Test Plan

Facility:	Johnson Controls
Source:	Lead Acid Battery Recycling
Permit #:	1040-0129
ID #:	NA
Plan Submittal Date:	November 21, 2012
Type of Testing:	NOx, CO, & VFR RATA
Location:	Florence, SC

December 12, 2012

Mr. Timothy Lafond
Johnson Controls Battery Group, Inc.
1800 Paper Mill Road
Florence, SC 29501

RE: Lead Acid Battery Recycling Facility Initial MACT and Permit Test Plan – Revision 1 Dated October 15, 2012 and NOx, CO, VFR Relative Accuracy Test Plan Submitted Electronically on November 21, 2012

Dear Mr. Lafond:

The referenced site-specific test plans are approved by the Department contingent upon the following:

1) If upon inspection the Department does not agree that SO2, NOx, and CO would be the only pollutants emitted from stack 11A, additional testing for the pollutants listed in construction permit number 1040-0129-CA may be required.

2) The vent/stack for the tests conducted on Unit ID 12 – Refining Ventilation, must be approved prior to testing by Department test observers.

3) Per 40 CFR 63.546(a)(5), the EPA Reference Method 29 sampling volume per run for sources subject to MACT Subpart X must be at least 70 dscf.

4) The CEMS referenced in Section 3f of the plan must complete performance specification test certifications prior to or during the stack test. The final test report must include the results of the relative accuracy tests and the calibration drift checks along with monitor serial numbers.

5) Your request to submit the final test report 45 days after each series of tests is approved.

Any deviations from the plans, without prior approval from the Department, may be cause for rejecting the test results.

If I can be of further assistance in this matter, please call me at (803) 898-3897 or e-mail me at **fricklj@dhec.sc.gov**.

Sincerely,

L. Jake Frick
Compliance Management Division
Bureau of Air Quality

ec: Michael Shroup, BAQ
Quentin Best, CEC
Patrick Turner, Weston

cc: Compliance File: 1040-0129

Frick, Jake <fricklj@dhec.sc.gov>

Johnson Control Battery Recycling Facility RATA Test Plan

1 message

Turner, Patrick <Patrick.Turner@westonsolutions.com> Wed, Nov 21, 2012 at 12:26 PM
To: "Jake Frick (fricklj@dhec.sc.gov)" <fricklj@dhec.sc.gov>
Cc: "Sims, Gregory R." <Gregory.Sims@westonsolutions.com>, "peter.parchesky@thermofisher.com" <peter.parchesky@thermofisher.com>

Jake,

Please accept the attached test plan for upcoming relative accuracy audits that Weston Solutions, Inc. will perform at a later date for the Johnson Control facility located in Florence, SC. We are in the process of meeting with Johnson Controls to establish production schedules to support our tests. At the moment it appears the tests will be performed in late December or early January, 2013. A two-week notification letter will be submitted at a later date to establish a firm test schedule.

Note that access ports are currently being installed, with our input, to ensure EPA Method 1 criteria are met for this test program . As such, we currently do not have drawings available to submit with this test plan. EPA Methods 1 forms, in conjunction with EPA Method 2 differential pressures and cyclonic flow checks, will be conducted prior to testing.

Please forward this email as appropriate to ensure proper review and do not hesitate to give me a call with any questions. Thank you and have a Happy Thanksgiving.

Regards,

Pat

Patrick Turner

Weston Solutions, Inc.

1845 Ashley Hall Rd.

Charleston, SC 29407

843-469-5811 (Primary)

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Johnson Controls Battery Group, Inc
Florence Recycling Plant
Site-Specific Test Plan – NOx, CO, VFR RATA

Minimum Requirements for a Site-Specific Test Plan	
1. Facility Information	
a. Facility name, address, and telephone number, and name of facility contact.	Johnson Controls Paper Mill Rd. Florence, SC 29501 919-370-6951– Larry Burkett
b. Facility permit number and source identification number.	Permit No. 1040-0129-CA ID No. 06, 07, 08, 09, 11
c. Name, address, and telephone number of the company contracted to perform the source test.	Weston, Solutions, Inc. 1625 Pumphrey Avenue Auburn, Alabama 36832-4303 843-469-5811 (Greg Sims/Patrick Turner)
d. Name, address, and telephone number of the laboratory contracted to perform the analytical analysis of the source test samples.	NA
2. Test Objectives	
a. Description and overall purpose of the tests (for example, to demonstrate compliance, to establish emission factors, etc.).	Relative Accuracy determination of installed continuous emissions monitoring instruments for nitrogen oxides (NOx), carbon monoxide (CO), and volumetric flow rate (VFR).
b. Citation of any applicable State or Federal regulation or permit condition requiring the tests.	Air Permit No. 1040-0129-CA, Condition No. 51 & 52
3. Process Descriptions	
a. Description of the process including a description of each phase of batch or cyclic processes, and the time required to complete each phase.	Rotary Furnaces smelts lead, lead paste, cast iron, anthracite, and soda ash into lead and slag for the production of lead ingots as part of lead acid battery recycling.
b. Process design rates and normal operating rates.	ID06 Melter and Charge Prep – 8.93 tons/hr ID07, 08, 09 Smelting Furnaces – 6.65 tons/hr each ID11 Refining Kettles and Casting (Two Stacks) – 17.34 tons/hr. One stack vents combustion products, the other stack vents process byproducts.

Minimum Requirements for a Site-Specific Test Plan	
c. Proposed operating rate and conditions for the source test.	The target production rate during the RATA tests will be greater than 50% of the permitted process weight rates. Natural gas (oxy fuel burners) is the primary fuel for the combustion sources.
d. Methods including proposed calculations, equations, and other related information that will be used to demonstrate and verify the operating rate during the source test.	The process control system and data acquisition systems will be used to log data during the RATA tests. Charge weights will be used to document feed charged during the demonstration.
e. Description of any air pollution control equipment.	Particulate emissions are controlled by a baghouses, HEPA filtration, and plate scrubbers.
f. Description of any stack gas or opacity monitoring systems.	ID 06, 07, 08, 09, and 11(process and Combustion) have NO_x, CO_2, and VFR monitoring systems. ID 06, 07, 08, and 09 also have CO monitoring systems.
g. A description of all air pollution control monitors (for example, pressure gauges, flow indicators, cleaning cycle timers, electrostatic precipitator voltage meters, etc.) when applicable	Not applicable
h. A list of process and air pollution control operating parameters that will be recorded during the tests, the responsible party who will record these readings, and the frequency at which readings will be recorded.	Typically, the data acquisition system will capture data once per minute.
4. Safety Considerations	
a. Identification of any risks associated with sampling location and accessibility, toxic releases, electrical hazards, or any other unsafe conditions, and a plan of action to correct or abate these hazards.	The sampling sites are all located outside and are accessible by fixed ladders/stairs from the ground. The risks are those associated with stack testing on an elevated platform in an industrial environment. Plant personnel will assist contractor or regulatory personnel in the event of an emergency. The recycling facility uses an Incident Command System for response to emergencies.
b. List of all necessary or required safety equipment including respirators, safety glasses, hard hats, safety shoes, hearing protection, and other protective equipment.	Safety glasses, hard-hat, earplugs, steel-toed safety shoes, reflective safety vests.
5. Sampling and Analytical Procedures	

Minimum Requirements for a Site-Specific Test Plan	
a. Description of sampling methods to be used.	EPA Reference Methods 1, 2, 3A, 4, 7E, 10, and 19 where applicable
b. Description of analytical methods to be used.	EPA Reference Methods 1, 2, 3A, 4, 7E, and 10 where applicable
c. Number of tests to be conducted.	One test for each CEMS System for a total of six Relative Accuracy Audits.
d. Number of runs comprising a test.	Nine to Twelve Runs
e. Duration of each test run.	21minutes per run
f. Description of minimum sampling volumes for each test run.	21 scf for EPA Method 4, or Wet Bulb/Dry Bulb as applicable.
g. Location where samples will be recovered.	Not applicable
h. Explanation of how blank and recovery check results and analytical non-detects will be used in final emission calculations.	Sampling system bias checks will be performed as specified. The raw NOx and O2 data will be corrected for the bias results as described in Method 6C (as referenced by Methods 7E, 3A, and 10)
i. Maximum amount of time a sample will be held after collection prior to analysis.	Not applicable
j. Method of storing and transporting samples.	Not applicable
6. Sampling Locations and Documentation	
a. Schematics of sampling sites (include stack dimensions and distances upstream and downstream from disturbances).	Detailed drawings of the sampling locations were not available during the preparation of this test plan. The recycling facility is still under construction and as-built drawings have not been relinquished to the facility to date. During a precursory walk down of the sampling sites, it appears all locations meet the minimum requirements of EPA Method 1 for volumetric flow determinations. Detailed sketches/measurements will be included on EPA Method 1 data sheets at the time of testing.
b. A description of all emission points, including fugitive emissions, associated with the process to be tested, and when applicable, the method that will be used to measure or include these emissions during the source test.	All emissions from each source are controlled by their respective bag houses, with HEPA filters, and plate scrubbers. The exception is with the ID11 Refinery Combustion stack that appears to be natural draft with no pollution controls installed. This source also contains a brick refractory lining at the sampling location.

Minimum Requirements for a Site-Specific Test Plan	
c. Procedure for verifying absence of cyclonic or non-parallel stack gas flow.	The verification of absence of cyclonic flow will be demonstrated on each stack in accordance with EPA Method 1.
7. Internal Quality Assurance/Quality Control QA/QC) Measures.	**For each proposed test method <u>when applicable</u>**
a. Citation of the QA/QC procedures specified in the EPA Reference Methods and the EPA Quality Assurance Handbook for Air Pollution Measurement Systems, Volume III.	The RATA will typically incorporate the appropriate field, laboratory, and calibration procedures described in <u>the EPA Quality Assurance Handbook, Volume III</u> and QA/QC procedures specified in EPA reference methods.
b. Chain-of-custody procedures and copies of chain-of-custody forms.	Not applicable
c. Procedure for conditioning particulate matter filters (before and after source testing).	Not applicable
d. Procedure for conducting leak checks on vacuum lines, pitot tubes, flexible bags, orsats, etc.	Vacuum line leak checks performed per section 8.4 of EPA Method 5. Pitot tube leak checks performed per section 8.1 of EPA Method 2. Flexible bag and orsat leak checks performed per EPA Method 3.
e. Equipment calibration frequencies, ranges, and acceptable limits.	Dry gas Meters: Complete calibration annually; post test calibration after each field use. Post test calibration must be within 5% of pre-test calibration. Pitot Tubes: Complete calibration according to section 10.1 of EPA Method 2 annually. Visually inspected prior to each field use. Meter box thermocouples: Checked at a single point against a reference thermometer, per EPA's approved alternate method EMC ALT-011 "Thermocouple Calibration Procedure", 6/1/94. The instruments used for Methods 7E and 10 are calibrated prior to the demonstration per EPA Methods 6C, 7E, and 10

Minimum Requirements for a Site-Specific Test Plan	
f. Minimum detection limits of analytical instrumentation.	Weighing balances can measure to within 0.1 gram for silica gel containers. Graduated cylinder accuracy is 1 ml for moisture determinations. The analyzer detection limit for Methods 7E and 10 is 2% of span.
g. Names, addresses and responsible persons of all sub-contracting laboratories and a description of analytical methods to be used, chain-of-custody procedures and QA/QC measures.	Not applicable
h. QA/QC measures associated with the collection and analysis of process or raw material samples and the frequency at which these samples will be collected.	No process or raw material samples will be collected in conjunction with this test series.
i. Methods for interference and matrix effects checks, and number of replicate analyses.	Not applicable for Method 7E, 10, and 3A
j. Methods and concentrations for internal standards (standards additions prior to extraction).	Not Applicable
k. Methods and concentrations for surrogate standards (standards additions to collection media prior to sampling).	Not applicable
l. Methods for recovery checks, field blanks, lab blanks, reagent blanks, proof rinse blanks, and analytical blanks.	Not applicable
m. Proposed range of recoveries for data acceptability and method of data interpretation if sample recovery is not within the proposed range.	System bias checks will be less than 5%. Calibration drift checks will be less than 3%.
8. Final Test Report Content	
a. Final report outline.	The final test report will include the following sections: introduction, summary and discussion of results, sampling point location, field and analytical procedures, field data sheets, example calculations, operational data, and calibration data. This report will meet the requirements of S.C. Regulation 61-62.1, Section IV, Part F - Final Source Tests Report.
b. Example calculations when using alternative test methods or for calculation of process operating rates.	No alternative test methods are anticipated to be used. All process rates will be monitored by the DCS.

Minimum Requirements for a Site-Specific Test Plan	
c. Proposed report submission date if more than 30 days after the source test will be needed to complete the report.	The report will be submitted within 30 days of test completion or as otherwise allowed by DHEC.