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October 17, 2014

TO: Richard Corey
Executive Officer
California Air Resources Board

RE: Clean Harbors Investigation

The following are our comments on ARB's October 8 preliminary determination regarding compliance offset credits issued for ODS destruction events that took place at the Clean Harbors facility ("the facility") in Arkansas. For the reasons outlined below, we disagree with ARB's reasoning in arriving at the preliminary determination and believe no credits should be invalidated.

1. The Alleged RCRA Violations Do Not Constitute Non-Compliance

ARB asserts that the credits that are proposed for invalidation were generated from destruction events at Clean Harbors when the facility did not "meet the full burden of applicable regulatory requirements" as required by the 2011 ODS Protocol¹, and that the credits in question can be invalidated because the "project activity was not in accordance with all local, state, or national environmental and health and safety regulations", as required by Section 95985(c)(2) of California's Cap-and-Trade Regulation.

ARB has incorrectly concluded that the facility was not meeting its regulatory requirements. Since at least 1996, the Arkansas Department of Environmental Quality (ADEQ) has endorsed the way the brine by-product was being managed, including its recycling as a commercial chemical product. The ADEQ considered the brine and the unit that generated the byproduct to be exempt from hazardous waste regulations.

The U.S. EPA inspections in 2009 and 2011 raised concerns about the brine recycling program that appear to have been mischaracterized as formal notification of a notice of violation of the Clean Harbors facility. Clean Harbors voluntarily ceased shipments of brine to their customers. No formal notice of violation was ever issued to the Clean Harbors El Dorado facility.

ARB cannot use the inspection report findings as a basis to invalidate the credits. The concerns raised in the inspection reports do not constitute a formal enforcement action by the U.S. EPA, nor do they represent a formal notice of violation. Further, California has not been delegated authority by the U.S. EPA to administer, enforce, or interpret the federal RCRA program; by determining that the Clean Harbors facility in Arkansas was in violation of RCRA regulations, independent of a formal enforcement finding by the U.S. EPA, is beyond the jurisdiction of California.

¹ Section 3.5, ARB Compliance Offset Protocol, Ozone Depleting Substances Projects (October 2011)

2. The Alleged Violations Do Not Apply to Offset Project Activities

ARB asserts that the Clean Harbors facility was not operating in accordance with RCRA regulations and therefore the credits in question are subject to invalidation. In this case, the regulatory test for invalidation is whether the ODS project activities were done in accordance with all environmental, health and safety regulations.

ARB's ODS Offsets Protocol defines the scope of project activities by specifying performance, monitoring, and quantification requirements for collection, aggregation, transport, mixing, processing, analysis, and destruction of ODS.

The protocol includes no requirements or mention of waste products, brine recycling, or brine disposal. The project activities did not involve brine recycling, brine disposal, or any aspect related to brine management.

Neither EPA nor the Arkansas DEQ has ever issued any violation related to the performance or operation of the facility's destruction unit itself, or the manner by which Clean Harbors manages the ODS. Similarly, no violations have been identified for any of the other project activities listed above.

2.1 Brine Management Does Not Impact ODS Destruction Project Activities

ARB is apparently making its preliminary determination of invalidation by concluding that ODS project activity is indirectly connected to the brine management activities at Clean Harbors.

As we have previously noted, for over 20 years the El Dorado facility has been destroying ODS pursuant to EPA RCRA, Title V, and NPDES permits, and in conformance with the Montreal Protocol. The facility uses state of the art, advanced pollution control technologies, surpassing EPA's MACT air emission standards. At no point has the facility been the subject of any enforcement action related to ODS destruction, including any Title V permit conditions.

EPA's concerns were limited to the recycling of the brine. The brine is formed in a separate unit from the rotary kilns, and after ODS and other wastes are incinerated. EPA did not object to the manner in which the incinerator was operated, to the air emissions control process, or to the operation of the brine unit. The incinerator and the brine unit continue to operate in the exact same way that they did prior to the inspection reports, and EPA has not raised concerns regarding the manner in which ODS (or any other waste materials) are incinerated at the Facility. The way the brine was generated and managed as a waste product at the El Dorado facility had no connection to the performance of the rotary kiln, or any other operations associated with ODS destruction. No environmental harm occurred as a result of the project activities, and there was no impact on the environmental integrity of the offsets with regard to greenhouse gas emissions.

2.2 ODS Destruction Does Not Impact Brine Characteristics

ODS comprise an extremely small percentage (<1%) of the waste stream processed and incinerated at Clean Harbors. The specific technical issue raised by EPA regarding the brine characteristics related to elevated levels of metals. By way of context, the actual levels of the trace metals were significantly below natural background levels found in the soil where the brine mixture was being injected. ODS, including the chlorofluorocarbons (CFCs) destroyed at Clean Harbors facility contain no metals. Any trace metal content of the brine was attributable to other diverse waste products processed at the facility. In other words, if the Clean Harbors facility only destroyed ODS, the concerns regarding potential hazardous waste characteristics of the brine would not have been an issue.

In terms of the timeline that ARB is using for the invalidation determination, there is no connection between the ODS destruction events associated with our project, and the brine that was generated and subsequently transported out of the facility on February 3, 2012. According to the records kept by Clean Harbors, brine transported off-site on those dates were the byproducts of materials that were destroyed 108 hours earlier, prior to any destruction events that EOS Climate was associated with. This reinforces our argument that project activities had no relationship to the alleged brine management concerns.

2.3 Used CFC Refrigerants Are Not Listed Hazardous Wastes

ARB's underlying technical argument for connecting project activities to brine management at the facility appears to be based on the "derived-from" rule -- the ODS destroyed at the facility was classified as hazardous waste, and is therefore part of the reason the brine is alleged to be hazardous waste. If this is ARB's logic, the reasoning is based on an incorrect assessment.

ARB states that CFC-11 and CFC-12 are listed as hazardous wastes (U121 and U075) "when disposed." This is true for CFCs that meet the characteristics of hazardous waste (i.e., corrosivity, reactivity, flammability, toxicity) and virgin CFCs that were never used. But this is **not** the case for CFCs that have been used and recovered, do not meet hazardous waste characteristics, and are subsequently destroyed.²

Based on EPA's regulations and various guidance documents over the past 30 years, RCRA U-codes refer to unused material. In 40 CFR 261.33(f), EPA established the "U Codes" for hazardous wastes that are "thrown away in their pure form or as an off-specification species of the listed material."³ In the case of CFCs, an example would be an over-production of CFC-12 for which there was no customer at the time.⁴ An EPA memorandum notes that: "As applied to 261.2, the definition of solid waste, EPA interprets the category of commercial chemical products to include all types of unused commercial products..."⁵

While used material cannot be characterized as U-code waste intended for "commercial chemical products", used material could be listed under other RCRA waste codes depending on what it is and where it comes from (F-, K-, or D-wastes); however, none of those categories apply to used CFC refrigerants that do not exhibit hazardous waste characteristics.⁶ Used CFC and HCFC refrigerants that are reclaimed for reuse are in fact specifically exempted from hazardous waste classification under RCRA.⁷

² Our projects have only involved recovered CFC refrigerants that are reclaimed to remove oil and water prior to destruction and do not contain any other materials that would meet the characteristics of hazardous waste.

³ 45 FR 33084, May 19, 1980.

⁴In the *Definition of Solid Waste Compendium, Volume K: Commercial Chemical Products* (Version 2.2, August 2011), EPA states that "Discarded commercial chemical products, off-specification species, container residues, and spill residues" refers to "commercial chemical product" (i.e., U-wastes) as "commercially pure grade of the chemical;" any "technical grades of the chemical that are produced or marketed" and "all formulations in which the chemical is the sole active ingredient." This compendium also states: "The phrase —commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . . refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the **commercially pure grade** of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that **contains** any of the substances listed in [40 CFR 261.33] paragraph (e) or (f).

⁵ U.S. EPA *Definition of Commercial Chemical Product for Solid Waste Determination vs. Hazardous Waste Identification*, Monthly Hotline Report (August 1996).

⁶ Code F (wastes from non-specific sources) would only apply to spent halogenated solvents, Code K (wastes from specific sources) would apply to wastes/residues from chemical production, and Code D (Characteristic Wastes) would apply to wastes that exhibit any of the four characteristics – ignitibility, corrosivity, reactivity, and toxicity – described in 40 CFR 261.21 to 261.24.

⁷ 40 CFR 261.4(b)(12)

The following is excerpted from a 2010 report to the U.S. EPA Stratospheric Protection Division⁸ (emphasis added):

“ODS may be classified as Code U hazardous wastes (as defined in 40 CFR 261.33) if they are commercial chemical products or manufacturing chemical intermediates that are discarded or intended to be discarded (i.e., abandoned by being disposed of; burned/incinerated; or accumulated, stored, or treated but not recycled before or in lieu of being abandoned by being disposed of, burned, or incinerated, see 40 CFR 261.2(a) and (b)). A commercial chemical product/manufacturing chemical intermediate is defined in 40 CFR 261.33(c) and (d) as:

- *a chemical substance that is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical;*
- *any technical grades of the chemical that are produced or marketed;*
- *all formulations in which the chemical is the sole active ingredient; and*
- *any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate named in this section of the regulations.*

*Thus, while carbon tetrachloride, methyl chloroform, methyl bromide, trichlorofluoromethane (CFC-11), and dichlorodifluoromethane (CFC-12) have designated U waste codes—U211, U226, U029, U121, and U075 respectively—this code is limited to container residues and products that were manufactured but never used. Therefore, a controlled substance that was manufactured and never used would be considered a Code U waste if it was discarded or intended to be discarded. However, refrigerants removed from equipment (which are not classified as hazardous wastes) **would not** fall under hazardous waste Code U.”*

EPA issued guidance on this specific issue, in response to a question from James Allen of California’s Toxic Substances Control Division⁹, copied below (emphasis added):

Dear Mr. Allen:

This letter responds to your February 6, 1989, correspondence requesting written confirmation of the regulatory status of chlorofluorocarbons (CFCs) used as refrigerants under the Resources Conservation and Recovery Act (RCRA).

As a spent material being reclaimed for reuse, the spent CFCs meet the definition of solid waste under Federal regulations (see 40 CFR 261.2). However, to meet the definition of hazardous waste and, thus, be subject to Subtitle C of RCRA, the spent CFCs must either be specifically listed as a hazardous waste, or must exhibit one or more of the characteristics of a hazardous waste.

Certain CFCs that are used for their solvent properties are listed as hazardous wastes when spent (see EPA Hazardous Waste Nos. F001 and F002 at 40 CFR 261.31). Also, certain CFCs that are unused commercial chemical products are listed hazardous wastes when discarded (see 40 CFR 261.33). However, CFCs used as refrigerants, do not meet any of the hazardous waste listings. Thus, a used CFC refrigerant is a hazardous waste only if it exhibits one or more of the characteristics of a hazardous waste.

⁸ ICF International “Destruction of Ozone-Depleting Substances in the United States” Prepared for U.S. EPA’s Stratospheric Protection Division (2010).

⁹ Letter from Michael Petruska, Acting Chief, Waste Characterization Branch, Office of Solid Waste, U.S. EPA, to James T. Allen, Chief, Alternative Technology Section, Toxic Substances Control Division, Department of Health Services, Sacramento CA (August 2, 1989).

On July 28, 1989, published a Federal Register notice (54 FR 31335) that clarified the applicability of RCRA Subtitle C regulations to CFC refrigerants (see enclosure). This notice also announced the availability of data relating to whether CFC refrigerants exhibit the characteristic of a hazardous waste. In determining whether the CFC refrigerant to be recycled is a hazardous waste because it exhibits a characteristic of a hazardous waste, a generator may cite the Federal Register notice to demonstrate that such materials do not exhibit a hazardous characteristic under normal operating conditions.

3. ARB's Definition of Regulatory Compliance is Inconsistent and Selectively Applied

Recent amendments to Section 95973(b) of the Regulation clarify that in issuing offset credits, ARB is concerned not with any and all regulations, but those regulations and laws that are directly applicable to the project (emphasis added).

“...an offset project must also fulfill all local, regional, and national environmental and health and safety laws and regulations that apply based on the offset project location and that directly apply to the offset project, including as specified in a Compliance Offset Protocol. The project is out of regulatory compliance if the project activities were subject to enforcement action by a regulatory oversight body during the Reporting Period. An offset project is not eligible to receive ARB or registry offset credits for GHG reductions or GHG removal enhancements for the entire Reporting Period if the offset project is not in compliance with regulatory requirements directly applicable to the offset project during the Reporting Period”.

We support the clarification, which is consistent with ARB's prior guidance. For example in response to a comment related to the mine methane control protocol, ARB stated that

“...the Regulation states that a project is out of regulatory compliance if the project activities were subject to enforcement by a regulatory oversight body during the Reporting Period. As that language indicates, regulatory compliance is specific to the offset project activities, not to all activities at the mine as a whole.”¹⁰

In contrast, as noted above, Section 95985(c)(2) of the Regulation states that ARB **may** determine an offset credit is invalid if “the offset project activity and implementation of the offset project was not in accordance with all local, state, or national environmental, health and safety regulations during the Reporting Period for which the ARB offset credit was issued”.

ARB responded to comments about the discrepancy between Sections 95973(b) and 95985(c)(2)¹¹:

“Regulatory conformance is intended to be limited to project activities. ARB cannot apply the term “material” in this situation as there is no way to clearly define what that term means. ARB staff believes section 95985 gives ARB sufficient authority to determine invalidation of ARB offset credits to ensure the environmental integrity of the program. This section does not place additional requirements on an offset project, but only ensures that all offset credits issued meet the requirements of the regulation and protocol. The determination to invalidate ARB offset credits will be based on new information not known to ARB at the time of issuance of ARB offset credits, and would be assessed against the issuance

¹⁰ Cap-trade Statement of Reasons, J-1.20 Comment, p. 628 (May 2014).

¹¹ For example: “Thus, if ARB lets the existing inconsistencies stand between 95973(b) and 95985(c)(2), ARB could find itself in the position of being required by the regulation to allow the issuance of an offset and then immediately invalidate it. For example, an offset project could be in breach of an environmental or safety law that does not directly apply to the offset project: 95973(b) would allow the issuance of an offset in this situation but 95985(c)(2) would require that offset to be invalidated.

requirements. If the new information provided leads ARB to believe that the ARB offset credits meet the requirements for issuance, ARB would determine invalidation of the offset credits is not necessary; therefore, ARB does not agree that the provisions in 95973 and 95985 are inconsistent with each other. ARB staff will continue to work with OPOs, APDs, and offset verifiers to ensure successful implementation of these requirements, including through existing clarifying guidance.”¹²

Based on this response, it appears that ARB believes there should not be any invalidation of credits if those credits were correct to have been issued. Thus, it is reasonable to expect that the language in Section 95973(b), and ARB’s prior interpretation of that section’s intent (prior to the recent regulatory amendments) should be applied to the current review.

ARB, however, is now introducing a new, broader interpretation. Section 3.5 of the ODS Protocol states that “all destruction facilities must meet the full burden of applicable regulatory requirements during the time the ODS destruction occurs”. In reference to this provision, ARB states in the preliminary determination (emphasis added):

“The Cap-and-Trade Regulation and ODS destruction Protocol are complementary regulatory documents that must be read in harmony with each other. ARB is interpreting these provisions to require that both the project activities associated with the destruction of ODS as well as other activities at the facility in question must be in ‘accordance with all local, state, or national environmental and health and safety regulations’. ARB interprets this provision to: 1) all requirements that have a bearing on the integrity of the generated offsets; and 2) environmental and health and safety requirements associated with the collection, recovery, storage, transportation, mixing, and destruction, *including the disposal of the associated post-destruction waste products.*”

According to this language, ARB is now creating a new, vague category of **“other” non-project activities** that can be used to determine credit invalidation. This is a reversal of prior ARB guidance that specifically indicated that “not all” activities are part of the regulatory compliance determination, but **only those specifically related to the offset project.**

The phrase “including the disposal of the associated post-destruction waste products” is part of the recently **proposed update** to the ODS protocol. Under Section 95985(c)(f), **“an update to a Compliance Offset Protocol will not result in an invalidation of ARB offset credits issued under a previous version of the Compliance Offset Protocol”**. ARB appears to be violating at least the spirit of this provision by incorporating a proposed revision to the ODS protocol into its rationale for the invalidation decision and creating an inconsistent reading across the different regulatory documents:

- ARB states in its regulation that only those project activities directly applicable should be the basis for judging regulatory compliance both for issuance and by extension, according to ARB guidance, for invalidation as well.
- In a new interpretation in the preliminary determination document, ARB is saying that all regulatory requirements, presumably even those not directly applicable to project activities, are germane to the decision on invalidation.

¹² Cap-trade Statement of Reasons F-1.9, p. 864 (May 2014)

Conclusion

In sum, we believe that the mischaracterizations regarding RCRA regulations, the technical errors in connecting ODS destruction to the RCRA issue, the inappropriate determination of regulatory non-compliance beyond ARB's expertise and authority, the shifting definitions of regulatory compliance, combined with the procedural violations that ARB has committed in the course of this 4+ month investigation, makes ARB's preliminary determination unsupportable under any reasonable standard and that none of the credits reviewed under this investigation should be invalidated.

Sincerely,

Jeff Cohen
Senior Vice President