

Public Comments on Proposed Framework for the LCFS Monitoring and Verification Program
Response from CARB March 8, 2016 Workgroup

March 22, 2016

VIA ELECTRONIC FILING

California Air Resources Board
1001 I Street
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ATTN: Ms. Ursula Lai

Re: Public Comments on Proposed Framework for the LCFS Monitoring and Verification Program as presented by CARB on March 8, 2016

To Whom It May Concern:

Genscape appreciates the opportunity to submit comments on the proposed framework for the Low Carbon Fuel Standard (LCFS) Monitoring and Verification Program. Genscape focuses its comments on creating an effective and efficient LCFS Credit Integrity Program as part of the Recordkeeping, Registration and Enforcement Provision amendments being considered.

Introduction to Genscape

Genscape is the leading global provider of real-time energy information for commodity and financial markets. As part of its services, the company serves dozens of renewable fuel producers with a Renewable Fuel Standard (RFS) Quality Assurance Program. Utilizing patented technologies and proprietary algorithms, Genscape provides accurate, granular and timely data on capacities, flow and utilization for all major energy commodities. Genscape promotes market transparency and efficiency by providing better data.

Genscape is an international company with headquarters in Louisville, KY. Genscape's clients include dozens of refiners, fuel marketers and renewable fuel producers, including a strong client base in the state of California. Several Genscape clients are regulated entities in CARB's LCFS program.

By creating a robust standard of credit integrity and market information, Genscape services work to create a path to event better market transparency, setting the stage for futures markets and liquid credit trading. Genscape offers and develops commercial solutions that solve the following business needs for credit generators and buyers:

- 1) Provides a third-party, independent verification system for credits generated. The system involves site visits, extensive document review and third-party independent monitoring in most cases.
- 2) Creates a compliance partnership for clients to help resolve questions in an efficient and thorough manner.
- 3) Provides tools and services for gaining market transparency and insights for biofuels production, storage, import and exports.
- 4) Promotes verified credit generators to prospective buyers via an electronic [Biofuels Dashboard](#), which is continuously evolving to add information about new renewable fuel types and new credit integrity programs. The Dashboard also provides accurate producer information, biofuel industry updates, market pricing, supply fundamentals and educational resources.

Genscape has combined its unique monitoring technologies along with expertise in the carbon emissions regulatory space to provide trusted compliance solutions for entities participating in regulated programs such as LCFS and RFS. Although not currently a regulated program, Genscape provides commercial services to help clients increase their level of confidence in the validity of LCFS credits.

Outline of RFS QAP & LCFS Credit Verification

Within these comments, it seemed worthwhile to outline Genscape's RFS QAP and LCFS Credit Verification services since these services may overlap between the programs for many renewable fuel producers. The USEPA's development of QAP worked to accomplish three major objectives:

- 1) Prevent credit fraud;
- 2) Restore market parity to the value of credits produced by producers with smaller balance sheets;
- 3) Offer an affirmative defense from civil liability and offer insurance against invalid credits for credit holders that use an authorized credit integrity program.

The RFS QAP program has four major elements:

- 1) Feedstock vendor and source verification;
- 2) Qualified process verification;
- 3) Registration, recordkeeping and reporting verification;
- 4) Credit generation, separation, retirement, and transfer verification.

Based on industry feedback and credit assurance experience, Genscape presents certain facets of the QAP program that it believes are critical to continuing to achieve the EPA's goals.

- 1) The verification should be performed by an independent third party using truly independent measures. These parties should be registered with the regulating agency.
 - a. Recordkeeping and reporting requirements alone do not prevent or detect environmental credit fraud. Documentation audits should be supplemented with ongoing physical review of renewable fuel production performed by an independent third party to help safeguard the industry.
 - b. Third party entities should not also be eligible as an agent to generate credits on behalf of a renewable fuel producer. This creates a motivation and opportunity for fraud.
- 2) Credit verifiers should be regulated entities meeting certain professional standards within its team structure.
- 3) The liability of parties retiring RINs should be reduced for those parties using a third-party, registered integrity program.

The ongoing monitoring of a facility's operations is at the core of Genscape's QAP services. Where Genscape's QAP monitoring is already in place at a facility, the same technologies can be leveraged to validate key components of LCFS credit generation integrity. Alternatively, some level of ongoing monitoring can be achieved by facility site visits by an audit professional; however, Genscape has observed that ongoing monitoring is actually a more cost-effective option than multiple annual site visits in most cases. Also, ongoing monitoring with sensing capabilities is a robust and timely method to obtain independent information about facility operations. Another monitoring

benefit is that it saves the producer the time that would be required of facility personnel to accommodate an on-site auditor. Where Genscape offers both types of solutions, multiple site visits or ongoing remote monitoring, the industry has overwhelmingly selected the monitoring option. More than 95% of the Genscape RFS QAP clients have opted for the monitoring services which incur no added cost to the producer.

For document and producer data review, Genscape currently operates a web-based Producer Control Panel (PCP) for easy data entry and document drop-off from its clients. The PCP is flexible and enables Genscape and its clients to communicate documents easily and securely. The PCP would easily serve to facilitate documentation transfers needed for LCFS credit integrity review.

Response to the Scope of LCFS Monitoring and Verification:

Genscape provides comments below addressing questions presented for each topic in the March 8 CARB presentation.

Carbon Intensity

1) What substantiating information is needed to confirm accuracy of user defined inputs?

An initial on-site facility visit by a technical expert can establish a baseline verification of user-defined inputs by comparing the LCFS pathway application to facility/energy infrastructure and renewable fuel production process. Such a visit would review a checklist including the energy inputs, processing equipment and receiving/loading routines. The visit would also inspect the identity of the feedstock, renewable fuel outputs and any co-products. These visits could also evaluate standard data management practices of fuel producers and the business transaction documents used for CI value quantification

In parallel, an examination of supply chain documentation could be envisioned to supplement the site visit to verify the feedstock suppliers. For instance, reviewing a sample of invoices or weigh scale tickets combined with contacting the respective suppliers of feedstock provides a means of baseline validation. An examination of a historic mass balance compared to facility-specific and industry standards would create another substantiating checkpoint.

On an ongoing basis, multiple site visits per year OR ongoing, independent remote monitoring in parallel with documentation and data collection could be envisioned to facilitate checking compliance going forward. Even with ongoing remote monitoring, integrity providers could perform an annual site visit to confirm no major facility changes have occurred. Ongoing remote monitoring information and producer-provided information could be reviewed on a monthly or quarterly basis for the previous month/quarter. In addition to supply chain documentation and information for a mass balance, the ongoing data requirements could also include the collection of monthly utility invoices to check energy CI compliance.

2) Should staff consider enhanced transparency of documentation (chain of custody of feedstock, fuel, co-products, etc.)?

Genscape comments that ARB staff consider both upstream and downstream supply chain validation. Verifying the supply chain is a strong measure to help prevent fuel to feedstock recycling fraud (a.k.a. "repapering"). Chain of custody is also important to verify the transaction path of natural gas and electric fuels. Requirements could include a baseline verification of all feedstock suppliers and California fuel customers. Auditors would conduct vendor verifications via satellite imagery, direct contact, site visits or similar methods. Producers could be required to provide sample documentation to demonstrate modes of feedstock delivery transportation, energy usage, co-product production, fuel production, and transportation to or within California.

3) How to ensure international consistency?

In some countries, the availability of non-qualified oils for production of liquid fuels such as biodiesel creates a heightened risk for program compliance, both for the producer and for mandated program participants. Additional feedstock verification could be considered for international renewable fuel suppliers where these conditions exist. One idea to help safeguard the industry is a measure to randomly test feedstock for quality and composition. Standards could be created for this testing by consulting professional laboratories that are experts in the field. Industry experts in feedstocks could identify risk areas where these measures are applicable.

4) When should verifications occur?

For a renewable fuel producer that is already participating in a GHG emissions compliance program that requires an annual site visit and some similar ongoing verification, such as RFS QAP, it would create efficiencies to allow that producer to seamlessly enter the LCFS verification program without an additional initial site visit. Other LCFS-specific verification measures could be integrated within the first one or two quarters of participation. Other producers could be required to facilitate onboarding, including a site visit and aforementioned process, energy, and supply-chain validation measures, prior to receiving the verification stamp.

Producers could be required to provide ongoing data for mass balancing and documentation for energy and supply chain validation on a rolling monthly or quarterly schedule. An ongoing mass balance analysis could be used for comparison with supplied documentation to issue a CI verification ahead of quarterly credit generation in the LRT. Validation ahead of generation could avoid the tangle of retrospective corrections. Inconsistencies in the ongoing data could trigger a client data review and/or for-cause audit with corrective action/resolution before credit generation. These triggers and resolution procedures could be outlined in a verification plan submitted by each service provider.

Fuel Volumes

1) What substantiating information is needed to confirm accuracy of reported fuel volumes?

Once onboarding into the verification program is complete, the following aspects could be monitored on an ongoing basis. Although these items are not all directly fuel volume monitoring, they provide assurance measures to substantiate the reported fuel volumes when combined with review procedures. Both producer-provided quantitative data and samples of documentation could be required for these items on an ongoing monthly or quarterly basis in addition to these being aspects reviewed during site visits and/or with remote monitoring.

- a. Feedstock usage for LCFS and non-LCFS production
- b. Process energy usage (differentiating LCFS and non-LCFS production where applicable)
- c. Total renewable fuel output
- d. Fuel volumes transported to California

Mass balancing using these data items could be used to verify that the reported LCFS fuel volumes and carbon intensity are accurate. The volumes from item d) could be compared to the planned and then executed LRT credit generation activities. Using fuel supply chain tracking from information provided for item d), the verifier could check that credits were only generated for fuel used for transportation in California. Additionally, the verifier could assure that transportation of fuel into California or within California meets the approved pathway.

In its current verification practices, Genscape utilizes a unique blend of low-touch monitoring technology, data ingestion, and document collection. Genscape develops facility-specific monitoring plans and upon implementation is able to gather input and output metrics to establish an operational facility baseline. Inconsistencies trigger alerts

that lead to further investigation and for-cause audits. The verification program works to first resolve any issues collaboratively with the producer within a reasonable time window.

2) Is there a need for greater transparency of documentation (chain of custody)?

Tracking the chain of custody via fuel transfer document from its source to its point of blending or distribution in California could create added security to the program. However, fuel producers would not necessarily have access to documentation tracing the journey of the product if it physically or financially changes hands between the source and the distribution/blending point. In fact, a fuel marketer often needs privacy and confidentiality in these matters to protect its business. While such traceability might strengthen the program, to make the implementation practical from the outset may be challenging. One idea would be to work with LCFS participants on the buy-side of the transactions to explore what could be implemented in a way that helps create additional security desired by these parties.

3) Any additional considerations for imported fuels?

These comments are in addition to the CI/input considerations above. For transportation of fuels via vessel, the paths of the vessel from the supplier to California could be verified via collection of AIS data from the ship. In this way, the origin and destination of shipments could be transparent and independently checked. The reported ship draft changes could also be used as a rough measure to verify approximate volumes loaded and unloaded against producer provided data. Similarly, independent rail transport data from track-and-trace systems could be used for railroad shipments. Producers should provide standard documentation of fuel quality testing and shipping record sets for both the export and import operations. Independent access to US customs records could also provide additional assurance.

4) How to ensure international consistency?

The processes and procedures for feedstock and transportation could be verified as outlined in comments in item 3) above and item 3) in the Carbon Intensity section. Verifiers could be required to perform other procedures, including site visits, optional remote monitoring, and review of required data and documentation from the producer to the same standards as US producers.

LCFS Credit Transactions

Based on market experience with RFS2 and feedback about LCFS credit risk from refiners, Genscape believes that LCFS program participants would benefit from a CARB rule structure that offers benefits to offset the liability of LCFS credit buyers that use a structured, regulated credit integrity program.

Standards for integrity with benefits such as affirmative defense against civil liability would measurably lower the program risk to parties obligated to retire credits. Such standards would also help keep the playing field level for credit generators with smaller businesses and balance sheets. Additionally, such standards would protect the LCFS program from the damaging effects of credit fraud.

Genscape would recommend that a third-party verifier could obtain read-only access to the LRT system with client approval. This serves two purposes: 1) It offers a third party checkpoint; and 2) It does not require any additional effort on behalf of the LRT system participant. Genscape currently obtains read-only access to renewable fuel producer records in the EPA's electronic credit tracking system, EMTS, and reviews downstream credit transfers.

Below are some checkpoints that could be used by an independent verifier:

- 1) Verify that the appropriate number of LCFS credits is generated over an annual or quarterly period depending on an individual company's commercial practices.
 - a. For facilities with multiple possible CI values, verify that the appropriate CI values were assigned during different periods of operational dynamics.
- 2) Review credit traceability by implementing periodic audits of the following items.
 - a. LCFS Product Transfer Documents (PTDs) to demonstrate ownership and obligation of the LCFS credits by biofuels producers.
 - b. Physical pathways are approved and documented on BOLs
 - c. Appropriate transportation documents for physical delivery into California

Summary and Closing

A Low Carbon Fuel Standard credit verification program including validation of supply chain activities, renewable fuel production, energy usage and transportation to California decrease the opportunity for fuel and credit fraud and increase marketplace transparency. These methods could be applied to check the carbon intensity, fuel volumes and associated credits generated as part of the LCFS program. Use of onboarding and ongoing monitoring elements of the program could be applied in parallel and, where possible, overlapping with existing GHG emissions verification systems, to create an effective and efficient system. Validation ahead of credit generation could help prevent regulatory issues before they happen, which benefits the producers, the buyers and credit purchasers.

Genscape appreciates the opportunity to provide comments on the CARB program for LCFS credit verification.

Sincerely,

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