

**VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.**

Petition for Review to the Environmental Appeals Board of the United States Environmental Protection Agency, Washington, D.C.

# Exhibit 3

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TestAmerica Laboratories, Inc. and Focus Environmental, Inc. Responses to EPA Comments on  
Veolia Title V Permit (Comments Numbered 83-93)

Note: While these specific comments were not included with Veolia's comments, the issues they address were raised by Veolia at VES 019541-42, VES 019554-55, and VES 019613. The comments have also been Bates labeled consistent with Veolia's comments for ease of reference.

February 8, 2017

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Re: TestAmerica Laboratories, Inc. and Focus Environmental, Inc. Responses to EPA  
Comments on Veolia Title V Permit (Comments Number 83 – 93)

General Response to EPA's Statement of Basis (SoB) Comment Responses 83-93: These particular EPA comment responses relate to comments made by TestAmerica and Focus Environmental on the Veolia 2014 draft permit regarding the technical aspects of compliance demonstration using the Xact CEMS. To date, the Xact CEMS has not been appropriately validated as a continuous compliance instrument. EPA continues to dismiss this important fact and continues to infer that qualitative and relative emissions measurements are sufficient for the Xact CEMS validation. EPA is promoting a technology that the manufacturer has self-validated using protocols and standards developed by the same manufacturer. EPA has not scientifically and independently validated the Xact CEMS technology.

The comments by TestAmerica and Focus Environmental focus scrutiny on the collection and transport of the stack gas sample for subsequent analysis. We are not challenging the X-ray fluorescence technology and metals analysis. Method 29 data show that non-mercury (non-Hg) metals are predominantly emitted in particulate forms, while mercury emissions are predominately emitted in their vapor forms. In the comment responses, EPA continues to dismiss or diminish the importance of the technical factors and principles associated with the representative capture and accurate transport of particulate and vapor stack emissions forms. Method 29 utilizes a non-reactive, heated filter media to capture a representative (isokinetically collected) particulate sample from stack gas. It also employs a series of chilled, reactive liquid media for condensing and capturing a representative vapor form of stack emissions. The Xact CEMS claims comparable ability to capture and retain both particulate and vapor forms using only a reactive filter media. Since the Xact CEMS is incapable of collecting an emissions sample isokinetically, particulate form metals emissions simply cannot be accurately evaluated. Although more recent Xact CEMS data are cited showing high capture efficiency for vapor forms of mercury, these data are not specific to the very low particulate content associated with the well-controlled emissions from a hazardous waste incinerator (HWI).

EPA's multi-metals emissions measurement standard is Method 29. Method 29 emissions data were used to establish the Maximum Achievable Control Technology (MACT) emissions standards

applicable to HWIs. Therefore, any alternative measurement method subsequently used to demonstrate compliance must be validated using Method 29 as the standard. EPA established draft Performance Specification 10 (PS-10) where Method 29 is the standard by which a multi-metals CEMS are to be validated. EPA has allowed the Xact CEMS manufacturer, Cooper Environmental Services (CES), to create and substitute alternative, technology-specific performance specifications. This specification includes Other Test Methods (OTMs) 16, 17, 19, and 20 for the CEMS, and OTMs 18 and 21 for the Quantitative Aerosol Generator (QAG) used to test the Xact CEMS. The appropriateness of creating a validation pathway that avoids the use of the EPA documented standard approach is questioned, and seems unnecessary if the Xact CEMS operates as the manufacturer states. It should seem suspicious that such a great amount of effort and expense has gone into creating an alternate validation pathway. Why not simply validate the Xact CEMS to the documented EPA standard?

Cooper Environmental consistently misuses industry standard technical terms, specifically Calibration Error (CE) and Relative Accuracy Test Audit (RATA). CE is a system accuracy test whereby the CEMS is tested with a known standard gas and the CEMS' response is evaluated against the known standard gas. A RATA is a concurrent test of the relative accuracy between an independently validated CEMS and the one being evaluated. Cooper Environmental has claimed that their dynamic aerosol testing using the QAG is a RATA which it is not. In the industry standard technological terms this application is actually a CE test. Cooper Environmental claims that the Xact system has passed numerous "RATA" tests. This statement is not true pursuant to the industry standard definition. Considering the fact that the Xact CEMS is a new technology for which there is not an independently validated CEMS, the system should be required to routinely perform RATAs using the standard established by EPA in the draft PS-10 which is Method 29.

EPA cites the Lilly campaigns as validating the use of a Xact CEMS on a HWI. Lilly conducted extensive testing of the Xact CEMS over several months. The Lilly "validation" of the Xact CEMS was performed using the QAG to perform what should be described as a series of CE tests. Method 29 testing was dismissed as not being sufficiently accurate as a test method. It was during this Lilly "validation" period that the previously mentioned Other Test Methods (OTMs) were developed and refined. These OTMs were later recognized by EPA in concert with the approval for Lilly to use the Xact CEMS as a compliance instrument. The Xact CEMS used by Lilly was never validated using Method 29. During the 2010 Lilly comprehensive performance test (CPT), the Xact CEMS was used to evaluate HWI MACT emissions compliance. The CPT included the use of Method 29 solely for the measurement of beryllium (Be) emissions since Be cannot be detected using the Xact CEMS. During this CPT, the laboratory was specifically required not to use the Method 29 sampling train components to report any of the other five (5) MACT-regulated metals [arsenic (As), cadmium (Cd), chromium (Cr), lead (Pb) and mercury (Hg)].

Specific Response to Comment Response 83: The issues raised with regard to the metals species and forms are factors as related to particulate and vapor sample transport and capture. As noted previously, the X-ray fluorescence analysis method is not being questioned.

Specific Response to Comment Response 84: EPA's response notes satisfactory performance of a single metal from the Tooele, UT testing with a relative accuracy of 4% for lead (Pb). The data presented in the original comment were lifted directly from the USACOE test report which is Cooper Environmental's own data. Table 14 of the original report notes that a 20.2% relative accuracy was measured when considering all 12 test runs, but a 14% relative accuracy could be reported if only 9 of the total 12 runs are excluded as allowed via PS-10. The source for the 4% value for lead is unclear.

Specific Response to Comment Response 85: EPA's response to this comment appears to focus totally on data from coal-fired power plants and disregards the Tooele, UT data conclusions. This selective evaluation implies that a presupposition exists regarding the Hg performance. Cooper Environmental prefers the performance numbers for Hg data derived from the coal-fired power plant because the data passes the Method 29 comparability scrutiny where it does not pass during the Tooele testing. The EPA response dismisses the reasons presented that explain the vastly improved data. Coal-fired fly ash is made up of materials like Al<sub>2</sub>O<sub>3</sub> (alumina) and CaO (lime) which may be responsible for adsorbing elemental Hg and effectually co-depositing it as particulate on the Xact CEMS proprietary filter media. The absence of any fly ash like materials in the Tooele stack gas likely explains why the elemental Hg fails to compare to the Method 29 concentrations during head-to-head sampling campaigns at that facility.

Specific Response to Comment Response 86: Method 29 sampling trains are required to undergo probe and glassware rinses using nitric acid to capture metal components which adhere to these surfaces during a sampling run. Without this cleaning rinse, the samples collected would be incomplete and not representative. During the operation of the Method 29 sampling train, metals and particulate material collide and adhere to the surfaces of the heated (250°F) nozzle, probe, and particulate filter holder housing. These metals can only be recovered with acid washing after each sampling run. Otherwise, data bias will occur from run to run.

An obvious and exaggerated data bias for non-Hg metals will be probable with the extended sampling using the Xact CEMS. With no sampling line clean-up and recovery conducted at set intervals, metal and particulate residue buildup conceivably continues until material breaks loose from the location from which it is lodged. If this re-entrained residue is transported to the Xact CEMS filter material, a false spike in metals emissions measurements can occur.

Separate analysis data of the metals content of nitric acid rinses taken from the sample collection and transport system of the Xact CEMS has not been produced or reviewed to substantiate any claims by EPA or Cooper Environmental that metal and particulate buildup is not an issue. Issues

such as this should be investigated to see if after days or months of continuous Xact CEMS operations in a stack gas environment particulate metal forms can be determined not to be building up in the system. Buildup that produces any sort of memory effects is potentially very detrimental to the claim that the Xact CEMS can be used for compliance at a HWC facility.

Specific Response to Comment Response 87: As inferred in EPA's response but not carried forward in the Veolia requirements, EPA could state plainly that simple correlation data is all that is being sought by the installation of the Xact CEMS, and that no compliance implications are intended. The confidence expressed in the Lilly data is not based on to direct comparisons of Method 29 sampling data during compliance testing since no such data was produced or published.

Specific Response to Comment Response 88: EPA's response cites deficiencies in Veolia's feedstream analysis as a basis for requiring the temporary use of the Xact CEMS to provide confidence of compliance with the applicable emissions standards. Metals emissions compliance is on a 12-hour rolling average basis. There is no indication that EPA followed through to determine if any exceedance of the metals feed rate OPLs actually occurred as a result of the cited deficiencies. The question is, does EPA have evidence derived from the Veolia metal material feed rates that employed the appropriate sampling and analytical methodology that shows that a CPT-established metals feed rate OPL exceedance occurred when evaluated on a 12-hour rolling average basis? Absent such an evaluation, no assertion or claim of potential metals feed rate OPL or emissions exceedance is possible.

Specific Response to Comment Response 89: By requiring the use of the Xact CEMS, EPA is alleging the deficiencies in Veolia's feedstream analysis practices may have resulted in the exceedance of a metals feed rate OPL. Absent appropriate follow through analysis on a 12-hour rolling average basis, EPA cannot sustain the alleged claim.

Specific Response to Comment Response 90: There are numerous other factors (OPLs, etc.) that can significantly impact emissions from substantially similar units burning substantially similar wastes. Similar can be stated related to the performance of technologies such as the Xact CEMS on coal-fired devices, HWIs, etc. EPA's confidence in the Xact CEMS operation on the Lilly HWI is based solely upon the manufacturer's own QAG-based testing of the Xact CEMS, and not on a direct comparison via a RATA or CPT data using Method 29. Absent such RATA testing and validation against Method 29, all Xact CEMS data must tentatively be qualified as qualitative.

Specific Response to Comment Response 91: This comment does not in any manner support EPA's justification for requiring the installation and operation of the Xact CEMS. As required by the HWC MACT rule, Veolia can document the combination of the materials fed and when, including the metals feed rates for compliance with the established OPLs. These same data can be used to perform follow through for correction and evaluation of any feedstream inadequacies.

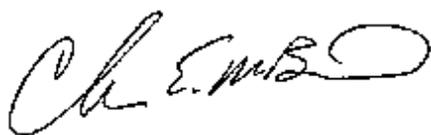
Specific Response to Comment Response 92: EPA's expressed confidence in the operation of the Xact CEMS on the Lilly HWI led to facility relief from any feedstream analysis or compliance with metals emissions related parametric OPLs provided the Xact CEMS was operational. EPA has not offered similar relief to Veolia for installing and operating the Xact CEMS. Such offer should be forthcoming without any petition by Veolia.

Specific Response to Comment Response 93: EPA approved use of the Xact CEMS on the Lilly HWI based solely on the manufacturer's own QAG-based validation. The CPT using the Xact CEMS to demonstrate compliance was conducted at a single, worst-case metals feed rate condition. The metals feed rates demonstrated by this single CPT operating condition served as established OPLs in the event that the Xact CEMS was not operational. Multiple test conditions and operating scenarios were not required of Lilly to establish metals emissions compliance OPLs and to do so would be inconsistent from a policy perspective if required of Veolia.

Regards,



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