Contact Jim Eddinger (for boilers) or Brian Shrager (for CISWI) by e-mail to discuss extension or potential substitution for your unit.
Administrative	Q. There appear to be some discrepancies between the spreadsheets that were sent out to stakeholders and the testing requested at different facilities. Can EPA provide an updated spreadsheet of test facilities and requested pollutants?	A. The people receiving letters are on the most recent spreadsheet. Modifications were made to the facility list to accommodate for shut-down facilities or if the specific units had been decommissioned from the type of operations reported in the combustion survey. Those units were replaced with other units to be tested. Some additional confusion may relate to the HF and metals testing. If a unit already submitted HCl data, HF testing was not required. If Cd, Pb and Hg had already been tested (section 129 metals), testing for other metals is not required. For each facility that received a letter, perform the tasks identified in the letter and not what is listed on the spreadsheet. EPA will post a spreadsheet of test requests to the test Web-site.
Audit Samples	Q: How do I obtain audit samples for testing beginning next week?	A. The test methods audit program is designed to support compliance testing and is not really intended for this type of time intensive and comprehensive testing program. As far as possible, we will respond to requests for audit materials but we expect to be unable to respond to all requests. Check with the audit sampling group at EPA (http://www.epa.gov/ttn/emc/email.html#audit) about availability of materials.
Audit Samples	Q: Will the EPA request or provide audit samples for any of the test methods.	A. The answer is dependent to some extent on the availability. EPA has some audit samples but likely not enough for every test required for the program. EMC will develop and post a policy on how and when to request audit samples and for which pollutants audit samples should be requested.
30 Day Process Monitoring	Q. With the accelerated testing plan, our facility has a scheduled facility shutdown for the last 2 weeks of August. What does this mean for 30 day testing periods? Are you talking 30 calendar days or continuous operating days? We can't afford to	A. The testing should span 30 process operating days. These days need not be contiguous if there are unavoidable shutdowns during the monitoring period.

	postpone the scheduled work!	
30 Day Process Monitoring	Q: Enclosure 1 requires process information for the 30 day period before and during the emission tests. It doesn't state the averaging frequency, so we assume a single value that covers the entire 30 day period for each parameter will suffice.	A: This is not true. The 30-day period of process data should be reported on a daily average basis. See the 30 day process data template on the combustion testing Web site http://www2.ergweb.com/projects/combustion/combustiontesting.html.
30 Day Process Monitoring	Q. What interval and data reporting format are requested for process data? Is the period one period of 30 days before and through testing or the 30 days before and the 30 days after testing?	A: The 30-day period of process data should be reported on a daily average basis. See the 30 day process data template on the combustion testing Web site. The 30-day period should reflect 30 continuous operating days, including the period when stack testing was performed.
30-day Emissions Monitoring	Q: For the '30-day variability" temporary CEMS on the six (6) required facilities, may we obtain the CH4 Methane values during the regular RM testing and the associated average of three (3) RM runs for Methane, this as long as the results are relatively low (would be expected, most cases) and the results are fairly stable?	A. No. Instead, you need to measure the methane concentration in relation to the THC number for the entire 30 days (see also the Methane/THC related questions below).
30-day Emissions Monitoring	Q: Is PS testing required to certify temporary CO and THC monitors?	A. If you determine to use existing CEMS to collect these data, the answer is yes. The enclosure references the application of PS4 and PS8 for certifying CO and THC CEMS. Alternatively, you may use EPA Methods 10 and 25A (and Methods 3A, 6C, and 7E, as appropriate) to collect data continuously over the 30-day monitoring period. If so, the test run period for the purposes of the post-run system bias check and drift assessment (e.g., Method 7E, section 8.5) is 24 hours. If you conduct the testing with a reference test methods, the corresponding performance specifications do not apply for the purposes of this program.
30-day Emissions Monitoring	Q: Is a moisture monitor required for converting THC to dry basis for 30-day continuous monitoring? Can we use an alternative approach (i.e. saturation or multiple M4's)?	A. Yes, you may use any measurement or estimation procedures for this moisture determination. You do not need to measure moisture content of the stack gas continuously. You must document and justify the procedure for making those moisture corrections. Moisture levels in natural gas combustion processes are near constant relative particularly relative to other variables (e.g., pollutant concentration). This is generally true for any site-specific fossil fuel combustion process. In that light, we agree that one can use data from a short term performance tests to adjust long term data collected while the process is operating with the same fuel.
CEMS in lieu of Stack Testing	Q: Enclosure 1 contains a note regarding CEMS data stating that historical data from existing CEMS (daily averages for last 30 days) can be submitted in lieu of conducting testing for these parameters. How recent, relative to the coming test date, must the last RATA (performance certification) have been conducted to be able to use the historical data in the report in lieu of	A. Data from a RATA conducted within the previous 12 months along with data and assessments of the daily CEMS drift checks (e.g., per 40 CFR 60.13) will be sufficient to verify the CEMS data quality. Data from a CEMS subject to the requirements of appendix F, procedure 1 of 40 CFR part 60 or satisfying 40 CFR part 75 will also be of sufficient quality for the purposes of this program.

	testing?	
Boiler - prior data	Q: Page 1, Section 1.0, paragraph 3 of Enclosure 1 states "You may have submitted some of this test data already." Would a source owner need to test again or can he re-submit data collected for these pollutants during the health based risk assessment testing for the previous MACT?	A. For boilers and process heaters, we are also using the results of these tests to address the appropriateness of certain surrogates. Therefore, you must test for all pollutants listed in your Section 114 letter regardless of other tests previously conducted.
CISWI	Q: Some regulated areas allow for the knowledge of the processed raw material to relieve some sampling requirements. If the material targeted for decomposition is uniform in makeup, constant, and can be shown not to contain a test material target, can the analysis be skipped? For example, if the paint we decompose has no chorine component, can test sample analysis for chlorine or chlorine containing constituents like HCl be waived? More critically, if we can demonstrate the absences of F, CL, Br can our costs for analysis of furans & dioxins be waived? The fuel used in this oven is natural gas.	A. The answer to each of these questions is no, we can not waive testing for these pollutants. For the CISWI emissions assessment, EPA has information indicating that trace amounts of chlorine can result in dioxin emissions. As of now, we expect to develop numerical emission for each compound. Without test run data we can not evaluate or establish such limits. Similarly, we will need to establish numerical limits for the revised boiler rule for each compound and each subcategory. We need test data for all fuels including those with low chlorine or fluorine or bromine concentrations.
CISWI	Q: With regard to CISWI units that burn a small amount of material to recover the heat content in a boiler which normally burns natural gas. The alternate fuel is only burned on a periodic basis. Since normal operation is to burn natural gas would we conduct the test during the combustion of natural gas? If you would require the testing during the combustion of the alternate fuel and since the amount of alternate fuel is small and variable could you address the fuel combustion requirements during the testing?	A. We can not answer this question definitively. Contact Brian Shrager offline to discuss the particular fuel blend for conducting the test. In general, since these data will be used to develop a standard for units burning waste material, you should operate your unit during the testing burning the maximum amount of alternate material that you consider typical for your unit.

CISWI	Q: Our section 114 letter requests the facility to test for filterable PM, and PM 2.5 and SO2 on our biomass boiler. What parameters are we required to be tested for in the biomass fuel?	A. We request that you test for the pollutants that are listed in your Section 114 letter. If your unit is a biomass boiler on the CISWI list, then no fuel analysis is required. If your unit is a biomass boiler on the Boiler/Process Heater list, you are required to conduct fuel analysis on all parameters listed in Section 2.0 of Enclosure 1 of your Section 114 letter.
CISWI	Q. Is it acceptable to submit the results of the Method 5B test for the PM CISWI testing?	A. No. For the purposes of this data collection program, we need be able to compare data collected on the same basis including with the same or similar test methods conducted under the same conditions. This means that we need to have Method 5 samples collected at ≈250 F filter temperature and using the analytical finish as prescribed by that method. Method 5B is operated at ≈320 F filter temperature with an analytical finish is not the same method that will, for some facilities, produce results different than would Method 5 testing. You must use EPA Method 5 (or Method 29 when used for PM measurement) as specified in the enclosure for the filterable PM measurement. That is not to say that we are not interested in reviewing the data you collect with Method 5B. You may submit those data along with the required data in your report in order to help us in our decision making.
CISWI	Q. What are minimum run times for all sampling during CISWI testing? Dioxins/Furans? Metals (Cd, Hg and Pb)? PM/CPM/PM2.5? HCL/HF? NOx, SO2, O2, CO? I assumed it was 4 hours on D/F, 2 hours on metals and 1 hour on the rest.	A. Your assumptions are not quite correct. For the CISWI testing program, we request 4 hour sampling times for D/F and metals. The sampling times that you list for the other pollutants are appropriate. If a facility's typical operating cycle time is less than 4 hours, it would be acceptable for the test run times to correspond to the duration of the operating cycle for the D/F and metals testing.
CISWI - metal parts/ burn-off ovens	Q: We need additional guidance addressing the burn time of the oven when conditions are not sufficient to ensure accuracy or even a result from the required testing? Thank-you.	A. EPA is developing policy to address burn-off ovens. If you need to be on the e-mail to follow-up on this specific topic, contact Brian Shrager directly.
CISWI - prior data	Q. For CISWI sources are there acceptance criteria relative to data collected prior to the ICR that need to be met. For example, if the test data are from a compliance test accepted by the regulatory agency, are those data acceptable for this program? What is the status of data collected during testing for pre-compliance or engineering purposes?	A. You may submit data from compliance testing for a CISWI unit and in lieu of testing if the test data are from a compliance test that the regulatory agency has reviewed. You may submit data from other testing (e.g. pre-compliance or for engineering purposes) if you can document clearly that the testing has met meet the basic criteria of the test request. This includes, at a minimum, the tests consist of at least three test runs and that the process operations are documented well enough that EPA can determine the operating conditions. Finally, in order for such tests results to be acceptable, you need to document that the unit was tested under the same configuration at which it is currently operating.
Common Stack/Multiple Stacks	Q: One of our boilers to be tested under CISWI requirements has two stacks; do we need to conduct the required tests on each stack or only one would be enough?	A. Contact Brian Shrager directly by e-mail to discuss testing your unit.
Common Stack/Multiple Stacks	Q: Several affected boilers have multiple exhaust stacks. Will simultaneous testing be required on all exhaust stacks since the emission units are concentration based?	A. Assuming the stacks are more or less identical in terms of control devices and flow rate directed to each stack, it would be sufficient to test a single stack and document in the test report that it is a multi-stack unit and that a single stack was tested.

Common Stack/Multiple Stacks	If the unit designated to be tested shares a common APC and stack with another unit, how would EPA prefer the testing to be performed (single unit or combined operation)?	A. Contact Jim Eddinger by e-mail for discussion site specific conditions. The answer will depend on whether the units feeding the common stack are identical in design and fuels burned.
Dioxin/Furans	Q: Combining MCl and toluene rinses will create problems for the lab conducting the DF analyses. Example: loss of sample and cross contamination during the concentration step. MC or acetone rinses should be kept separate to ensure sample integrity.	A. EPA will allow, and recommends, eliminating a MC rinse and using only an acetone rinse followed by a toluene rinse. EPA agrees and suggests that the tester provide separate rinse samples to the lab and let the lab perform the proper combinations.
Detection Limits	Q: Please clarify the reasoning for the 4 hour metal test runs. These seem quite extensive and it is not clear what advantage will be gained by more than doubling the standard run time for this method.	A. The Court decision dictated that we collect data for all HAPs, including emissions data from sources that emit very low concentrations of metals, in order to determine the best controlled facilities and develop effective regulations. The longer sampling times will allow for those assessments and assure to a large degree, that all the testing data will be of a quality sufficient to identify and quantify those low level emissions rates. We will need to consider all of the measurement related factors including level of detection in developing the regulations. The test plan with longer sampling times is intended to minimize the number of non-detect results. We also need sources to report the detection limits and whether non-detects occurred during any of the stack tests so that we can assess the variability of detection limits for different pollutants and applications.
Detection Limits	Q: WRT HCHO methods - what is the desired detection limit?	A: EPA is not specifying numerical detection limits; instead we have specified testing conditions and methods, including test run times, which we believe will provide data of a quality sufficient for decision making. We encourage testers to apply procedures for obtaining and documenting the lowest possible detection limits considering practical limitations.
Detection Limits	Q: For stack test results, if the lab result is non-detect, should the MDL be used as the sample catch or should the pollutant be reported as ND?	A. No to both options. We need for you not to adjust any data to detection levels or any other factor. Instead, we request that you report and provide all of the data including the analytical results as measured, the applicable detection limits, and the procedures used to determine detection limits. EPA will assess the quality of reported data including any restrictions resulting from the in-stack detection limits.
Detection Limits	Q: Method 23 - will EPA accept analytical modifications to improve minimum detection limits such as eliminating the archive split?	A. Yes, a lab may choose to eliminate the archive split to improve the detection limit. Note that this is an option; you are not required to eliminate the archive split.
Detection Limits	Q: Existing field test data for gas-fired boilers/heaters indicates measured formaldehyde concentrations between 10 and 100 ppbv. How will EPA assure that all the methods it is allowing are capable of making accurate measurements within this range without specifying target detection limits?	A. From information we have gathered, we believe that there are testers and equipment capable of measuring formaldehyde at levels lower than 10 to 100 ppbv. It is the testers' and ultimately the sources' responsibility to select and conduct the test methods in a manner consistent with achieving the lowest practical detection limits appropriate for the emissions concentrations expected for a particular unit and reporting the detection limit assessments with the measurement results. With this information, we can assess more accurately any effect that the quality of the data might have on the emissions determinations.
Emissions calculations	Q. Many of the results are reported in lb/MMBtu; I have assumed that these calculations would be done in accordance with Method 19 using published f factors for the fuels burned during the tests. The	A. We agree that the procedures in Method 19 are applicable for these calculations. One may opt to use the data from the site-specific fuel analyses to develop F-factors as per the equations in Method 19 or one can use the default F-factor values published in Method 19 for each fuel type used.

	analyses required on the fuel (e.g., HHV) do not include determination of an f-factor.	
Emissions calculations	Q. This document says above Table 1.2 "all pollutant concentrations should be corrected to 7% O2". In the table not all of the pollutants are corrected to 7% O2. For example PM is listed as lb/MMBtu. Should we also report PM, metals, etc on a concentration basis corrected to 7% O2?	A. No. The reference to 7 percent O2 in the introduction to the boiler testing table 1.2 is misleading and incomplete. For the boiler testing, one needs to calculate and report the emissions values only in the units specified for that component in the enclosure 1 table. That is, the correction to 7 percent O2 applies only to the data with units of measure specified as ppmvd @ 7% O2. You need not correct data to 7 percent O2 if the table specifies a lb/mmBtu unit of measure. The calculations for reporting in units of lb/mmBtu require correction to 0 percent O2 as per the procedures in Method 19. For the CISWI testing table 1.2, the reference to corrections to 7 percent O2 in the introduction is consistent with the measurement units requested; all reported data are to be corrected to 7 percent O2.
Gas Units	Q: If you operate a device that combust gaseous vents, and none of these streams involves halogenated or metallic compounds, nor is there any point within the process where halogenated substances might be introduced is there an opportunity to exclude the halogenated parameters or metals based on the process.	A. No. You must conduct a stack test for all compounds listed in the section 114 letter. You need not conduct fuel sampling and analysis for gaseous fuels.
Gas Units	Q: Must metals and acid gases be tested for natural gas fired units?	A. Yes, to respond to the Court decision that standards must be developed for all HAPs for all source categories. Until there are data to support a decision otherwise, we must collect data to assess and develop the standards.
Gas Units	Q: In one part of this discussion it was mentioned no gas fuel sampling but in another it was mentioned natural gas should have full haps tests. Which one is correct? There are no test methods for gases listed, how do we do this?	A. Owners of gas-fired units are required to conduct the full range of stack tests, as listed in the Section 114 letter. Owners of gas-fired units are not required to conduct fuel sampling and analyses. Fuel sampling and analyses apply to solid and liquid fuels in addition to the stack tests. For units that fire a combination of solid or liquid fuels with gaseous fuels, the fuel analysis would only have to be done on the solid and liquid fuels. No fuel analysis is required for any gaseous fuel component of such fuel mixtures.
Methane/THC	Q: How should we express THC results? As methane, propane, carbon, etc.?	A. See the methane and THC tabs on the emissions test template: http://www2.ergweb.com/projects/combustion/EmissionTestTemplate_BLR_061509.xls and http://www.epa.gov/ttn/emc/guidlnd/gd-051.pdf
Methane/THC	Q: For methane analysis, can we use a methane/nonmethane or methane cutter analyzer? Can CH4 be determined by using a FID equipped with a non-methane cutter?	A. Instruments that use a chromatographic column to separate methane from the other organic compounds in the sample (a "splitter") may be used to measure total gaseous non-methane organics (TGNMO) during the 30-day monitoring period.
Methane/THC	Q: We understand that a non-methane cutter is not allowed for performance testing, but is the monitor described in 3.1.2 for continuous monitoring not a non-methane cutter?	A. Yes. The relevant language is in 3.1.2 of Enclosure 1: "Monitors that apply a chromatographic column switching between forward and back flush modes may also be used to satisfy this monitoring requirement." See also the response above.
Methane/THC	Q: a) If neither the CH4-cutter nor a splitter is acceptable for determining CH4 during the Testing Phase with RMs, would either of these acceptable for determining TGNMO	A. a) See above for responses relative to use of methane cutters. b) Yes. By definition, neither methane nor ethane is a VOC, so both may be subtracted from a total hydrocarbon (THC) measurement to produce a VOC result. However, for the purposes of this data gathering, we are interested in measuring THC and TGNMO not VOC, so methane should be measured and subtracted from the THC measurement, but ethane should not be subtracted.

	during the 30-day temporary CEMS? b) Because (in the past) EPA has considered C1 and C3 as being treated the same, are the procedures here for these tests planning to deal with C1 and C2 as one entity (i.e. together) whenever your requirements mention CH4?	
Methane/THC	Q: For the CH4 Methane when required during the three RM test runs (at any site in either App. A or B), if a GC in not available for M18 in the field, my we use either M25 Canisters (3 runs and 2 cans/run) or Tedlar bag or M25A with a non-methane splitter/trap?	A. Yes, you may use canisters or Tedlar bags when applying Method 18. In addition there are other options available for CH4 measurement such as FTIR.
Methane/THC	Q: Can the VIG's instrument be used to measure THC and methane simultaneously?	A. Yes. A VIG is an instrument that uses a chromatographic column to separate methane from the other organic compounds in the sample (a "splitter") and may be used to measure total gaseous non-methane organics (TGNMO) for sources that are required to monitor THC and TGNMO for 30 days. It may also be used to measure THC and TGNMO for sources that are not required to perform 30-day monitoring.
Method 320	Q: Can method 320 be used for CO2, SO2, NOX and CO?	A. Yes, you may use the FTIR analyzer for these compounds by adhering to the QA/QC and other procedures in the respective test methods - Methods 3A, 6C, 7E, and 10.
Method 7E	Q: Did the use of Method 7E criteria include the drift correction calculation of the 24 hour run data?	A. Yes, when applying the reference test method in lieu of a CEMS, the drift check is required every 24-hours. You can conduct a drift check and correction more frequently, if desired. This also applies to measurement of CO, O2/CO2, and NOx using reference test methods.
Multi-fuel Units	Q: What if a facility fires multiple fuels (fuel, coal, wood chips), which should be used during the stack testing and which should they conduct the fuel variability study on?	A. Fuel variability testing should be conducted on each fuel that was used during the stack test. The stack test should be conducted using a typical blend of fuels.
Multi-fuel Units	Q. Our boiler is capable of burning either natural gas or landfill gas. We rarely use natural gas, as landfill gas is the least expensive fuel. Are we required to perform the test for each pollutant on both fuels, or can we conduct the test on the most prevalent fuel – landfill gas?	A. We request that you test on landfill gas, the primary fuel, if you are capable of firing one or the other.
Multi-fuel Units	Q: If a facility uses multiple solid or liquid fuels but can only use one fuel at a time do they have to conduct tests on each fuel?	A. No, if you are capable of firing multiple fuels but fire only one fuel at a time, you will conduct the test for the unit on only one fuel. If you fire fuel oil only during periods of gas curtailment, you will test the unit firing gas only. If a unit fires fuel oil during periods other than gas curtailment, you will test the unit firing fuel oil only. If you are capable of firing coal and other fuels you should test firing coal. If you are capable of firing biomass or other fuels, you should test the unit firing biomass. If you are capable of firing a blend of fuels, you should conduct the testing firing a typical blend of fuels.
Multi-fuel Units	Q: If a fuel was listed in the 114 letter but that fuel is not normally burned, does a fuel analysis have to be performed on that fuel? What about a fuel normally burned that was not in the 114 letter?	A. No, you need not sample or analyze a fuel not normally used for your facility. You should fire the combination of fuels that is normally burned in the combustion unit. You should conduct fuel analysis and report for the fuel that was burned during the stack test.

Multi-fuel Units	Q: Footnote #2 in Table 1 - For conducting stack testing using the fuel blend as reported through the 2008 Combustion Survey, the ratio reported was an annual average. The fuel blend is used approximately 80% of the time. Therefore the annual average reported is lower than what is typically run when using the blend. Which blend should be used during the stack testing? The annual average or what is typically run when using the blend?	A. We want the testing to occur with the relative blend of fuels that is typically used when firing a particular combination of fuels.
PM	Q. Are Methods 5 and 202 considered equivalent to OTM 27 and OTM 28 for filterable PM and Condensable PM, respectively?	A. Not equivalent. Method 5 filterable PM represents the mass of all solid or liquid particle sizes while OTM 27 filterable PM represents the PM2.5 fraction only. We specify the use of OTM28 in lieu of Method 202 because OTM28 minimizes artifact production while producing the mass of condensable PM irrespective of the filterable PM testing method. Those differences mean that the measurement results of the two combinations of test methods are not equivalent. For these reasons, we specify the use of OTM 27 and OTM 28 in combination when measuring PM2.5 mass emissions. In the cases for which OTM27 simply can not be used (e.g., liquid droplets in the stacks, very high temperatures), we default to the use of Method 5 (out-of-stack filter) used in combination with OTM28.
PM	Q: I understand you to say that we can use Method 5 rather than 8.3.1.1 and 8.3.2 of Method 29 or the combination of cyclone and filter catch of OTM27, if desired. This was not clear in the 114 letter. Please confirm.	A. Yes, we agree that the preferred method for measuring filterable PM is EPA Method 5 (or Method 17, if applicable), but use of sections 8.3.1.1 and 8.3.2 of Method 29 is also acceptable. We discourage using the combination of the cyclone catch and filter catch of OTM 27 to determine filterable PM.
PM (filterable)	Q. The filterable PM emissions measurement can be accomplished using the same components (filter and acetone probe rinse) from EPA Method 26A or 29, or OTM 27 or the cyclone catch from OTM Method. Can any of these filterable PM measurement methods be used as an allowable variation to the test plan?	A. Methods 26A and 29 are options for measuring filterable PM in this test program. As stated earlier, Method 5 or 17 would be the preferred method for this determination. See also the response above regarding use of OTM 27 for this measurement.
PM (filterable)	Q: Enclosure 1 provided with the Section 114 letters notes collecting the filterable PM emissions sample using both EPA Method 29 and OTM Method 27. Is EPA's intent to collect two sets of filterable PM emissions data for each unit, or is filterable PM measured once via either method acceptable?	A. No, we prefer the reporting of only one filterable PM value. We request that filterable PM be measured and reported using either Method 5, Method 26A, or Method 29. Of course, you also need to report OTM 27 filter mass data in determining filterable PM2.5.
PM 2.5	Q: The test plan states that PM 2.5 plus condensable PM are to be measured concurrent with the metals	A. Yes. We realize that conducting Method 5 concurrently with Method 29 plus OTM27/28 may not be possible logistically in some cases. As noted in the earlier summary document, you may use the Method 29 to report filterable PM eliminating the need for a separate Method 5 sampling train.

	runs. Is it also necessary to measure filterable PM at the same time as the metals sampling.	
PM 2.5	Q. The cyclonic probe head for OTM Method 27 (PM2.5) requires a set of isokinetic ports with 6-inch openings. Most units are equipped with 3-inch or 4-inch isokinetic sampling ports. If 6-inch ports are not available, can this sampling be waived?	A. No, there should be no need to waive this testing for lack of a 6-inch port. If you use only the PM2.5 cyclone (i.e., not the combination of the PM10 and 2.5 cyclones), a 4 inch port is adequate. If there are physical reasons prohibiting the use of OTM 27, the default test method is EPA Method 5 combined with the OTM 28 for measuring the condensable portion. The test report must make clear the methods used and under what conditions.
PM 2.5	Q. Preliminary investigation has shown that the analysis of PM2.5 may not be possible because of high exhaust gas temperatures negating the use of in-line filters. How will this situation be addressed?	A. The situation of high stack temperature is similar to that for stacks with liquid water droplets when it comes to measuring the filterable component of PM2.5. That is, the current technology is not suitable for the application. In that light, the answer to your question is also similar to the answer we have provided for stacks with entrained water droplets. That is, the default test method is EPA Method 5 combined with the OTM 28 for measuring the condensable portion. The test report must make clear the methods used and under what conditions those methods are applied.
Sampling Times	Q: If 4-hour runs and 1-hour runs are required simultaneously does it needs to be run for run or can 3 1-hour runs be run with 2 4-hour runs? Metals and pm	A. For concurrent testing to satisfy the Boiler request, you should extend the sampling time for all test methods to correspond to the longest test run time (e.g., four hours). If you encounter a capacity issue with any of the test methods (e.g., filter loading), you may conduct two or more test runs the total of which corresponds to the longest run time. See above for the response to this issue for CISWI units.
Sampling Times	Q: For emissions sampling where a minimum sampled volume or a minimum sampling time is noted, is one target preferred to the other?	A. You may end a test run before the end of the specified run time if you have collected the minimum sample volume. When conducting concurrent sampling with multiple test methods, continue sampling with all the methods until you have met the minimum sample volume specified for each of the test methods.
Sampling Times	Q: CH2O testing minimum for EPA M320 in my letter is 2 hours or 2.5 m3, why the difference in the Q&A?	A. There was a typographical error on our part when we drafted the table. The 2 hours or 2.5 m3 criteria apply to the use of Method 0011, not to the Method 320 sampling.
Sampling Times	Q: If we are able to run THC, CH4, CO, and Formaldehyde sampling simultaneously with D\F, do all 5 methods have to be run for four hours?	A. Yes, for the Boiler testing. For testing CISWI units, simultaneous and equal duration testing for these pollutants is not necessary (see above for the response to this question for CISWI applications).
Sampling Times	Q: If the unit selected for testing is tied to a variable batch process that cannot sustain loads for 4 hours, how should the testing be conducted?	A. If a unit is not capable of sustaining a prescribed sample time, conduct each test run for the length of the batch cycle. EPA would like to receive more information on this prior to conducting the actual testing, please send an email to Brian Shrager (for CISWI) or Jim Eddinger (for boilers) concerning this issue.
Sampling Times	Q. Prior Method 29 test runs we've conducted have been 2-hours in duration and occasionally 3-hours. This sample volume has always been adequate even for the risk assessors. Why the need for a 4-hour sample and/or 4 M3	A. One purpose of the testing in this program is to assess if and to what extent a correlation may exist between PM and metals emissions control. In order to do that, we need representative metals emissions data, especially low concentrations, collected simultaneously with the PM data spanning the same time period.
Sampling Times	Q. For the sample sizes for metals and D/Fs, for the ~ 140 dscf and/or 4 hours, and to achieve a more optimal DL for each analyte, etc., may we run	A. Yes, you are welcome to enhance the prescribed sampling and lab work to improve your detection limit. Please document changes in the sample volume and other procedures in the report when you submit it.

	at a sample rate > 0.5 cfm (i.e. ~ 1.5 cfm) and add 3-5 more impingers, as needed for greater condensate portion efficiency, and thereby obtain maybe 300 dscf in the same time?	
Sampling Times	Q: Are you requiring a minimum sample volume or run time for formaldehyde testing by SW846 Method 0011?	A. Yes, there was a typographical error on our part when we drafted the table. The 2 hours or 2.5 m3 criteria apply to the use of Method 0011, not to the Method 320 sampling.
Sampling Times	Q: NCASI suggests run times of 4 hours for PM and metals, 3 hours for PM10, PM2.5 and CPM, and 4 hours for dioxins? Does EPA agree with this or what run times does EPA recommend?	A. These are not the run times applicable for boiler testing. As noted earlier, we are requesting 4 hours sampling times for each test method for the Boiler testing. See also the responses to the CISWI issues above.
Sampling Times	Q: Do THC and CH4 also then need to be run for the duration of the Formaldehyde and/or D/F testing even though the enclosure says run CH4 for one hour?	A. Enclosure 1 is in error. The THC and CH4 sampling time should be the same as formaldehyde and D/F testing, 4 hours.
Simultaneous Testing	Q. How flexible is EPA on the simultaneous testing requirement? What is EPA's priority for co-collecting samples if the physical constraints of the stack sampling ports do not allow for the collection of all samples simultaneously?	A. We recognize that physical constraints may make testing difficult logistically and will work with particular facilities to resolve such issues. Contact Jim Eddinger directly if the configurations at your facility clearly prohibit the simultaneous operation of multiple sampling trains. Please prepare a suggested alternative sampling scheme that you believe will produce comparable results before contacting EPA.
Simultaneous Testing	Q: With regard to Footnote 5 to Table 1 can the filterable PM testing be performed using one of the other sampling trains besides Method 29 if the train is operated concurrently with Method 29?	A. Yes, see response above relative to the use of Method 5 or 17.
Simultaneous Testing	Q: If a facility only has 2 ports for isokinetic samples, is it required to add ports to allow for simultaneous trains?	A. No, EPA does not anticipate requiring new test ports to be installed in order to conduct this testing. Logistically, one can conduct simultaneous testing with only two sets of ports. It requires traversing two trains at the same time and then alternating ports. Contact EPA if there are unit-specific constraints on conducting simultaneous testing.
Simultaneous Testing	For boilers do metals, PM, Pm10, PM2.5, and CPM testing have to be run simultaneously? Can dioxin be run as 3 separate runs?	A. For this program, EPA is not asking for PM10 emissions data. See other responses above relative to simultaneous and concurrent testing runs for both Boiler and CISWI tests.
Simultaneous Testing	Q: Can the PM2.5 test be combined with the metals? PM2.5 has a metal cyclone not allowed by Method 29?	A. No. It is not appropriate to combine the OTM 27 cyclone and the metals test methods.

Small Units	Q: How does EPA anticipate that simultaneous testing (any testing, for that matter) can be performed for pollutants like particulate matter (including PM2.5 and condensable PM) on small gas-fired units (e.g., gas fired water heaters <10 mmbtu/hr) when the discharge stack diameter may be too small to accommodate the PM2.5 sampling apparatus and/or the simultaneous testing of PM and metals?	A. EPA recognizes this as an issue, but expects that facilities can test from multiple ports at different elevations. If blockage problems still exist, contact EPA to discuss alternatives.
Solid Waste Definition	Q: What was the date for the previously mentioned ANPRM from the presentation?	A. January 2, 2009. See: http://www.epa.gov/fedrgstr/EPA-WASTE/2009/January/Day-02/f30987.pdf
Start-up Shutdown and Malfunction (SSM)	Q. I assume EPA does not require any testing under this 114 request to be done during startup/shutdown conditions. Is this correct? If a 30 day test is interrupted with a forced shutdown for some period of time such as less than two weeks and the unit is restarted, is the elapsed test time to be based on operational days or calendar days? In other words, would the testing need to resume at restart so that 30 days of operation are covered? If so, what is the maximum interruption allowed? Recognize that any delays will extend the time for reporting results.	A. Yes, we agree that these stack tests should not be conducted during periods of SSM. For the purposes of this program our definition of malfunctions corresponds to any sudden, infrequent, not reasonably preventable failure of the process or control device resulting in extraordinarily high emissions. On the second part of your questions, for those facilities that were selected to conduct 30-day monitoring for CO and THC, if a SSM occurs during the 30-day period the data collected during the SSM period should be noted and the corresponding CO and HC readings should be recorded. See column J of the COHCMonitoringTemplate.xls on the test plan web-site for how to report SSM. In any case, days corresponding to SSM periods do not count towards the 30 operating day monitoring period.
Submitting Results	Q: Section 4.1 of Enclosure 1 states that we must use ERT for certain methods. Section 5.0 says to submit all data "in the same way." How do we resolve this?	A. Section 4.1 is referring to how the data must be collected and reported. Currently the ERT does not support all of the test methods required by this boiler and process heater test plan. Depending on the type of method used to conduct the test, either the ERT will be used to report the data, or one of the Excel data reporting templates (http://www2.ergweb.com/projects/combustion/combustiontesting.html) will be used to report the data. Section 5.0 is referring to how you submit the data and EPA asks that you submit all of the data in the same way, either by uploading all of your files to the FTP site provided, or by mailing a CD or DVD containing all of your files to the EPA. This will eliminate the possibility of submitting duplicate data.
Test Burns	Q: On page 2 of the ICR letter, EPA requests that the facility submit any existing emission test data from test burns conducted at the combustion unit that were not previously submitted during the combustion survey. Is EPA requesting ALL test data, or only data on the	A. Yes, we agree that whatever emissions and supporting process data you can submit will be helpful. Any existing data will help in terms of determining variability and will support decisions relative to additional fuel types.

	specific fuel for which testing is being requested under the ICR?	
Test Burns	Q. On page 2 of Enclosure 1, you request emission test data from "test burns" that were not previously reported. Can you clarify what is meant by a "test burn"? Does this mean routine stack tests done in the past or the more classical test burn definition where a test is conducted to demonstrate emissions from burning a new or modified fuel?	A. Data from a test burn for the purposes of the CISWI data collection means any data gathered using EPA test methods during a test comprised of at least 3 test runs and when burning solid waste materials as reported in the ICR.
TSS and TDS	Q: Can you provide any guidance for sample preservation for TSS and TDS samples?	A. The general sample collection and preservation requirements referenced in ASTM Standard D5907 for water (for example D3370 Practices for Sampling Water from Closed Conduits) or in the *Standard Methods for the Examination of Water and Wastewater* are acceptable for the TSS and TDS samples.
TSS and TDS	Q: Is a total solids test necessary on boiler scrubber liquid if the scrubber does not recirculate its scrubber water (if the scrubber uses fresh water only)?	A. Yes, we need to know what solids may be present in fresh water used as separate form solids that result from entrained particulate in the scrubber liquid.
Typical Operating Conditions	Q. Please define "typical operations."	A. For the Boiler MACT testing, typical operations is maximum average load at which the unit normally operates. For the testing of CISWI units, you should operate burning the materials that reported in the ICR at a load and within 10 percent of the maximum charge rate with which the unit is operated. In neither case should the test data represent emissions collected during any SSM episode (see above for discussion of SSM).
Typical Operating Conditions	Q: Table I talks about testing the boiler at loads that represent typical operation and using a fuel mix that reflects the typical fuel mixture. Given that the MACT limits will apply at all times, I assume that typical means conditions that the boiler has operated under in the past and includes so called "worst case" conditions for loads, fuel mix and other factors that may influence emissions. This seems consistent with your response on soot blowing.	A. This is a reference to typical conditions at the unit including maximum capacity for load or fuel feed at which the unit normally operates. Worst case conditions, for the Boiler MACT, correspond to the fuel blend typically combusted or the fuel type if a blend is not typical, that would result in the highest HAP emissions. For example, if the unit operates on either gas or oil, we would request that the testing be done on oil (except if oil is combusted only during periods of gas curtailment. Units that burn either coal or oil would conduct the testing burning coal.
Typical Operating Conditions	Q: The Stack test should be done with the boiler at maximum possible load or at the typical load for the facility? What is typical? Typical at summer months is low load, winter high. Some boilers cannot operate at maximum loads in the summer.	A. Contact Jim Eddinger (boilers) or Brian Shrager (CISWI) to discuss schedule and/or operating loads for your facility.
Unit Preparation for Stack Tests	Q. Must we explicitly include or exclude soot blowing conditions as part of typical operations for	A. You should consider soot blowing as part of the normal functioning of your operation unless you can document otherwise and you should conduct at least one test run for each of the pollutants to include soot blowing period(s).

	testing?	
Unit Preparation for Stack Tests	Q: How about grate cleaning? Should grates be cleaned during the stack test?	A. Please contact Jim Eddinger (boiler testing) or Brian Shrager (CISWI testing) directly to discuss the procedures and how to represent them during these tests.
Unit Preparation for Stack Tests	Q: Does EPA see any concern if a plant either had just had an annual turnaround prior to the suite of 115 tests, or had just completed a specific Combustion Efficiency Optimization and Tuning Program? Would EPA encourage a plant to do any such tuning prior to testing or not?	A. No, we make no distinction in the selection of facilities as to the most recent facility tune-up or maintenance. Further, we do not expect a source owner to tune an emissions unit prior to the testing period beyond normal maintenance activities. You should include information relative to the condition of the unit including recent upgrades or maintenance in the test report submitted to the agency.