



California Climate Action Registry

SUMMARY OF PUBLIC COMMENTS RECEIVED AND THEIR INCORPORATION INTO THE FINAL PROTOCOL

ORGANIZATIONS THAT SUBMITTED COMMENTS ON THE LANDFILL PROJECT PROTOCOLS

1. California Integrated Waste Management Board (CIWMB)
2. Cameron-Cole (CC)
3. City Energy Manager, Sacramento (CEM)
4. City of Santa Monica, Environmental Programs Division (SMEPD)*
5. Covanta Energy (Covanta)
6. Environmental Defense (ED)
7. Department of Environment, City of San Francisco (SFDOE)*
8. Rural Counties' Environmental Services Joint Powers Authority (ESJPA)
9. ICLEI-Local Governments for Sustainability (ICLEI)
10. Marin County Board of Supervisors (MC)*
11. MidAmerican Energy Holding Company (MEHC)
12. StopWaste.Org (SW)
13. Solid Waste Industry for Climate Solutions (SWICS)**
14. TerraPass (TP)

* These three organizations submitted their comments together as a group.

** SWICS members submitted comments as a group. The entities represented by this organization are: Allied Waste Inc., County Sanitation Districts of Los Angeles County, Norcal Waste Systems Inc., Regional Council of Rural Counties, Republic Services Inc., Waste Connections Inc., and Waste Management

The comment letters can be viewed in their entirety on our website at the following web address: <http://www.climateregistry.org/PROTOCOLS/PIP/2/>

A. GENERAL COMMENTS

A1. Environmental Regulatory Compliance (ESJPA, SWICS)

Landfills are under intense regulatory requirements from numerous agencies. Compliance with "all" local, state, and federal regulations all of the time is extremely unrealistic. In some cases, a long term violation such as groundwater contamination can happen despite significant efforts in operation of the landfill. Current agency requirements provide that when an operator has a long-term violation, the facility is otherwise in compliance provided the operator is in compliance with the enforcement order to implement measures. In other cases, a



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natural disaster can, and has, destroyed landfill gas systems or caused other noncompliance situations that require significant time to correct. Returning to full compliance can take months to years. In the extreme case, the draft protocol could result in ineligibility for some minor violation such as litter. Also, there is no consensus on what would happen to a landfill that is currently receiving credits that then is subject to enforcement action related to less than adequate operation of the flare. An operator should not be ineligible for the protocols given these situations. The protocols should allow for these situations of substantive noncompliance with standards or compliance orders.

[RESPONSE: Agreed. Language has been included in the protocol that will clarify these issues.]

A2. General Scope (ICLEI).

The protocol's scope of work ideally would include crediting any efforts that reduce fugitive emissions from landfills. The effectiveness and type of landfill gas collection systems has an effect on fugitive emissions, and therefore under the optimal reporting structure improvements in these systems would be quantified, in addition to the metered recovered landfill gas. We acknowledge that the methods for quantification of fugitive emissions are still under significant debate and development, and consequently that mechanisms for reporting reductions of these emissions will encounter challenges. As an interim step we propose mentioning the absence of guidance on this topic in the current version of the protocol, and stating that efforts will be made to address it in future versions.

[RESPONSE: The Registry agrees with this statement, and has developed the Landfill Project Protocol under the notion that landfill gas collection systems are a big step towards controlling landfill fugitive emissions. Without agreed upon landfill fugitive emission modeling methods, however, it is not possible at this time to accurately characterize collection efficiency and total fugitive emissions at landfills. We have included language in the protocol that addresses these issues.]

A3. Fugitive Losses when combustion equipment is down for repair (CC)

If the collection and combustion system only has a flare, the project developer will need to account for fugitive losses when the flare is down for repair or maintenance.

[RESPONSE: Agree. Our protocol contains language requiring project developers to monitor the operation and function of all combustion devices. During periods when the combustion device is not operational, the project receives no credits.]



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A4. Double Counting (CC)

Stronger language needs to be used throughout the protocol in order to ensure the validity of the credits. Even the perception that the same reductions can be registered more than once (and credits sold more than once) will reduce their value and negatively impact the market.

[**RESPONSE:** Agreed. We have added language throughout the protocol to address this issue, including the requirement for project developers to submit a signed attestation to the registry stating that the reductions registered with the Registry are not being registered elsewhere.]

A5. Project Start Date (SWICS)

SWICS disagrees with the proposed project start date (Jan. 1, 2001) as it will disqualify many landfill methane reduction projects from being recognized for credible reductions and ultimately render the project protocol meaningless. At a minimum, the LPRP should allow for a project start date of January 1, 1999. This start date is consistent with the Chicago Climate Exchange (CCX) methane destruction protocol codified in Chapter 9 of its Rules Book. The January 1, 1999 start date also coincides with the initial NSPS regulatory start date of December 10, 1998 for MSW landfills.

[**RESPONSE:** The CA Registry does not feel that a start date of 1/1/2001 will render the project protocol meaningless nation-wide, and feel that it is necessary to keep start-dates consistent among all project protocols within our program. Therefore we have elected to maintain the current start date, remaining consistent with the CCAR Livestock Project Reporting Protocol.]

A6. Recognition of Waste Industries Previous Reductions (SWICS)

We believe there should be some recognition of the waste industry's efforts to reduce greenhouse gas emissions over the last 2 decades. Please include suggested language in the protocol.

[**RESPONSE:** Agreed. The waste industry should be recognized for the GHG reductions achieved over the last 2 decades, so we have included language in the protocol where appropriate.]

A7. Support for Protocol (ED)

We support the protocol's sound calculation methods, the requirement for third party verification, and the requirement of future organic waste diversion programs to prevent baseline inflation. Also, the draft protocol takes a strong stance on additionality by requiring the additionality test to be met every year, rather than providing a guarantee of project credits for the life of an emissions reduction project.



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As emissions estimation methodology for landfills improves, (particularly with respect to fugitive emissions estimations) Environmental Defense asks CCAR to consider new approaches and methods for calculating project emissions. One example of the emerging thinking on emissions reductions is available via a new manual published by the Nicholas Institute for Environmental Policy Solutions with scientists from Environmental Defense titled, “Harnessing Farms and Forests in the Low-Carbon Economy.” This manual presents what we call the Duke Standard, a comprehensive method on “How to Create, Measure, and Verify Greenhouse Gas Offsets.”

[**RESPONSE:** Thank you for the support. We have included language in the protocol to highlight our policy of periodically reviewing and updating protocol methodologies, and that we will consider any new approaches that lead to more accurate calculations as they become available.]

B. PROJECT BOUNDARY

B1. Landfill gas to Natural Gas reporting (CIWMB)

The project boundary includes upgrading landfill gas to NG pipeline quality, which isn’t necessarily combusting or controlling the landfill gas. Would the project have to report this methane as emissions because the methane is controlled outside the project boundary?

[**RESPONSE:** No. The protocol assumes that the ultimate fate of the upgraded gas is combustion. T&D losses and combustion efficiencies are taken into account for this category in the methane destruction efficiency term (DE) in equation 2.]

B2. Fugitive Emissions and Leakage (Covanta, CC)

Fugitive emissions should be included in the project boundary, and a lifecycle analysis should be used over the entire lifecycle of landfill methane generation.

Additionally, shouldn’t all leakage be taken into account? If all of the direct and indirect emissions associated with project planning, mobilization to the site and project development were calculated, it may not be insignificant. Requiring project developers to be accountable for these emissions would help to reduce the carbon footprint of these activities and perhaps encourage local sourcing.

[**RESPONSE:** The Registry believes that our protocol accurately quantifies methane captured and combusted that would otherwise have been emitted absent the project, thus it is unnecessary to quantify fugitive emissions in order to quantify reductions. We agree that lifecycle analysis



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and methane fugitive emission models are needed to quantify the entire GHG footprint of a landfill, but this is not necessary for this project protocol. Also, the Registry took into consideration all direct and indirect emissions sources associated with project planning, mobilization, and project development and included all pertinent sources and sinks in the scope of this project protocol.]

B3. Gasses included in project boundary (ICLEI).

In the greenhouse gas sources inventory there are occasions where either CH₄ or N₂O are excluded because they are believed to be very small. We believe they are small but not insignificant, and their GWP is high enough to produce an effect. Therefore, we recommend that these gasses be tracked.

[**RESPONSE:** The Registry agrees that it is important to quantify GHG emissions to the greatest extent possible. We have added methane emissions from the incomplete combustion of fossil fuel to the project boundary, and added the necessary calculations to equation 2. We feel that N₂O emission factors are, at this time, still very uncertain and for the time being have not included them in the project boundary. We will continue to update the protocol in the future as we see fit.]

B4. Alternative Technologies (ESJPA).

The landfill protocols are only eligible for landfill gas combustion systems. The protocols should allow for technologies that capture the gas for other uses either onsite or offsite.

[**RESPONSE:** The project boundary allows for landfill gas upgrade to natural gas quality and injection into the pipeline, or use in LNG or CNG vehicles. The ultimate fate of the collected methane gas must be combustion, however, in order to qualify for GHG reductions under this protocol.]

B5. Figure 1 (CIWMB, CC)

There appears that Table 1, Item 4 is inconsistent with Figure 1. Methane from NG in Table 1 is part of the project boundary but is not reflected in Figure 1.

[**RESPONSE:** Agreed. Figure 1 has been changed to include the transmission and eventual combustion of the upgraded NG.]



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C. PROJECT CREDITING

C1. Crediting Period – New Language (CIWMB, SWICS)

We understand that new language is being considered regarding the crediting period in a case where regulation is in development (paragraph 2 of the Project Crediting Period section) seems specific to the case of California. How will this language be applied nationally, and how will it be interpreted in CA after the proposed ARB regulation has become enforceable? Since the specifics and fate of the new regulation are unknown, it appears premature to include this language. Early action should be rewarded for those wishing to install a system before the regulation, regardless of the timing of any proposed regulation. Therefore, shouldn't the projects in this case be allowed the entire (7yr) crediting period (but not the extension)?

[**RESPONSE:** This language will not be in the protocol. Refer to next comment and response]

C2. Crediting Period and the Regulatory Test (TP, ED)

We support the protocol draft as previously written, with a 10-year crediting period subject to an annual regulatory additionality test. Voluntary carbon offset buyers fully expect their purchases to benefit projects which would not otherwise be in place. It would be quite difficult to explain to a customer why their purchase is benefiting a regulated entity at any time, and unimaginable if that regulation had already been effective for 2, 3, 5 or more years.

The risk that the carbon revenue stream will be prematurely curtailed may well be financially material when the project developer is a different party than the regulated entity, since in this case the carbon revenue is the only incentive the developer has (before and after the regulation) to proceed with the project. However, this risk can and should be addressed through contractual terms between the developer and the project owner. It is inappropriate to pass this financial burden to voluntary market buyers.

[**RESPONSE:** Agree. The crediting language will remain as previously written, with a 10-year crediting period subject to an annual regulatory additionality test.]

C3. Crediting and NSPS/EG (SWICS)

We support a 10-year project-crediting period as required by the RGGI Model Rule. Further, with respect to NSPS and EG regulations, existing projects that reach 50 megagrams per year of calculated NMOC emissions should be eligible to register reductions with the Registry until the project is regulatory obligated to operate per the NSPS and EG. A Project should not be disqualified simply



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because it is subject to the NSPS and EG regulations because all landfills which are at least 2.5 million megagrams and 2.5 million cubic meters are subject to NSPS, however the landfill may not be required to install controls until it is regulatory obligated. There is no basis for establishing a different standard for landfills versus other sectors because all sectors could potentially become subject to regulatory requirements.

[RESPONSE: Agree. This is the intended language regarding NSPS and crediting, we will edit this language for clarity. Additionally, we will have a 10 year crediting period, with yearly regulatory tests (see above comment and response)]

D. ADDITIONALITY AND THE REGULATORY TEST

D1. Breadth of the Regulatory Test (TP)

The protocol defines the regulatory test as federal, state, and local regulations, ordinances, and permitting requirements pertaining to air quality, water quality, explosive gas, or local nuisance. We recommend expanding this definition to include public and private settlements of legal actions. We have encountered situations where a project would pass the regulatory additionality test as defined in the protocol, and yet the project developer had strong, clear incentives to install the project as a means to avoid violation notices or to curtail litigation in the permitting or ongoing operations of the facility.

[RESPONSE: The Registry considered the suggestion, but did not include language to this effect as this would be hard for the verifier to make an objective decision on and could be open for interpretation. We are confident that the regulatory test is thorough enough as it is currently written.]

D2. Additional gas collection system Guidance (ICLEI)

There is some difficulty in proving additionality in cases where landfills already have a gas collection system (when it is not required) and they want to register reductions with this protocol (for extensions for example); or in cases where landfills are required by law to capture gas but opt to exceed the regulations. We believe more guidance would help the application of the protocol.

[RESPONSE: It is true that proving additionality becomes more difficult in cases where landfills already have gas collection. To ensure additionality of additional collection systems, the protocol requires that new gas collection systems be separated from the existing system and have separate metering. The Registry has included additional guidance and calculation/monitoring methods for in the protocol on these issues.]



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D3. Verifying Regulatory Compliance (CC)

Landfill compliance to all federal, state and local MSW, air, and water quality regulations would be exceedingly difficult and costly to verify, and may not be appropriate, as determination of compliance with regulations is ultimately the responsibility of a project developer’s legal counsel, or the regulatory authorities. Consultants can opine on applicability, but this is from a technical perspective, rather than a legal one. If it is argued that certain regulations do not apply to the landfill in question, we suggest that an official from the project developer certify / attest that these regulations are not applicable, and as proof, provide a letter / written correspondence from Federal, State and Local regulators which states that these specific regulations do not apply to their project, as described.

[**RESPONSE:** The Registry agrees that the regulatory test could be complicated for the verification process. We have included a requirement for the project developer to provide an attestation to the verifier stating which regulations the project is subject to and what the compliance status is for each. It is still the responsibility of the 3rd party verifier to verify these claims. The CA Registry plans to provide guidance to verifiers on these issues as part of the landfill project verifier training practicum.]

D4. Regulatory language (SWICS)

Language should be clear on the regulatory additionality pertaining to NSPS/EG requirements. Please consider the revised language provided in our comment letter.

[**RESPONSE:** Agreed. We have updated the language in our protocol where appropriate.]

D5. Regulations Concerning Additionality (SWICS)

The regulatory test should apply to landfill air regulations or ordinances and not multi-media regulations. Further, the test should only apply to an air rule or ordinance, and not an air permit, as the permit is the vehicle for enforcing the rule or ordinance.

[**RESPONSE:** The Registry feels strongly that the regulatory test should apply to all regulations which require the collection and combustion of landfill gas in order to assure that projects are beyond business as usual. This is a key tenant of the additionality concept. In some cases permit requirements are increasingly becoming the mechanism requiring the installation of landfill gas collection systems, for instance for compliance with CEQUA and NEPA.]



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D6. Compliance Mechanism for NMOC control (SWICS)

If several abatement options, including installation of a GCCS, are identified that would sufficiently address regulatory compliance, but the landfill chooses to install the GCCS for ancillary reasons, then the GCCS project should be eligible. If other methods would mitigate to the same level, then the GCCS is voluntary. Further, the LPRP seems to be concerned with NMOC control. Therefore, the LPRP should apply the regulatory test to this pollutant exclusively and not be concerned with other pollutants to determine regulatory additionality for the GCCS operations. Also, new language has been added at the bottom half of page 7 that purports to establish a “600 pounds NMOC per month” standard for determining whether a landfill gas combustion system is cost-effective in treating NMOCs as compared to an activated carbon treatment system. We do not believe this language is necessary, and the language together with Appendix B must be removed until an independent review is conducted to evaluate this threshold.

[**RESPONSE:** The Registry has been informed by numerous parties that where performance based regulations allow for numerous compliance mechanisms to be used to reach compliance the least cost and most effective approach is the compliance mechanism chosen. In this case the installation of landfill gas collection and control systems are undoubtedly the primary choice for compliance. The Registry performed an analysis of the most common compliance mechanisms and developed a barrier threshold (Appendix B) that can be applied to prospective projects as a part of the project eligibility assessment. The Registry consulted with industry experts in developing the approach for this analysis and is confident in the validity of the approach taken. If a sound case can be made for adjustments to the threshold it will be considered for future revisions of the protocol.]

E. PROJECT MONITORING AND REPORTING

E1. Continuous Methane Concentration Analysis (SWICS)

Table 2 references data to be collected and used to monitor emissions from the project activity. This table appears to come from the CDM protocol number ACM0001/Version 07; however it has been modified to be more restrictive. Specifically, the CDM protocol allows for periodic monitoring of the gas quality; it does not require continuous monitoring of gas composition. The proposed LPRP requires continuous monitoring exclusively.

[**RESPONSE:** The Registry has reviewed the latest draft of the CDM methodology ACM0001/Version 07 (November 2007). The protocol has



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been adjusted to allow for the choice between weekly measurement of gas composition, or continuous monitoring. If electing weekly measurement, a 10% discount factor will be applied to the resultant credits in order to account for the added uncertainty.]

E2. Separate Monitoring of non-required system (ESJPA)

The requirement to separately monitor the non-required system can result in significant additional costs for redundant systems. Given that the cost of even a small flaring system can readily cost \$500,000, rural operations do not have resources for duplicating equipment.

[**RESPONSE:** An additional LFG collection system (above and beyond an existing LFG already in place) must have a separate collection and monitoring system in order to demonstrate additionality to the existing system. This does not require, however, separate combustion devices such as a separate flare for each system.]

E3. Landfill Project Management Plan (CC)

We strongly suggest that project developers be required to create and maintain a “Landfill Project Management Plan” similar to a GHG Inventory Management Plan (IMP), as provided in guidance by U.S. EPA. This drastically reduces the amount of time and effort required of third-party verifiers, and helps the project developer strengthen their internal management systems.

[**RESPONSE:** The Registry has added record keeping requirements to address this issue.

E4. Volumetric Flow Meters (SWICS)

No separate monitoring of temperature and pressure is necessary when using flow meters that automatically measure temperature and pressure, expressing LFG volumes in normalized cubic meters. Some flow meters, like a Thermal Mass meter, automatically adjust the flow rate based on measured temp and pressure; however not ALL flow meters do this automatically. The CDM protocol number ACM00001/Version 07 requires that temperature and pressure be determined but includes standard conditions conversion factors for methane density.

[**RESPONSE:** In Table 2 of the protocol, the Registry states that no separate monitoring of temperature and pressure is needed when using flow meters that automatically measure temperature and pressure, expressing LFG volumes in normalized cubic feet. The measurement device to accomplish this is open to the project developer. Standard density calculations are required to correctly account for gas quantities in all climactic situations. We will provide all needed calculations and



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conversions necessary to correctly measure LFG mass flow in an excel based calculation tool.]

F. ADDITIONAL GHG REDUCTION ACTIVITIES IN THE SOLID WASTE SECTOR

F1. Applicability of the protocol to installation of landfill bioreactors (CIWMB)

Typically, a basic LFG system (or business as usual) would entail the collection system and control device (typically a flare). However, a bioreactor requires more capital in order to enhance decomposition for purposes of possibly generating a higher quality gas for energy production (i.e. liquid injection, additional gas collectors, increased monitoring, etc.). Could the protocol accommodate this potential LFG collection and control as "additional?"

[RESPONSE: Landfill bioreactor installation is beyond the scope of this protocol. It is unclear what the effect of a bioreactor may have on fugitive emissions. Without accurate characterization of landfill fugitive emissions (both with and without a bioreactor) it would be impossible to characterize emissions reductions from bioreactor implementation.]

F2. Displacement of grid delivered electricity and heat (CIWMB, SWICS)

This protocol does not account for reductions associated with displacing grid-delivered electricity (or heat). It is understood that capturing and using methane to produce electricity for the grid would displace fossil fuel emissions and be defined as a complimentary and separate GHG reduction project. We agree with this approach of recognizing LFGE projects as a separate reduction strategy.

What are the plans for who will get credit for these avoided emissions? Will a future landfill gas to energy project protocol be a separate protocol, or under the Power Utility Protocol?

[RESPONSE: If a landfill gas to energy project protocol is created by the CA Registry, it would likely be a separate protocol, and not a part of the Power Utility Protocol. At this time, it is unclear exactly who would get credits for a LFGE project, as the direct emission reduction occurs at sources owned and controlled by the power producer. It is also unclear how the Renewable Energy Credits created by a LFGE project would interact with Renewable Portfolio Standards. This is an area that needs more clarification on the larger policy front (CPUC & ARB) before a protocol can be developed.]



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F3. Additional GHG reduction in the solid waste sector: Waste Diversion/Recycling Incentives (CIWMB, CEM, Covanta, ICLEI, SW, SFDOE, SMEPD, MC, ED)

We would like to see the landfill protocol address not only methane combustion, but also emphasize the need to reduce input into landfills. This can be addressed through:

- MAXIMIZING landfill diversion (e.g. Zero Waste, composting)
- MINIMIZING input to landfills (e.g. reduce, reuse, recycle).

The California Climate Action Team's March 2006 report identifies waste reduction as having an equal potential to reduce GHG emissions as landfill gas recovery within the 2020 timeframe. It is very important that the CCAR Landfill Project Protocol does not adversely affect Zero Waste efforts.

[RESPONSE: The Registry recognizes that waste-diversion and recycling incentives are an important component for addressing GHG reductions and environmental quality, and thus is committed to working towards the establishment of project protocols in the area of composting, anaerobic digestion, recycling and waste to energy which would act to balance and compliment the Landfill Project Reporting Protocol.]

F4. Recycling and Diversion Programs (SWICS)

New language has been considered that appears to tie the viability of landfill gas collection projects to the effectiveness of recycling and diversion programs. Further, this language suggests that if recycling and diversion protocols have not become operations with demonstrated effectiveness by the year 2013, that somehow these landfill gas protocols could be temporarily suspended. This language must be stricken from this protocol.

[RESPONSE: Viewpoint acknowledged. The CA Registry considered adding the suspension language to address a real concern among workgroup members and public commenter's that this protocol may lead to perverse incentives for the landfilling of organic waste. As each of the Registry protocols are a stand alone document for quantifying GHG emissions reductions, the Registry ultimately decided to exclude any mention of a sunset clause in the language of the protocol. That said, the Registry has become informed of the need for balancing and complimentary project protocols that will provide a market mechanism incentive to divert organics from landfills and is committed to continue to work with interested parties to address the need for recycling and waste diversion project protocols.]



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G. TECHNICAL COMMENTS

G1. Methane oxidization factor (CIWMB, SWICS)

Equation 1 uses 0.90 multiplier applied to the total annual methane emissions destroyed by the project. We think the multiplier should be applied to actual emissions (generation – collection) not to collection. We urge CCAR to modify the emissions baseline determination and emissions reduction calculations in the draft protocol to rely on measured quantities using widely accepted equipment, installation, documentation and verification procedures. Any references to use of a methane oxidation factor should be deleted from these calculations

[RESPONSE: The Registry has included additional language in the protocol on this topic: Landfill cover systems incorporating synthetic liners as part of the final cover systems should use a default methane oxidation rate of zero. A 10% methane oxidation factor shall be used for all other landfills. A small portion of the methane generated in landfills (around 10%) is naturally oxidized to carbon dioxide by methanotrophic bacteria in the cover soils of well managed landfills. The 10% factor is based on Intergovernmental Panel on Climate Change (IPCC) guidelines (2006).]

G2. Global Warming Potential of Methane (MEHC)

The most recent science calculating the global warming potential of methane should be utilized in Equation 1 on page 14 of the draft protocol. The most recently published global warming potential of methane is 23, consistent with the Third Assessment Report of the Intergovernmental Panel on Climate Change.

[RESPONSE: In order to maintain consistency with other GHG accounting standards (regulatory and voluntary), the Registry has elected to stick with 21 as the Global Warming Potential for Methane. We recognize that this value has been changed in the IPCC fourth assessment, and will consider updating this factor when and if the GHG accounting community as a whole elects to change.]

G3. Table 1- landfill derived methane not combusted (MEHC)

For flares, engines or turbines, and boilers (Table 1, GHG source 5,6,7): the landfill derived methane not combusted (i.e. the LFG emitted due to imperfect methane combustion in the combustion device) should not be included in the project boundary, as the emissions would have occurred absent the project.

[RESPONSE: While it is true that the methane emissions due to incomplete combustion of the LFG would have occurred absent the project, they must be accounted for inside the project boundary because they occur after the landfill gas flow is metered. If not accounted for, it would imply that all LFG that goes to the combustion device gets



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destroyed, which is not true. We have edited Table 1 to be clearer on this issue.]

G4. Table 1- fossil fuel derived methane not combusted (MEHC)

For flares, engines or turbines, and boilers (Table 1, GHG source 5,6,7): the fossil fuel derived methane not combusted (i.e. the methane emitted due to imperfect combustion of supplemental fossil fuel gas) should be included in the project boundary. Currently, this is not the case.

[RESPONSE: Incomplete methane combustion of supplemental fossil fuels used in the project should be included in the project boundary and accounted for. We have modified equation 2 and updated table 1 to reflect these changes.]

G5. Equation 1, Indirect sources (MEHC)

Equation 1 on page 14 incorrectly requires the subtraction of indirect project emissions from direct emissions reductions. The inclusion of indirect emissions in the direct emissions calculations for the project will result in a double counting of emissions from other reporting sources. Thus, indirect emissions calculations should be removed from Equation 1.

[RESPONSE: The Registry recognizes this point of view, as this topic was discussed during the workgroup process. We believe, however, that because different projects may be more energy intensive than others (i.e. LFG upgrade to NG), the indirect electricity use directly resultant from the project should be accounted for in the project boundary. This was the consensus of the working group as well.]

G6. Oxidization Factor (Covanta, SWICS):

The assumed 10% oxidization factor does not apply to modern landfills equipped with liners. If a liner is engineered and installed correctly, landfill gas will not come into contact with soil and if there is a break in the liner, the amount of oxidation from this situation is unknown and should be considered to be a release to the environment.

[RESPONSE: The Registry has conducted further research on this issue and has concluded that the 10% oxidation factor does not apply to landfills equipped with synthetic liners as part of the final cover systems. See the Registry response to comment number G1.]



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H. REPORTING FORMS

H1. Pre-Registration Forms 1, 2 & 3 (CC, CIWMB, SWICS)

It was suggested that we add and or remove some of the requested information in the pre-registration forms.

[**RESPONSE:** We have edited the forms where appropriate]

I. LANDFILL PROJECT VERIFICATION PROTOCOL COMMENTS

I1. Verifier/Certifier (CC)

It would be helpful to provide the definition of a verifier on page 1 (third-party, independent, no COIs,) and that the Registry is transitioning from the term 'certifier' to 'verifier'.

[**RESPONSE:** Agreed. Done]

I2. Data Triangulations (CC)

The term "data triangulations" should be defined on page 5.

[**RESPONSE:** Agreed. Done]