

Public Comments on workshop to discuss proposed revisions to the process by which the fuel pathways appearing in Tables 6 and 7 of the LCFS regulation are generated and to discuss the design of a cost containment provision (Low-Carbon Fuel Standard Re-adoption: Fuel Pathways and Producer Facility Registration)

Genscape Feedback
CARB April 4, 2014 Workgroup

May 5, 2014

VIA ELECTRONIC FILING

California Air Resources Board
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ATTN: Ms. Katrina Sideco

Re: Public Comments on workshop to discuss proposed revisions to the process by which the fuel pathways appearing in Tables 6 and 7 of the LCFS regulation are generated and to discuss the design of a cost containment provision (Low-Carbon Fuel Standard Re-adoption: Fuel Pathways and Producer Facility Registration)

To Whom It May Concern:

Genscape appreciates the opportunity to submit comments on the Public Comments on workshop to discuss proposed revisions to the process by which the fuel pathways appearing in Tables 6 and 7 of the LCFS regulation are generated and to discuss the design of a cost containment provision. Specifically, Genscape focuses its comments on the motivations to work in a collaborative effort with the California Air Resources Board (CARB) and create a 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 energy information for commodity and financial markets. 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. The company also has U.S. offices in Boston, Boulder, Houston and European offices in Amsterdam and Hamburg. 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.

With thousands of sophisticated monitors strategically deployed all over the world measuring more than 1 billion data points each year, Genscape is unique in its ability to measure and collect market fundamentals and operational data. These "measured actuals" are then transmitted to clients in real-time or near real-time.

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 RFS2. 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 as a part of these programs.
- 2) Creates a compliance partnership for clients to help resolve questions in an efficient and thorough manner.
- 3) Provides tools and services for land use verification internationally.
- 4) Promotes 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.

By creating a robust standard of credit integrity and market information, Genscape services pave the path to better market transparency, setting the stage for futures markets and electronic trading.

Support of LCFS Credit Integrity Program

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 similar to the EPA's Central Data Exchange (CDX) and Moderated Transaction System (EMTS) for RIN integrity.

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.

As stated in the March 11, 2014 CARB presentation, "Compliance is always cheaper than noncompliance." Preventative compliance measures to promote credit integrity and deter fraud exemplify this mantra. To wit, the EPA RFS2 program was operating under a self-policing regime when instances of credit fraud started to emerge in late 2011.

The proposed "Tier 2" concept in the April 11, 2014 CARB¹ workshop refers to the need for verification of the data used to assign CI values and an increased need for ongoing monitoring related to assigned CI values. Genscape quality assurance provider procedures are directly in-line with the opportunity to monitor feedstock sourcing, process efficiencies, and transportation for the ongoing verification of CI values for LCFS credit generation. Utilization of Genscape's Landviewer crop forecasting product in conjunction with the land-use tool developed for the International Sustainability & Carbon Certification (ISCC) system would allow for the capability to provide the third-party auditing necessary to accurately trace feedstock sources for "more exacting" process of verifying proposed pathways and assigned CI values per standard CA-GREET modeling.

From November 2011 to present, five separate EPA RFS2 RIN fraud occurrences have become public. The perpetrators in the first two instances were sentenced to 27 years in prison and \$96.9 million in restitution cumulatively.

Instances of fraud have not only collectively cost the renewables industry hundreds of millions of dollars over the course of a few years but have also cracked the armor of political support for programs that lower greenhouse gas emissions.

For instance, in response to the EPA's most recent announcement about fraudulent RINs, RFS program antagonist AFPM stated in a December 18, 2013 press release, "...In the absence of an EPA-approved affirmative defense tied to reasonable due diligence standards, the industry remains unfairly exposed to a system that actually penalizes the victim of fraud rather than focusing on the perpetrator of the crime. ... Add today's announcement to the long list of problems created by an unworkable Renewable Fuel Standard as further proof that Congress should consider repeal or significant reform in 2014."

With a window of change at hand, there is an opportunity to put together a pre-emptive, cost-effective integrity program for LCFS credits as part of the proposed Enforcement Provisions to prevent fraud. Genscape believes that many aspects of the EPA's proposed Quality Assurance Program (QAP) for RINs would serve as a beneficial model for an LCFS integrity program. In fact, since most entities that generate LCFS credits are also RIN generators, the two integrity programs may be integrated harmoniously across the renewable fuel supply chain.

Additionally, programmatic standards for credit integrity that lower the potential liability of parties that hold credits can translate into real increase in credit value. Credit integrity measures have some associated cost and this cost can be in part or wholly offset by increase in credit value due to reduced risk. Attesting to market need, Genscape developed a pilot version of a commercial LCFS credit integrity program in response to market demand.

¹ California Air and Resource Board, 'Low Carbon Fuel Standard Re-adoption: Fuel Pathways and Producer Facility Registration' (April 4, 2014)
http://www.arb.ca.gov/fuels/lcfs/lcfs_meetings/040414_presentation_pathways.pdf

Within the rest of this document, more detail is provided concerning the following:

- 1) The impact to date of the EPA's proposed Quality Assurance Plan ("QAP") program for RIN integrity.
- 2) Information about Genscape's commercial quality assurance program for RFS2 RINs
- 3) Ideas about a structure for a similar program for LCFS credit integrity services.

QAP Participation and Impact to Date

The market has responded favorably to Genscape's proprietary QAP solutions even with the final EPA rule on QAP pending². At the end of 2013, Genscape was assuring RINs at a run rate of more than 185 million RINs annually. Biofuel producers representing an additional 125 million of QAP RIN generation in 2014 are currently onboarding into Genscape's RIN Integrity Network™. More than 40 biofuels producers across three continents have utilized Genscape's QAP and RIN integrity services for credits associated with biodiesel, biomethane and renewable diesel products. Numerous other RIN generators are currently reviewing master service agreements to use Genscape's QAP services in 2014, and even more participation is expected upon finalization of the QAP rulemaking.

Evidence to date indicates that Genscape's QAP solutions are achieving the desired goal of promoting RIN liquidity and integrity; achieving price parity; and improving the availability of fundamentals needed as the foundation for market transparency. After fraud occurred within the confines of the RFS program, small businesses were penalized by RIN buyers. These small businesses were offered lower premiums for their RIN credits in large part because their balance sheets were smaller. A tiered, illiquid market for RIN credits emerged.

As a result of the tiered market, Genscape producer clients were getting as much as a 15-cent deficit for D4 RINs in Q1 2013 before their QAP status became active. In contrast, in Q4 2013 the same group of clients achieved a premium of more than 15-cents. The betterment of RIN price for these producers follows the trend of establishment, achievement and acceptance of QAP in the interim rule period.

For QAP participants, the value of credits increased because additional buyers are engaging these producers for RIN transactions and producers of QAP RINs began to secure longer-term deals while getting preferred pricing for RINs. The owner/operator of a Genscape producer client facility said, "Once we joined Genscape's RIN Integrity Network QAP program, we began receiving unsolicited calls from large obligated parties interested in our RINs. Being able to sell our RINs at market prices with minimal effort is an important development for our company." QAP is becoming an increasingly present standard in counterparty agreements, and it is Genscape's expectation that this trend will accelerate when EPA finalizes its QAP rulemaking.

Outline of RFS2 QAP Structure

Within these comments, it seemed worthwhile to outline Genscape's QAP program to the extent that it may be useful in contemplating an LCFS credit integrity program. The USEPA's development of QAP worked to accomplish three major objectives:

- 1) Prevent credit fraud;
- 2) Restore market parity to the value of RINs 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 proposed QAP program has four major elements:

- 1) Feedstock vendor and source verification;

² US EPA Office of Enforcement and Compliance Assurance (OECA), 'Second Interim Enforcement Response Policy-Violations Arising from the Use of Invalid 2012 and 2013 Renewable Identification Numbers' (January 2013) <http://www2.epa.gov/sites/production/files/documents/secondierp013113.pdf>

- 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 did not prevent the fraud perpetrated by Rodney Hailey, Jeff Genselman, Phillip Rivkin, and the owners of Imperial Petroleum. Similarly, paper audits should be supplemented with ongoing physical review of renewable fuel production performed by an independent third party.
 - 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, for instance, a licensed professional engineer as permanent or contracted team member.
- 3) The liability of parties retiring RINs should be reduced for those parties using a third-party, registered integrity program.

Applicability of QAP to LCFS Credit Integrity

Genscape believes that a cost-effective program for LCFS credit integrity may be aligning required practices with the QAP program where possible. Comparison of the 118 companies with approved LCFS pathways on the CARB website, 99% of the LCFS credit generators are also registered within the EMTS for RIN-related activities^{3,4}. Similarly, of the 72 companies listed with pending pathways on the CARB website, 94% are also registered within the EMTS^{2,5}. The QAP assurance is expected to become an industry standard once the rule is finalized.

The pilot Genscape LCFS credit integrity audit revolves around the following core procedures, which is depicted at a high level in Figure 1.

³California Air and Resource Board, 'Fuel Registration Information with Approved Physical Pathway', *Carbon Intensities (CIs) and Other Information from Registered Biofuel Facilities* (March 21, 2014)

<http://www.arb.ca.gov/fuels/lcfs/reportingtool/registeredfacilityinfo.htm>

⁴ Environmental Protection Agency, 'Part 80: EPA Fuel Programs Registered Company/Facility ID List (Excel)', *Fuel Reporting Registration* (April 4, 2014)

<http://www.epa.gov/otaq/fuels/reporting/programsregistration.htm>

⁵ California Air and Resource Board, 'Fuel Registration Information with Physical Pathway Pending', *Carbon Intensities (CIs) and Other Information from Registered Biofuel Facilities* (March 21, 2014)

<http://www.arb.ca.gov/fuels/lcfs/reportingtool/registeredfacilityinfo.htm>

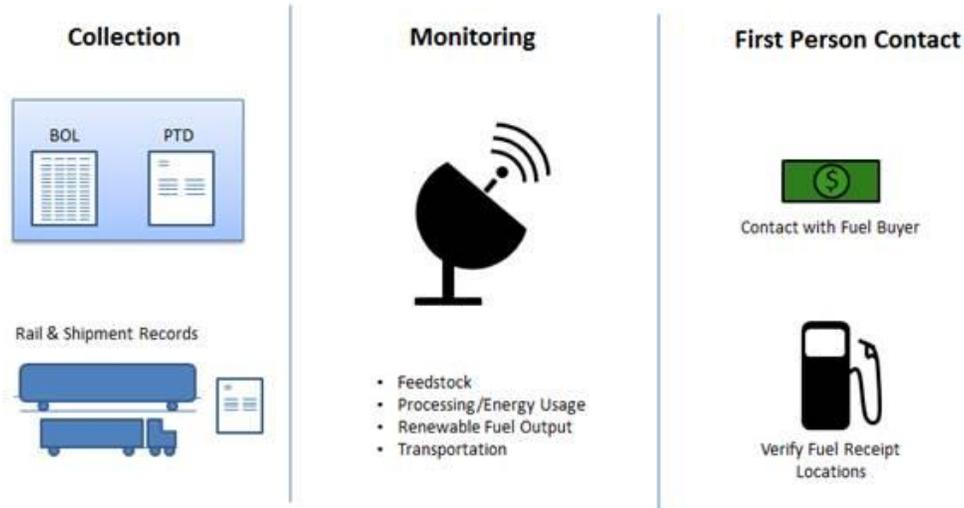


Figure 1: Basic elements of Genscape's LCFS integrity program

- 1) Assure that an LCFS regulated entity is retiring credits according to its compliance obligation. Slide 66 from the CARB LCFS Re-Adoption presentation reviewed on March 11 indicates that this is a proposed enforcement provision amendment.
- 2) With the guidance of a licensed professional engineer who is experienced in the field, verify that facility infrastructure and pathway of the renewable fuel producer matches the full application accepted by CARB. After the baseline verification, then monitor the following on an ongoing basis
 - a. Feedstock
 - b. Processing/Energy Usage
 - c. Renewable Fuel Output
 - d. Transportation
 - i. Using fuel supply chain tracking, verify that credits were only generated for fuel used for transportation in California.
 - ii. Assure that transportation of fuel into California or within California meets the approved pathway.
- 3) 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. The operational monitoring in Item 2) may be leveraged to assess that correct CI values were used.
- 4) 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

The ongoing monitoring of a facility's operations discussed in Items 2) and 3) is at the core of Genscape's QAP services. Figure 2 shows a sample of Genscape's integrity and sustainability capabilities. The starred items are technologies currently used for QAP monitoring. 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.

Integrity and Sustainability Capabilities – Liquid Fuels Example

1 - Land Use Change Analysis

- Genscape – ISCC Viewer Tool*
- Proprietary analytics

2 – Feedstock receipt monitoring

- Truck/rail/barge imaging*
- Weigh scale monitoring
- Storage level monitoring

3 – Fuel processing monitoring

- Pump monitors*
- Flowmeters
- IR heat signatures



4 – Fuel output

- IR tank levels*
- Tank level meters*
- Pump sensors*



5 – Transportation & Destination

- Imaging*
- 3rd party rail data
- Unit train tracking



* Already in use for QAP/sustainability studies

Figure 2: Genscape integrity and sustainability capabilities

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 site visits in most cases. Also, ongoing monitoring with sensing capabilities is a more trusted, 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. We have received industry feedback that ongoing monitoring is preferred to site visits for this reason.

For Item 3), in its pilot LCFS credit integrity program, Genscape uses reports provided by clients to obtain LRT information. 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.

Where document collection and review is required, such as in items 1) and 4), 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 facilitate documentation transfers needed for LCFS credit integrity review.

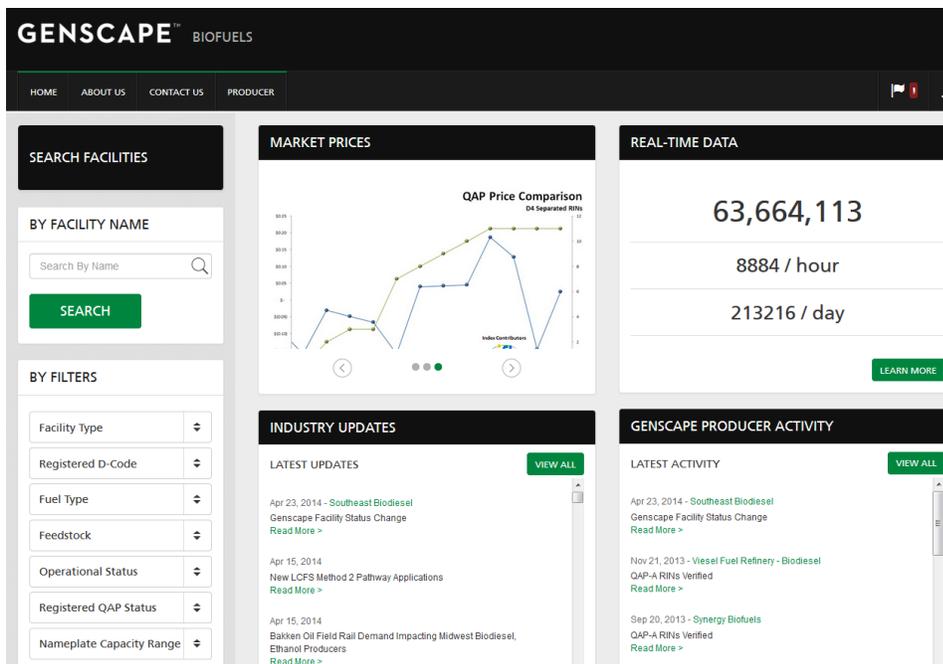


Figure 3: Image of Genscape Biofuels Dashboard

Summary and Closing

Genscape has shaped an integrity program for monitoring feedstock sourcing, biofuels production, and RIN credit activities to decrease the opportunity for fuel and credit fraud and increase marketplace transparency. Use of real-time monitoring and data analysis in conjunction with ongoing documentation auditing could be applied to the LCFS credit market to prevent fraudulent activity by producers and regulated parties. Early prevention of fraud will allow for the successful development and increased long-term viability of the LCFS credit marketplace.

Through the use of current QAP services, Landviewer, and the ISCC land-use tool, Genscape can offer commercial solutions for LCFS integrity. Our uniform approach to a standard of credit integrity and market information would ensure a viable market for electronic trading. We appreciate the opportunity to provide commentary for the CARB workshops related to QAP and sustainability through third-party auditing.

Sincerely,

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