



VENTLESS COMBUSTION & ENERGY CORPORATION

P.O. Box 462372
Escondido, CA 92046-2372
Tel: 760.747.7815
Fax: 760.747.7814
www.ventlessfurnace.com

Climate Action Reserve
523 W. Sixth Street, Suite 428
Los Angeles, CA 90014
Attn: Rachel Tornek, Senior Policy Manager
Tim Kidman, Policy Manager

We are addressing the Climate Action Reserve (CAR) pursuant to the notice we received that public comments are being taken on [Draft U.S. Ozone Depleting Substances Project Protocol Version 1.0](#) and [Draft Imported Ozone Depleting Substances Project Protocol Version 1.0](#) (referred to herein as the "Protocols") up until 5:00 PM PST on Friday, December 18, 2009. Our comments address the fact that there is only one way to dispose ODS written into the Protocols. We strongly recommend that this be corrected to include transformation as the alternative to destruction.

We are proposing that the alternative to destruction by any method is transformation. The 1990 Revised Clean Air Act (CAA) of the United States defined transformation as being the alternative to destruction. I believe that the Protocols should do the same. (See Electronic Code of Federal Regulations, Title 40: Protection of Environment, Part 82 - Protection of Stratospheric Ozone, [Subpart A—Production and Consumption Controls](#))

Here is the exact language used in the CAA under § 82.3, Definitions for class I and class II controlled substances to define "destruction" and "transformation"

Destruction means the expiration of a controlled substance to the destruction efficiency actually achieved, unless considered completely destroyed as defined in this section. Such destruction does not result in a commercially useful end product and uses one of the following controlled processes approved by the Parties to the Protocol:

- (1) Liquid injection incineration;
- (2) Reactor cracking;
- (3) Gaseous/fume oxidation;
- (4) Rotary kiln incineration;
- (5) Cement kiln;
- (6) Radio frequency plasma; or
- (7) Municipal waste incinerators only for the destruction of foams.

Transform means to use and entirely consume (except for trace quantities) a controlled substance in the manufacture of other chemicals for commercial purposes.

The EPA later issued their Final Rule on issues commented and ruled on related to Title 40: Protection of Environment, Part 82 - Protection of Stratospheric Ozone, Subpart A—Production and Consumption Controls, herein referred to as the "Final Rule". Their Final Rule was published in the Federal Register, Vol. 57 No. 147 Thursday, July 30, 1992 p 33754 (Rule), 1/5857. It presented a long discussion of transformation and its explicit distinction from destruction. Were this not important, a large part of the Final Rule would not have been devoted to that discussion (Link = <http://www.epa.gov/ozone/fedregstr/57fr33754.html>.) The EPA's conclusion is copied (in italics) as follows (we inserted bold emphasis):

*In summary, a controlled substance is transformed if it is used and entirely consumed (except for trace quantities) in the manufacture of other chemicals. **The "other chemicals" manufactured must be commercially useful.** This includes uses in manufacturing processes and is not limited to commercial sale. Processes where the atoms that make up the controlled substance are rearranged to form only a waste product are destruction processes, not transformation.*

The EPA went further to define the way recordkeeping is to be conducted for both destruction and transformation. The EPA's rule on record keeping is copied (in italics) as follows from the Final Rule under Section 82.13 Recordkeeping and Reporting, 4. Transformers:

Companies that use any of the class I controlled substances in Groups I, II, III or V as feedstock and request additional allowances under 82.9 and 82.10 of EPA's regulations and companies that transform carbon tetrachloride must maintain the following records on site: Dated records of the quantity of controlled substance used and entirely consumed in the manufacture of another chemical; copies of the invoices or receipts documenting the sale from the producer or importer of the controlled substance to the person; dated records of the names, commercial use, and quantities of the resulting chemicals; and dated records of shipments to the purchasers of the resulting chemicals. These requirements are being adopted as proposed.

In the Final Rule transformation is never referred to as being destruction. In fact, we again emphasize that the Final Rule was clear in defining transformation as being an alternative to destruction. Again, we copied (in italics) a part of the Final Rule discussion on this point:

...the Agency discussed the difference between transformation and destruction. Essentially, the proposed definition of transformation was the use and entire consumption of a chemical in a process that produces another commercially useful chemical. The proposed definition of destruction was any process that results in the "expiration" of the chemical without any commercially useful end product being produced.

We highly recommend that the creators of the Protocols carefully study the Final Rule that is readily available and therefore will not be copied in these comments.

We noted that there are only two instances where transformation was mentioned in the "domestic protocol". The first instance in the "domestic protocol" was the only instance mentioned in the imported protocol. Perhaps it was intended that the meaning of "transformation" in the Protocols including the foot note on page 52 of the "domestic protocol" that was excerpted from an EPA document was semantically consistent with the meaning of "transformation" in the Final Rule. We copied (in italics) the identical statements using the word "transformation" found in Appendix C of the Protocols as follows:

2.1.1 Destruction and Removal Efficiency

Destruction Efficiency (DE)⁴⁹ is a measure of how completely a particular technology destroys a contaminant of interest – in this case the transformation of ODS material into non-ODS byproducts.

However, the wording that followed this sentence focused on the by-products being destruction by-products instead of useful products required in the CAA and the Final Rule for transformation processes. The sentence that followed is copied (in italics) below:

There are two commonly used but different ways of measuring the extent of destruction – DE and Destruction and Removal Efficiency (DRE).

What is the justification for including a transformation process as an alternative to destruction? We recognize that there will be some difficulty in overcoming what we believe to be an oversight in not inserting transformation as an alternative to destruction. We know that the CAR as well as other stakeholders in the same industry are concerned about the environment and are conscious of producing unnecessary waste.

Transformation recycles the materials used to produce ODS especially fluorine that is required in many strategic materials such as Excimer laser lenses, fluorescent lighting, and brake pads for air craft and vehicles. It is mainly used in the production of hydrofluoric acid used extensively to etch ceramics, in the electronics industry and for the production of solar voltaic cells, to name a few. Transformation of ODS also recycles chlorine used to produce calcium chloride brine used to coat dusty roads, a portion of a clear well drilling fluid

(with bromine) or as a heat transfer fluid in refrigerant processes that replaces the use of ODS. Other uses of chlorine in industry are too numerous to list. We need to recognize that there is a considerable energy savings typically produced by fossil fuels in recovering both fluorine and chlorine compared to producing them from raw feedstocks.

We recognize the difficulty that this oversight might present. If the protocol lacks adding transformation technology as an alternative to destruction, the mistake will follow and potentially could reduce the benefit of using carbon credits to remove ODS.

Where is transformation of ODS being used today? There has never been any successful transformation or destruction of ODS. Records state that other than leakage into the atmosphere, there has only been an ODS reduction of about 1.5% since being manufactured in the US. What was destroyed up to recently was done mainly because the “bottoms” (also called “cocktail”) of ODS distillation could not be reclaimed. The current opportunity for generating ODS destruction carbon credits is also the same opportunity for generating ODS transformation carbon credits. It is incumbent on all of us to work for the best results.

We would like to point out a few suggestions as to how the wording might be changed in the protocols to avoid much difficulty in correction of the problem we have identified. You will note that in ALL places that discuss removing Class I substances in the CAA or the Final Rule, the word transformation appears before and not after destruction. If we followed an alphabetical hierarchy, it would come after “destruction”, but we can only infer that the hierarchy was intentional to place the best approach first. Therefore, we can follow all the places in the Protocols and place the words “transformation and” before destruction. The rest is easy. Wherever the destruction process is described, there also has to be mention of the transformation process.

The subtitle of the Protocols should read, “Transformation and Destruction of Domestic Ozone Depleting Substances”. The rest is simple. In the first chapter, “Introduction”, the first sentence should read, “...associated with transformation or destruction in the U.S.... We used the Word Doc “finder” to chase down all the instances of destruction and could find scores of places other than the specific descriptions of “destruction” it made sense to follow this formula.

The explanation of the Project Definition (2.2) is an example of where this formula applies such as, “...leading to the transformation or destruction of eligible ODS at a single qualifying transformation or destruction facility.... Transformation or Destruction may take place...Certificates of Transformation or Destruction.

We think there should be special attention given to the paragraph beginning with, “For all projects, the end fate of the ODS must be destruction at...” An alternative would be “For all projects...if transformation must be ... or if destruction must be.... These are some of the examples of how the wording could be changed to include transformation that we believe must be written into the Protocols.

There is more detail about destruction in Appendix C under 2.1.1. First we suggest the heading reads, “Transformation, Destruction and Removal Efficiency”. The second sentence of the paragraph (added in blue type) could provide the definition of transformation that produces transformed by-products instead of destroyed and wasted by-products. The paragraph could read like this:

“Transformation is the process of entirely consuming (except for trace quantities) one feedstock chemical in the manufacture of other chemicals. The “other chemicals” manufactured must be commercially useful. This includes uses of the feedstock chemical in manufacturing processes and is not limited to commercial sale. However, the end products must be sold as commercially useful product. Processes where the atoms that make up the feedstock chemical such as are rearranged to form only a waste product are destruction processes, not transformation.”

This could be followed by the text, “There are two commonly used but different ways of measuring the extent of destruction....”

We also want to draw attention to another important distinction between transformation and destruction promulgated by the US EPA. That has to do with record keeping. The following are two different descriptions of recordkeeping found in the Final Rule under section § 82.24 Recordkeeping and reporting requirements for class II controlled substances.

(3) *Reporting—Transformation.* Any person who purchases class II controlled substances for purposes of transformation must provide the producer or importer with a transformation verification that the class II controlled substances are to be used in processes that result in their transformation.

(i) The transformation verification shall include the following:

(A) Identity and address of the person intending to transform the class II controlled substances;

(B) The quantity (in kilograms) of class II controlled substances intended for transformation;

(C) Identity of shipments by purchase order number(s), purchaser account number(s), by location(s), or other means of identification;

(D) Period of time over which the person intends to transform the class II controlled substances; and

(E) Signature of the verifying person.

(ii) [Reserved]

(4) *Reporting—Destruction.* Any person who destroys class II controlled substances shall provide EPA with a one-time report containing the following information:

(i) The destruction unit's destruction efficiency;

(ii) The methods used to record the volume destroyed;

(iii) The methods used to determine destruction efficiency;

(iv) The name of other relevant federal or state regulations that may apply to the destruction process;

(v) Any changes to the information in paragraphs (e)(4)(i), (ii), and (iii) of this section must be reflected in a revision to be submitted to EPA within 60 days of the change(s).

We understand that the Protocols are a work in process. However, we also believe that CAR and other stakeholders should be supportive of project developers willing to take the highroad and use transformation alternatives to conserve materials without waste.

Yours Very Truly,

A handwritten signature in black ink, appearing to read "P. Johansing, Jr.", with a stylized flourish at the end.

Paul "Gere" Johansing, Jr.
VC&E President and CEO