



Clean Harbors
41 Tompkins Point Road
Newark, NJ 07114
201-538-0109
www.cleanharbors.com

From: John McNally, Clean Harbors Environmental Services, Inc.

To: Tim Kidman, Climate Action Reserve

CC: Jette Findsen, SAIC

RE: Comments on the Draft US Ozone Depleting Substances Project Protocol Version 1.0 and the Draft Imported Ozone Depleting Substances Import Protocol Version 1. The numerical references correspond to the Domestic protocol.

Section 3.5 Regulatory Compliance

“Destruction facilities have the potential to contribute to environmental problems beyond ozone depletion and climate change. For example, emissions from destruction facilities may contribute to criteria and/or toxic pollutants. However, compliance with existing EPA regulations greatly reduces or eliminates these pollutants. Accordingly, all destruction facilities must meet the full burden of applicable regulatory requirements during the time the ODS destruction occurs.”

Rotary kiln incinerators undergo upset conditions periodically. This happens when there is a malfunction in the incineration system and CO₂ emissions exceed levels established in their operating permit. This is typically caused by an aggressive oxidation of a material fed into the rotary kiln as occasionally material fed into the incinerator reacts slightly differently than anticipated. The CO₂ allowances are authorized under an approved Shutdown Start up Malfunction Plan (SSMP). While infrequent these conditions will occur during normal operations and have the possibility of occurring during the destruction of a CAR ODS project.

When upset conditions occur the rotary kiln goes into automatic shutdown mode and all feeds leading to the kiln are shut off (i.e. waste feed cut off). During upset conditions CO₂ emission may exceed the 100 ppm threshold identified in the CPT (Compliance Performance Test) Plan. Exceedances are minimal (in ppm) and are quantified in the CEMS report.

The Reserve should consider how to handle these situations and include procedures in the protocol. Please consider the application of the phrase *“all destruction facilities must meet the full burden of applicable regulatory requirements during the time ODS destruction occurs”*. In some instances when the SSMP is invoked there could be an exceedance of a regulatory requirement but the amount of CO₂ emitted is measurable.



Incineration via RCRA rotary kiln is a highly regulated process but variances occasionally occur. The additional CO₂ emissions are minimal in comparison to overall project emissions and the amount of the additional emissions should be deducted from the project emissions. The amount of the emission reduction from the project should be outlined in the protocol.

Section 6.5.1 Refrigerants and ODS Extracted from foam, paragraph 3, #1.

“A sample must be taken while ODS is in possession of the final destruction facility.”

Please change facility to “company” as there will be situations where samples are pulled under the management of the destruction company while the ODS is not physically located at the destruction facility.

Section 6.5.1 Refrigerants and ODS Extracted from foam, paragraph 3, #3.

“Samples shall be taken with a clean, vacuum sealed stainless steel double ended bottle with minimum capacity of one pound and pressure of 600 PSI.”

This language should be more general to include a sample bottle that meets the DOT specifications for the refrigerant sampled.

The percentage of mixed ODS should be lowered from 99% to 90% to require mixing. 99% is too high a percentage and the vast majority of projects will require this additional requirement. It is still unclear what mixing procedure is necessary.

“7. Chain of custody for each sample shall be documented by a bill of lading”

“A bill of lading” should be changed to “A bill of lading or multiple bill of ladings” in case multiple shippers are involved in shipping the sample.

Section 6.5.2 Analysis of Mixed ODS paragraph 5, 1 - 5

“Once the mixed ODS is in a container or temporary storage unit which meets the criteria above, circulation of mixed ODS must be conducted as follows:

- 1. Liquid mixture shall be circulated from the bottom port to the vapor top port.*
- 2. The mixture shall be circulated from the port on one end of the container to the port on the opposite end.*
- 3. Simultaneously, a mass of the mixture equal to two times the mass in the container shall*



be circulated both vertically and horizontally.

4. Mixing shall occur over a period greater than two hours, but no more than eight hours.

5. Start and end times shall be recorded”

This section contains specific language regarding the mixing of ODS prior to sampling. The language is very detailed and may place an unnecessary burden on verification. In order to not pigeon hole this mixing process I recommend the language broadened to “the ODS must be recirculated for a period of at least 30 minutes prior to sampling to ensure the contents are thoroughly mixed.”

Smaller containers (< ½ tons) should be exempt from the mixing procedure and larger containers that can document the absence of baffles should also be omitted from the procedure.

Project owners and Verifiers must sign an attestation that all project information is accurate and therefore the responsibility falls on their shoulders to ensure a representative sample is taken and that the contents are thoroughly mixed prior to sampling. Specific language regarding mixing techniques will drive this material a finite number of facilities and will require additional container transfers and increase the chance for emissions.

Section 6.6 Destruction Facility Requirements paragraph 4 bullets

“□ The ODS feed rate

□ The amount and type of consumables used in the process

□ The amount of electricity and amount and type of fuel consumed by the destruction unit

□ Operating temperature and pressure of the destruction unit

□ Effluent discharges measured in terms of water and pH levels

□ Other continuous emissions monitoring system (CEMS) data on the operation of the destruction unit, including temperature, pressure, and emissions of criteria pollutants”

RCRA Incinerators are required to operate within the boundaries of their RCRA and CAA permits. Requiring data on consumables used and effluent discharges is unnecessary. Already included in the Draft Protocol is a default emission factor of 7.5 MTCO_{2e} / MT ODS destroyed for 1) fossil fuel and electricity use at the destruction facility, 2) emissions from fossil fuels from transportation, 3) ODS emissions from incomplete destruction of ODS, and 4) CO₂ emissions from ODS oxidation during destruction.

Requiring to track the amount and type of consumables used in the destruction process and the amount of electricity and amount and type of fuel consumed by the destruction unit is unneeded.



What is the purpose of these requirements if the default value is available to use? Please consider removing the consumable tracking and make the fuel and electricity consumption optional if you chose to use the default values.

Section 6.6 Destruction Facility Requirements paragraph 5 bullets

The last 2 bullets require the Date and Time when the destruction occurred on the Certificate of Destruction. The date is a reasonable request as it is an industry standard but the time is not. When destroying projects containing many containers (i.e. cylinders) tracking the exact time of destruction for each container is not important and places an unneeded burden on the destruction facility. Please consider removing the time requirement and just use the date.

I look forward to continuing our discussions during the meeting on 12-7. Let me know if you have any questions prior to the meeting or if you need additional documentation. I can be reached at 201-538-0109.

Sincerely,

John McNally