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September 27, 2011

Clerk of the Board
California Air Resources Board
1001 I Street
Sacramento, California 95814

Re: 15-day Comments on Proposed Changes to Cap and Trade Regulations;
September 12, 2011 Second Notice of Public Availability of Modified Text

Subchapter 10 Climate Change, Article 5, Sections 95800 to 96022,
Title 17, California Code of Regulations

This comment is submitted with respect to the California Air Resources Board's (ARB's) further proposed revisions to the proposed rules for implementation of the cap and trade program. It is submitted on behalf of the Greenhouse Gas Early Action Group (GHG Early Action Group), which consists of certain persons who have undertaken or invested in greenhouse gas emission reductions well before required by law. These reductions meet the substantive criteria for early action offsets proposed by ARB. The group includes a wide cross section of industry types in the GHG mitigation arena: developers, investors and potential end users of carbon offset credits. The GHG Early Action Group previously submitted comments on ARB's August 11, 2011 draft, and have reviewed the ARB's proposed modifications to that draft. The GHG Early Action Group supports most of ARB's changes in that they address two of the Group's previous comments.

The remaining issue on which action is requested at this time concerns recognition of the Ozone Depleting Substance Destruction Protocol (ODS protocol) as adopted by the Chicago Climate Exchange (CCX), first in 2007 and revised in 2009. Attachment B to our prior comment presented a side by side comparison of the current versions of the Climate Action Reserve (CAR) and CCX ODS protocols. That Attachment B is re-submitted with this comment. In addition, Attachment D is a response from the CCX to ARB staff providing further analysis and information in support of the CCX ODS Protocol. In this additional comment we provide further justification for recognition of the CCX ODS protocol as a protocol from which early action credits may be issued.

1. The CCX ODS Protocols 1.0 and 2.0 should be added to the list of approved methodologies in (c) (5) following (c) (5) (D).

The CCX was the first voluntary registry to adopt an offset protocol for ODS materials. The first protocol was adopted in 2007 and then revised in 2009. The Protocol was developed by

U.S.EPA, who submitted a proposed draft ODS Protocol to CCX in April, 2007. Several revisions were discussed among CCX, U.S. EPA (Jeff Cohen), and DuPont (Mack McFarland). Following the expert review process, Version 1 was approved by the CCX Offsets Committee on June 19, 2007. It was published soon thereafter to the CCX web-site. For its work in developing and publishing the first ODS destruction credit protocol, U.S.EPA nominated CCX for the U.S.EPA Ozone-Layer Protection Award.

Suggested revisions to Version 1 of the CCX ODS Protocol began a year later, in the summer of 2008. In 2008 and into 2009, representatives of the Air Resources Board (ARB) (Jeff Cohen) U.S.EPA (Bella Maranion), and the U.N. Environment Program (Paul Ashford) submitted comments on the working draft of Version 2. Among those submitting comments and reviews on Version 2 were the ARB, U.S.EPA and several interested developers and potential buyers of ODS offset credits, including:

- Air Compliance Testing
- Coolgas Inc.
- Delta Institute
- Dow Corning Corporation
- DuPont Inc.
- Environmental Credit Corporation
- First Environment Inc.
- Hudson Technologies, Inc
- ICF International, Inc.
- Polar Refrigerant
- PureChem Separation Inc.
- Reclamation Technologies (RemTec) International

Version 2 of the CCX ODS Protocol was adopted on May 26, 2009 and published to the CCX website. Thus, the CCX ODS Protocol resulted from a combination of environmental agencies, industrial sources, project developers, consultants, verification bodies and investors and represented the best thinking at the time with respect to offset credits for ODS destruction.

Many of these same parties then became involved in the efforts by the Climate Action Reserve to develop its ODS protocol, now proposed to be recognized by ARB as a valid protocol for early action credits [see 95990 (c) (5) (C)]. The CAR protocol was initiated after the CCX Version 2 was adopted. By virtue of the way ODS projects are undertaken, only projects initiated in anticipation of the CAR Protocol, released on January 22, 2010, would qualify under the early action rules as proposed.

This request thus represents the classic case for recognition of early action. In 2006, there were no published protocols for ODS destruction; the CCX protocol was the first. Those who were involved from the beginning were the leading authorities in the United States, if not the world, relating to the issues involved in recognizing real GHG reductions from ODS destruction.

(U.S.EPA, DuPont, ICF). This occurred before ARB was underway with adoption of its cap and trade program; when the second version was adopted two years later, ARB was able to participate in its development by submitting comments relating to the verification requirements, material eligibility, and sampling requirements. CCX closely observed and took into account the recommendations of U.S.EPA and ARB.

It is critical that ARB recognize the principle that early reductions provide great value, and perhaps even greater value to the climate than reductions which are achieved later. If sources, developers and investors are uncertain that their early reductions, undertaken in good faith, voluntarily and using the most current scientific methodologies, will not be counted or not have value, that will substantially slow the pace of innovation and emission reductions.

As is the case with almost any offset protocol, changes occur over time; indeed, if there were no need for improvement, Protocols would not likely be changed. But that does not detract from the environmental benefits of early action, particularly with respect to climate change issues. It is well accepted in the climate change science that earlier reductions provide greater value – by reducing emissions earlier – than later reductions of an identical quantity. Therefore, it would be unfair to make a rule whereby ODS offset credits issued under the CCX protocol have no value, destroying the expected value for the efforts and investments made simply because of the differences between the CCX ODS Protocols and those developed later by the Climate Action Reserve.

Thus, both Version 1 and 2 of the CCX ODS Protocol were developed and then adopted following comments and reviews by a wide variety of stakeholders.

2. The phrase "offset quantification methodologies and relied on the most recent version thereof at the time of offset project submittal" in (c) (5) should be clarified.

We see a potential issue from the language as proposed since it is not obvious that the most recent version refers to the time the project was first submitted to the voluntary registry, or the time at which the project is submitted to ARB for recognition as an early action credit.

We presume that ARB intends, where there are multiple versions of an approved protocol, that the most recent version of the protocol is the one by which the offset project is to be quantified, not to an earlier version. The staff memorandum is clearer on this point, since it states "only the most current version of any protocol may be used at the time the project is initiated." Staff memorandum at 36. We recommend that the "initiation" concept be included expressly in (c) (5). This intent further demonstrates that later versions of a recognized protocol are not to be applied to a project which was submitted under an earlier protocol.

Of course, this is exactly the conclusion we urge ARB to reach with respect to ODS methodologies. One can trace the involvement of early actors from the CCX ODS protocol to the CAR ODS protocol.

Conclusion

We therefore urge ARB to list the CCX ODS Offset Protocol as an additional approved early action methodology under (c) (5). We commend ARB for making the other adjustments which we had suggested in our August 11, 2011 comments.

The Members of the GHG Early Action Group have devoted substantial resources to abate GHG emissions. They have clear proof of those GHG reductions. We urge that ARB not preclude these reductions from being recognzied as they were created in good faith, and they meet the substantive conditions for early action credits. Of course, to the extent that ARB adopts a different definition of a covered GHG, the CCX protocol would not be able to generated Early Action Credits. But it nevertheless merits being listed as an eligible protocol, just as the CAR Protocol is listed.

We would further request a meeting to clarify and resolve any questions that ARB and its staff have with respect to these credits.

Respectfully submitted,

Jeffrey C. Fast

Common Counsel for the GHG Early Action Group

cc: GHG Early Action Group
Stephen McComb, CCX

Attachment B

Comparison of CCX and CAR Offset Protocol

-ODS Destruction-

Element	Chicago Climate Exchange ("CCX")	Climate Action Reserve ("CAR")
Protocol	Ozone Depleting Substance Destruction Available here.	Ozone Depleting Substance Destruction Available here.
Design Framework	ISO 14064-2 *Specification with guidance at the project level for quantification, monitoring, and reporting of greenhouse gas emissions reductions or removal enhancements, Version 1.*	Based on general CAR principles.
Project Definition	Destruction of eligible ODS gas at an eligible destruction facility. Projects are distinct gas destruction runs. Destruction of ODS trapped in appliance insulation foam is eligible.	Same as CCX. Projects may be batches of gas destruction runs grouped together over a 12 month period. Destruction of ODS trapped in building and appliance insulation foam is eligible.
Role of the project developer	Developer or registering firm must have title to the emission reductions.	Same as CCX.
Location	US ODS is eligible. ODS may be imported for destruction from locations where it is phased out of production and importation by law.	US ODS is eligible. ODS imported to the US for destruction has a separate protocol. Same eligibility standard as CCX.
Eligible Destruction Facility	All destructions must occur in the US at a RCRA or EPA licensed facility using TEAP approved destruction technology.	Same as CCX.
Start Date	January 1, 2007.	Initial protocol approved in February of 2010 with a start date of February 2008. As of February 2011 projects must be listed no more than 6 months after their start.
Crediting Period	Not applicable since projects are distinct destruction runs of gas in stocks, not flows, see baseline.	Same as CCX.
Eligible ODS	CFC 11, 12, 13, 113, 114, 115. HCFC 141b. Halon 1211, 1301, 2402. Carbon tetrachloride. Methyl Chloroform.	CFC 11, 12, 114, 115. HCFC 22, 141b.
Baseline for gaseous or liquid ODS	Unmitigated release of ODS in accordance to U.S. EPA vintaging models.	Release of ODS over a 10 year horizon. Crediting from 77% to 95% of ODS destroyed, depending on CFC destroyed.
Baseline for ODS entrained in foam	CCX assumes that only ODS emissions resulting from the shredding of foam are emitted to atmosphere. Of the total destruction of ODS in foam, only 24% is credited (i.e. the baseline emissions is	CAR assumes that ODS emissions resulting from shredding, compaction, and degradation in the landfill are emitted to atmosphere. Of the total ODS in the foam, 44% is credited.

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-ODS Destruction-

	24% of the amount in foam).	
ODS Foam Destruction	ODS trapped in foam may be destroyed by burning foam material at an eligible destruction facility.	ODS trapped in foam must be extracted from the foam and destroyed in its gaseous form.
Additionality	CCX reviewed the common practice for destroying ODS and ODS trapped in foam and determined that destruction is not common practice.	Same as CCX.
Voluntary Installation	All projects must be voluntary.	Same as CCX.
Project Boundary Details:		
Refrigerant	Leaks from continued operation and servicing is the baseline.	Same as CCX.
Refrigerant	Leaks of substitute ODS gas not included in project boundary.	Included in project boundary.
Destruction	No crediting during periods of improper incinerator operation.	Same as CCX.
Destruction	Oxidation of carbon in ODS included.	Same as CCX.
Destruction	Emissions associated with fossil fuel use at the destruction facility included as project emissions.	Same as CCX.
Extracting ODS from foam	Emissions from separating foam from appliance not included in project boundary.	Included in project boundary.
Appliance and Foam Shredding	Emissions from shredding appliance included in project boundary.	Same as CCX.
Transportation Emissions	Included.	Same as CCX.
Point of Origin Tracking	Proof that materials were not produced under a 'Critical Use Exemption' or from a government stockpile.	Required at each point where the aggregated materials exceeded 500 lbs., or materials must be stockpiled for 24 months.
Materiality Threshold for Verification	CCX requires reporting of any individual or aggregation of errors, omissions, and misrepresentations could affect the GHG assertion and could influence CCX's decision to register the Project. The concept of materiality is used when designing the verification and sampling plans to determine the type of substantive processes used to minimize risk that the verifier will not detect a material discrepancy. The concept of materiality is used to identify	Conceptually the Same as CCX. Have also specified quantitative materiality at 5% for projects registering less than 25,000 tons/year, 3% for 25,000 to 100,000 tons/year and 1% for projects registering more than 100,000 tons/year.

Attachment D

Chicago Climate Exchange follow up to comments of the California Air Resources Board

On May 4, 2011, the Chicago Climate Exchange (CCX) submitted comparisons of the protocols for Ozone Depleting Substance (ODS) and livestock methane destruction between the CCX and the Climate Action Reserve (CAR). On July 11, 2011 CCX received the following additional request for clarification from staff of the Air Resources Board:

1) Inclusion of non-US ODS
2) Inclusion of other gases (Halons, etc)
3) Foam methodology is significantly different (no landfilling assumptions)
4) Lack of gas analysis to determine composition, etc. before destruction
5) No point of origin documentation

1) Inclusion of non-US ODS

The CCX protocol has eligibility for projects which originate from the US as well as Article 5 countries. Like projects originating from the US, projects from Article 5 countries are only eligible where the ODS material to be destroyed has been phased out of production and may not be imported to the country in question. The relevant reference for this issue is included in section *5.7 Performance Benchmark* on page 8 of the protocol. Regardless of originating nation, the protocol requires that all materials be destroyed at a Resource Conservation and Recovery Act (RCRA) or EPA licensed facility using United Nations Environment Program (UNEP) Technology and Economic Assessment Panel (TEAP) approved destruction technology.

CCX allowed this eligibility for international ODS to provide an incentive for the capture and destruction of ODS where none was occurring. CAR has a protocol which provides a similar incentive. Should any non-US projects register with CCX, the registry would indicate the origin country and all the serialized tons associated with the project. As of the date of this writing there are no projects in CCX where material is sourced from outside the US.

2) Inclusion of other gases (Halons, etc)

The CCX, CAR and ARB draft compliance protocols differ slightly by the types of gases which are eligible under the protocol. See following table:

CCX	CAR	ARB Compliance Draft
CFC 11, 12, 114, 115	CFC 11, 12, 114, 115	CFC 11, 12, 114, 115
CFC 13, 113		CFC 113
	HCFC 22	HCFC 22
HCFC 141b	HCFC 141b	HCFC 141b
Halon 1211, 1301, 2402		

Carbon Tetrachloride		
Methyl Chloroform		

In developing the protocol CCX consulted with experts from US EPA, the California ARB, industry and environmental groups. The consensus view was that the protocol should provide an incentive for parties to destroy any and all gases that have been completely phased out of production under the Montreal protocol. Since much of the venting of ODS occurs in banks and other forms of storage, the expert committee did not see any justification for eliminating eligibility of certain ODS that met the general eligibility criteria (i.e. no production or imports) regardless of whether their inclusion would generate significant volumes of destruction or not.

Nonetheless, the overwhelming majority of ODS destroyed and registered at CCX is eligible at CAR and under the Draft ARB Compliance Protocol. The following is a summary table of ODS destroyed by CCX registered projects in tons of CO2e.

ODS	CFC 11	CFC 12	CFC 13	CFC 113	CFC 114	CFC 115	Halon 1211	Halon 1301	Halon 2402	Carbon Tet	Meth Cl	HCFC 141b
CCX Destroyed (tons CO2e)	79,822	360,010	120,972	85,123	74,979	34,130	527	37,252	0	73	15	1,237
CCX Total												794,140
CAR Eligible	79,822	360,010			74,979	34,130						1,237
CAR Eligible												550,178
CAR as % of CCX												69%
Draft ARB Eligible	79,822	360,010		85,123	74,979	34,130						1,237
Draft ARB Eligible												635,301
Draft ARB as % of CCX												80%

As far as it applies to recognition for early action, the verification rules under CCX require a detailed documentation of the amount and quality of ODS being fed into the destruction device. Therefore, in recognizing early action, the regulator could allow only those gases it chooses from the CCX protocol.

3) Foam methodology is significantly different (no landfilling assumptions)

The initial CCX protocol for destruction of ODS did not include eligibility for the destruction of ODS entrained in foam. However, Delta Institute, with the support of other project developers

including EOS Climate and JACO Environmental, submitted an application to the CCX Offsets Committee to credit them for removing both liquid and foam entrained ODS from refrigerators.

Consistent with its standard practice, CCX consulted with experts to establish the appropriate baseline for this ODS material. That is to say, "What would have happened to this material if it was not or is not destroyed under the CCX program?"

What CCX discovered was that the baseline for the refrigerant ODS in the refrigerator is no different than other refrigerant ODS and the protocol appropriately addresses it. However, ODS in foam is different and the baseline for this material is more complex and involves several material handling steps. First the refrigerator is shredded, then it is shipped to the landfill, and then it is placed into the landfill and covered with soil and other waste.

Therefore CCX undertook to determine how much ODS was emitted at the two primary steps of the refrigerator disposal process (shredding and landfilling).

- Shredding: A sound body of research shows that emissions of ODS contained in foam is between 24% and 70% of the amount contained in the foam.
- Landfilling: Some research indicates that some of the remaining (after shredding) ODS entrained in foam is eventually squeezed out of the bubbles and into the atmosphere. However, CCX determined that since the research was limited and based on laboratory simulations, CCX could not, with confidence, include these emissions into the baseline. As such the project proponent would get no credit for any avoided emissions from this process. CCX's approach is a much more conservative approach to crediting than to assume those emissions are in the baseline (as CAR's does).

In summary, the CCX protocol is much more conservative in the treatment and awarding of offset for the destruction of ODS entrained in foam. As an example, where CCX would award offsets based on 24% of the ODS originally contained in the foam, CAR would award 44%.

4) No point of origin documentation

The fundamental rules for the origin of materials eligible for CCX and CAR are identical. By leveraging federal law for documenting handling of specific ODS supplies, both protocols ensure that material was not imported into the country, was not held by the US government and was not produced as a result of a critical use exemption.

With respect to the specific requirements outlined in the "Point of Origin" section of the CAR protocol, the difference in the protocols is not material. The CAR protocol identifies five possible points of origin depending on the size and type of project that the developer is organizing. While the points of origin may be termed as such, they are not actually points of origin of the material. With the exception of extremely large (>500lb) single points of supply or building foam material, the points of origin are actually locations in the disposal cycle. For extremely large sources (>500 lb) and for building foam, the source material would be covered by the chain of custody for the material resulting from transportation.

It is critical to remember that CCX created a protocol for ODS destruction in 2007, with CAR following in 2010, to incent the destruction of material that would otherwise be vented. This pioneering effort was lead by CCX with policy and technical support of US EPA and the UNEP. Without raising artificial barriers for documentation, the protocol sought to move more material to destruction facilities, regardless of the source. This approach is consistent between the protocols and ensures that, for all but the biggest loads of ODS, the focus is on destruction regardless of domestic origin.