EPA's Consolidated Responses to Citizen Comments on the Comprehensive Performance Test Plan
June 16, 2016

Comment: Several citizens objected to ESI's claim of Confidential Business Information for portions of the Plan.

Response: The federal government recognizes the right of companies and individuals to protect certain information and intellectual property; however, those entities need to justify their claim for EPA to continue to hold it confidential. Therefore, EPA's Associate Director for Emergency Management, Ronald D. Crossland, requested the companies to justify their claim on May 6, 2016 In accordance with regulations, the companies were given 30 working days to respond (June 20, 2016). This is posted at https://www.epa.gov/la/camp-minden.

Comment: Section 1.3 (page 1-2) – CO *[Carbon Monoxide]* emissions concentration does not include any adjustment for dilution air. Typically, the concentration limits are adjusted to a specific dilution rate as measured by the oxygen level. This adjustment is included in the THC *[Total Hydrocarbon]* limit by stating that the concentration is corrected to 7% O_2 *[Oxygen]*. Excluding an adjustment to a specific dilution ratio allows sources to achieve a given concentration through dilution rather than destruction. For example if a mass unit of emissions at 50% excess air produced 20 ppm *[parts per million]* CO *[Carbon Monoxide]*, 3.7 mass units of emissions would also be 20 ppm *[parts per million]* at 100% excess air and 5.3 mass units of emissions would be 20 ppm *[parts per million]* at 200% excess air. As a result, the emission concentration for CO *[Carbon Monoxide]* should be standardized to 7% O_2 *[Oxygen]* just as the THC *[Total Hydrocarbon]* concentration is standardized. Dilution is not the solution to pollution.

Response: The concentration limit of Carbon Monoxide is in parts per million, volumetric and dry at stack gas condition. The uncorrected limit at Camp Minden is kept at 20 parts per million, volumetric and dry. If average oxygen level in the stack is 17%, the 20 parts per million, volumetric and dry would be 3.5 times the 7% oxygen, which would result in a 70 parts per million oxygen corrected value. The oxygen corrected regulatory limit for Carbon Monoxide concentration is 100 parts per million. Therefore, the uncorrected Carbon Monoxide limit of 20 parts per million, volumetric and dry for Camp Minden is more stringent than the regulatory requirement.

Comment: Table 1-3 Operating Parameters (page 1-5) – It seems to me that combustor operating parameters which would be listed in a protocol for destruction of munitions are those that there is reasonable expectation to be critical in the verification that the unit is performing satisfactorily. The monitoring of these parameters are usually for the purpose of identifying emissions results which fail to meet expectations and which would be adjusted to improve performance on a retest. They are also used to establish operating limits to be maintained during periods when there are reduced pollutant measurements and are indicators which provide alternative indication of satisfactory performance. As such, EPA should consider whether the redacted operating parameters require protection under CBI *[Confidential Business Information]*. As a minimum, if EPA concludes that these operating

parameters and their values during all operation of the incinerator are CBI *[Confidential Business Information]* and are not available to the public the EPA should establish non CBI *[Confidential Business Information]* methods to demonstrate continuous satisfactory operation.

Response: EPA agrees with the commenter's concerns regarding the operating parameters in the plan being identified as confidential business information and as a result issued a letter dated May 6, 2016, asking LMD and its contractor to justify its claim. This letter is posted at https://www.epa.gov/la/camp-minden. We are still awaiting their response. However, the CPT has been completed and the unit has demonstrated it is meeting the 99.99% destruction removal efficiency. Therefore, EPA recently approved LMD to initiate full operation of the contained burn system and prescribed certain Operating Parameter Limits which are included in the approval letter which is posted at https://www.epa.gov/la/camp-minden.

Comment: Paragraph 5.5.1 (page 5-5) – In Operational Checks, the second paragraph states that there are no applicable RATA *[relative accuracy test audit]* procedures for THC CEMS *[Total Hydrocarbon Continuous Emission Monitoring System]* This is incorrect as "Performance Specification 8 - Performance Specifications For Volatile Organic Compound Continuous Emission Monitoring Systems In Stationary Sources" is to be used for evaluating a continuous emission monitoring system (CEMS) that measures a mixture of VOC's *[Volatile Organic Compounds]* and generates a single combined response value. The VOC *[Volatile Organic Compound]* detection principle may be flame ionization, photoionization, non-dispersive infrared absorption, or any other detection principle that is appropriate for the VOC *[Volatile Organic Compound]* species present in the emission gases and that meets this performance specification. In addition, "Performance Specification 8A -- Specifications and Test Procedures for Total Hydrocarbon Continuous Monitoring Systems in Stationary Sources" apply to hydrocarbon (HC) continuous emission monitoring systems (CEMS) installed on stationary sources. In addition, there is no assessment of the continuous oxygen analyzer. "Performance Specification 3 — Specifications and Test Procedures for O_2 *[Oxygen]* and CO_2 *[Carbon Dioxide]* Continuous Emission Monitoring Systems In Stationary Sources" is used to verify the capability of oxygen and carbon monoxide CEMS *[Continuous Emission Monitoring System].*

Response: The commenter referenced the need to conduct a Relative Accuracy Test Audit for the Total Hydrocarbon Continuous Emission Monitoring System. However, the Performance Specification 8A – Specifications and Test Procedures for Total Hydrocarbon Continuous Monitoring Systems in Stationary Sources outlines that a Calibration Error Test is required. This test was conducted by the Louisiana Military Department and its contractors. This complies with Performance Specification 8A in 40 Code of Federal Regulations Part 60 Appendix B.

The commenter also referenced the need to used Performance Specification 3 – Specifications and Test Procedures for Oxygen and Carbon Dioxide Continuous Emissions Monitoring Systems in Stationary Sources. EPA agrees and Section 3.3.13 of the plan requires that the carbon monoxide and oxygen Continuous Emission Monitoring System comply with Performance Specification 4B in 40 Code of Federal Regulations Part 60 Appendix B. The performance specification 4B refers to performance specification 3.

Comment: Paragraph 7.3 Stack Gas Sampling and Analysis (page 7-1) – It is proposed that SW846 Method 0023A be used to measure dioxin and furans. SW846 *[Test Methods for Evaluating Solid Waste: Physical/Chemical Methods Compendium]* Method 0023A provides only the sampling methodology. It is recommended that the analytical finish be by SW846 Method 8290A. Analytical methods for Dioxin/Furans have advanced significantly since SW846 Method 0023A was published.

Response: EPA agrees with this comment. Table 7-1 of the Comprehensive Performance Test plan references this method. In addition, Section 1.1 of the Method 0023A states that 'this method describes the sampling procedure to be used for determining stack emission of polychlorinated dibenzodioxins and polychlorinated dibenzofurans (dioxins/furans) from stationary sources. The air sample is collected and analyzed by the determinative portion of Methods 8280 and 8290.

Comment: Paragraph 5.5.2 (page 5-6) – External Quality Assurance Program: Test Personnel – It is recommended that the person responsible for the test be a QSTI *[Qualified Source Testing Individual]* and have certifications in the Group 1 (manual sampling methods), Group 3 (instrumental methods) and Group 4 (metals testing). This individual should have daily supervisory authority and be on site during any sampling and analysis on site.

Response: There were technical experts familiar with combustion, sampling methods, instrumentation, and metals testing from EPA and Louisiana Department of Environmental Quality present during the entire duration of the Comprehensive Performance Test. They ensured that necessary Quality Assurance / Quality Control procedures and protocols were followed.

Comment: Paragraph 6.4 (page 6-4) – Performance Test Waiver: While the contractor may consider an analysis of the feed stock to be sufficient to demonstrate that the emissions are below the applicable emissions limits, the effects of mercury may be experienced at levels below the limit. In addition, the benchmark for the acceptable levels in the feedstock which warrant a waver should not be the emission limit but should include a margin of safety to accommodate uncertainties in analysis and sampling. I would suggest a margin of a factor of three or more. Thus if the mass in the feed were lower than 1/3 of the emission limit them a consideration of a waver could be entertained. I would suggest that they perform a Method 30 analysis to quantify the actual emissions of mercury.

Response: The plan follows Applicable or Relevant and Appropriate Requirements emission limits for mercury. (Section 1.3 & Table 1.1 of the CPT plan and ARAR # 81 and 89).

Comment: Table 7-1 (page 7-2) – The table lists the analytical methods for sampling the target analytes but does not indicate which type of analysis is to be performed. For example, Method 29 has four different possible analytical finishes with different levels of detection. I would suggest that the laboratory use ICP-MS *[Inductively Coupled Plasma source with a mass spectrometer]* as the analytical detection limits (based on SW-846,

SW846 *[Test Methods for Evaluating Solid Waste: Physical/Chemical Methods Compendium]* Method 6020) are lower generally by a factor of ten or more.

Response: Sampling and analytical methods specified in the regulations are used for all target analytes. For Destruction Removal Efficiency calculations, if target analytes are non-detect, the laboratory Reporting Limits are used in the calculation of the destruction removal efficiency. This is the most conservative approach for calculating the destruction removal efficiency.

Comment: Continuous Monitoring Systems: Performance Evaluation Test (PET)

Section 1.4 Comprehensive Performance Test Overview of the Comprehensive Performance Test Plan of Contain Burning System Operate at Camp Minden States "Prior to the CPT, ESI will perform the continuous monitoring system (CMS) Performance Evaluation Test (PET)."

In Section 5.4 Performance Evaluation test Schedule, the schedule of the CMS PET *[Compliance Monitoring Strategy Performance Evaluation Test]* is to be conducted in the months prior to the scheduled CPT.

In Section 5.5.2 it is indicated a preliminary review of the test results will be conducted following test completion, prior to the CPT *[Comprehensive Performance Test].* The CMS PET *[Compliance Monitoring Strategy Performance Evaluation Test]* report will be submitted as an appendix to the CPT *[Comprehensive Performance Test]* report for the Contained Burning System.

The availability of the PET Report is too long after it is completed. There is a need to have the Test Plan include a requirement that the preliminary review of the PET *[Performance Evaluation Test]* test results described in Section 5.5.2 be provided to the Citizens Advisory Group for review prior to the beginning of the Comprehensive Performance Test.

Response: The Performance Evaluation Test was completed during the Comprehensive Performance Test. The results of the Performance Evaluation Test will be included with the Comprehensive Monitoring Strategy Performance Evaluation Test Report.

Comment: Section 1.4 Comprehensive Performance test Overview of the Comprehensive Performance Test Plan states that the CPT *[Comprehensive Performance Test}* report will be submitted within 90 days after completion of all emissions testing or an extension will be requested."

Section 8.3 Data Reporting in the Quality Assurance Project Plan of the Contained Burning System Operated at Camp Minden state that "the Comprehensive Performance Test Plan Report will be submitted to LDEQ and USEPA within 90 days of completing the testing or an extension will be requested.

The information provide to the public was that after the seven day Comprehensive Performance Test was conducted, the Contain Burn System would be shut down for approximately two weeks. The shutdown period was to facilitate analysis of samples, reporting data results and establishment of relevant operating parameter limits (OPLs).

The Comprehensive Performance test Plan report time frame of 90 days will prohibit the public from having access to the information used to set the operating parameters.

It may be appropriate for the complete CPT *[Comprehensive Performance Test]* report to take 90 days to complete, but the Test Plan must provide a mechanism to make publicly available the data and results for the demonstrated compliance with the ARARs and the mechanisms and data used to establish the relevant operating limits (OPLs) from the CPT*[Comprehensive Performance Test]* . This information must be provided to the public and the CAG [Citizens Advisory Group] prior to the startup of the Controlled Burn System at the maximum through put rate process.

Response: The commenter raised the need to have some information prior to the submission of the final Comprehensive Performance Test. EPA agrees and required the submission of an Expedited Report to evaluate and ensure that the contained burn system met the destruction removal efficiency and to establish initial operating parameter limits. EPA is working with the Louisiana Military Department to post this Expedited Report at http://geauxguard.la.gov/. EPA's Approval Letter outlines the initial operating parameter limits and is posted at https://www.epa.gov/la/camp-minden.

Comment: Dinitrotoluene, Dibutylphthalate, and Diphenylamine: Section 3.3.7 of the Quality Assurance Project Plan for Contained Burning System Operations at Camp Minden presents the analytical method for determining dinitrotoluene, dibutylphthalate, and diphenylamine in the stack gas during conditions I and II.

In Section 6.3 Principle Organic Hazardous Constituents in the Comprehensive Performance Test Plan, the organic compounds in the waste stream that will be used to determine Destruction and Removal Efficiency (DRE) are identified as dinitrotoluene, dibutylphthalate, and diphenylamine. The dinitrotoluene will be the combination of 2, 4-dinirtoluene and 2, 6-dinitrotoluene.

Response: The commenter is asking how EPA will analyze for and calculated the destruction removal efficiency for dinitrotoluene. Dinitrotoluene will be analyzed separately for 2,4 – Dinitrotoluene and 2,6 – Dinitrotoluene. These two isomers will then be combined in the calculation of the destruction removal efficiency. The percentage of Dinitrotoluene in M6 is 10% (2, 4 –Dinitrotoluene and 2, 6 – Dinitrotoluene combined). Hence, Destruction and Removal Efficiency evaluation uses summation of both 2, 4 –Dinitrotoluene and 2, 6 – Dinitrotoluene in the stack.

Comment: Regulatory Overview: What conditions will result in a requirement that part or all of the Comprehensive Performance Test be required to be redone.

Response: Failure to meet required Destruction and Removal Efficiencies and emissions standards will result in a re-test. The information provided in the Expedited Report demonstrates that the contained burn system meets the 99.99% destruction removal efficiency. EPA is working with the Louisiana Military Department to post this Expedited Report at http://geauxguard.la.gov/camp-minden-m6/.

Comment: What type of data results will result in consideration of altered emission limits or require more frequent sampling of quarterly or semi-annual parameters.

Response: The information provided in the Expedited Report demonstrates that the contained burn system meets the 99.99% destruction removal efficiency. EPA is working with the Louisiana Military Department to post this Expedited Report at http://geauxguard.la.gov/camp-minden-m6/.

Comment: The emission limits based on the ARARs *[Applicable or Relevant and Appropriate Requirements]* as listed in 1-1 should be supplemented/revised to conform to the batch operation of the system. According to the batch process description (Table 4-1) the effective time when combustion off-gasses are being emitted through the stack is only 6 minutes (on average) out of 20 minutes of 1 batch process time. As a result the emissions are subject to dilution factor of 3.3. It is desired that the emission limits will be either divided by 3.3 or expressed in terms of mass of pollutant/mass of waste. Using current values the allowed PM emission equal to 68 mg/kg of waste or 1,100 lb over the entire operation time. The allowed dioxin emission equal to 2.03 ng *[nanogram]* TEQ/kg *[Toxic Equivalency Quantity per kilo gram]* of waste.

Response: EPA has required continuous sampling throughout the run (at least 12 batches). EPA has also required to stop the sampling and discard the samples from that batch, in case of delays exceeding 10 minutes (section 3.0 of Quality Assurance Project Plan). All emissions (except CO) are corrected to 7% Oxygen, to eliminate any dilution effect. Given the uniqueness of this batch-feed operation, this was the best practical approach to collect representative stack samples.

Comment: In emission Limits Table1-1 ESI [Explosive Service International] is requesting THC [Total Hydrocarbon] emission at oxygen stack concentrations <17% to be taken at stack conditions and not adjusted to 7% oxygen. Since the limit for oxygen content in stack is set to 2% it will effectively increase this limit by the factor of 7/2 or to the value of 35 ppmv dry *[parts per million, volumetric and dry]*. To protect the community and as expressed by the community concerns it is desired for the THC *[Total Hydrocarbon]* emission to represent 99.9999% destruction of all the organics (POHCs+PICs) *[Principal Organic Hazardous Constituents and Products of Incomplete Combustion]*, and not POHCs [*Principal Organic Hazardous Constituents]* only, THC *[Total Hydrocarbon]*emission should not exceed 1mg/kg *[milligram per kilogram]* of waste (at the proposed stack flow rate and waste feed rate it corresponds to 54.2 ug/m3 *[microgram per cubic meter]* (or 0.08ppmv*) [part per million by volume]*. The proposed 3ppmv *[part per million by volume]* limit represents ~99.995% of total DRE [Destruction and Removal Efficiency].

Response: Although requested by Explosive Services International, EPA Region 6 disapproved it.

Comment: Target Operating Parameter Limits listed in Table 2-1, in 4 cases, are based on the manufacturer's recommendation (baghouse pressure drop range, maximum baghouse inlet temperature, HEPA *[High Efficiency Particulate Air]* filter pressure drop and SCR *[Selective Catalytic Reduction]* temperature range), however, no supporting materials are presented. In particular, limits for the baghouse pressure drop appears to be too far

apart and upper limit is set very high. Even more so, the upper limit is outside of the installed pressure drop monitor (Dwyer series 605 Magnehelic differential pressure transmitter, Table 5-1) within the CPMS.

Response: The request to use the manufacturer recommendations/documentation to support Operating Parameter Limits was evaluated. The inlet baghouse temperature will be based on the manufacturer's specs. The baghouse and High Efficiency Particulate Air filter pressure drop limits will be based on the results during the test.
The manufacturer's specifications for the pressure drop across the baghouse is not to exceed 12 pounds per square inch. The meter in use during the CPT, as wells as the ramp up period, had a span of 10 pounds per square inch. There were beneficial reasons to use the meter with the lower span during the Comprehensive Performance Test, primarily, it provided more accuracy at lower differentials and thus allowed a more precise calculation. If the pressure drop approaches 10 pounds per square inch, the contractor will replace the meter with one that has a span of 15 pounds per square inch. That meter is stored on-site and can be quickly installed.

Comment: Target Operating Parameter Limits listed in Table 2-1 for temperature inlet to the bag house is listed at 420F. This temperature appears to be too high as at such conditions dioxins formation may already occur. The proposed CPT *[Comprehensive Performance Test]* for both CONDITION I and CONDITION II tests are proposed to be performed at a temperature less than 420F at the baghouse inlet. Due to the increased risk of dioxin formation with increasing temperature, CPT *[Comprehensive Performance Test]* should be performed at as close temperature to a maximum of 420F and temperature at the inlet to the baghouse should be observed and noted in the testing protocol.

Response: To address the concern associated with the potential development of Dioxin/Furans, Stack Testing for Dioxin/Furans was conducted during the Comprehensive Performance Test.

Comment: For the CONDITION II of CPT *[Comprehensive Performance Test]* the "dirty" batch is not containing cardboard packaging or super-sacks (section 3.4). Chemical or elemental analysis of those materials is also not provided. Since these materials may contain significant amount of chlorine they should be either included in the CONDITION II test ort not allowed to be burned in the system at general operating conditions. Additionally, the batch size at CONDITION II is 5% less than target batch size and may result in smaller emissions that standard operation.

Response: Only waste (type) that was fed during the Comprehensive Performance Test will be allowed to be burned during the normal operation. Super-sacs and cardboards were not fed during the Comprehensive Performance Test, and hence, can't be burned in the Contained Burn System. During the Ramp-up phase, the contractor determined that the previous concept of the dirty burn with packaging was not necessary. The original Condition II was speculated during the proposal for the contract, prior to any hands on work. Once the contractor had an opportunity to handle some of the most physically unstable packaging, they were able to separate all the packaging with the exception of the anti-static bags. Inclusion of the anti-static bags made with polyethylene is a safety consideration.

One reason for the Condition II portion of the CPT is that it is a different batch size. It could result in different emissions. Therefore, the Condition II tests are separate from the neat or propellant only.