State of California
Air Resources Board

UPDATED INFORMATIVE DIGEST

AMENDMENTS TO THE LOW CARBON FUEL STANDARD

Sections Affected

Amendments to California Code of Regulations (CCR), title 17, sections 95480.1, 95481, 95482, 95484, 95485, 95486, 95488, and 95490. Adoption of new sections 95480.2, 95480.3, 95480.4, and 95480.5, title 17, CCR.

Background:

The Board approved the LCFS regulation for adoption on April 23, 2009. Background information for the LCFS regulation was provided in the original notice of proposed rulemaking for the April 2009 Board hearing.[1] The regulation entered into full effect on April 15, 2010. Implementation of the carbon intensity (CI) reduction requirements and compliance schedules began on January 1, 2011. The compliance schedules are designed to reduce the CI of transportation fuels used in California by at least 10 percent by the year 2020.[2]

Since the regulation went into effect, regulated parties have operated under the LCFS program with no significant compliance issues. In short, the LCFS is working as designed. Regulated parties are using the LCFS Reporting Tool (LRT) to submit electronically their quarterly progress and annual compliance reports with no known significant problems. Further, fuel producers are innovating and achieving material reductions in their fuel pathways' carbon intensity, an effect the LCFS regulation is expressly designed to encourage, which is reflected in the large number of applications submitted under the "Method 2A/2B" process. To date, ARB staff has posted 26 submittals for Method 2A/2B applications, representing over 100 individual new or modified fuel pathways with substantially lower carbon intensities than those provided in the "Look Up" tables in the regulation,[3] on the LCFS portal.[4] Substantial credit generation also indicates successful implementation of the program.

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[1] See "Background" section in "Notice of Public Hearing to Consider Adoption of a Proposed Regulation to Implement the Low Carbon Fuel Standard" for the original April 2009 public hearing, which is incorporated herein by reference and is available at http://www.arb.ca.gov/regact/2009/lcfs09/lcfsnot.pdf.

[2] The LCFS regulation is described in detail in the staff report for the original rulemaking, which was released to the public on March 5, 2009, along with other rulemaking materials available at http://www.arb.ca.gov/regact/2009/lcfs09/lcfs09.htm

[3] See 17 CCR section 95486(b), available at http://www.arb.ca.gov/regact/2009/lcfs09/lcfscombofinal.pdf.

[4] Pursuant to LCFS Regulatory Advisory 10-04, regulated parties are permitted to use the Method 2A/2B pathways and carbon intensities when they are posted by ARB staff prior to a hearing by the Executive

To the extent questions from stakeholders have arisen, they have been addressed through regulatory advisories widely broadcast to stakeholders on the LCFS list serve,[5] issuance of an LCFS Guidance Document that responds to frequently asked questions,[6] and communications with individual stakeholders on their specific questions.

However, complex regulations like the LCFS generally can benefit from further refinements. Based on feedback from regulated parties as well as other stakeholders, and a review of lessons learned since implementation began, staff has identified specific areas of the regulation for clarification and other improvements. The amendments are expected to better ensure the successful implementation of the LCFS.

Description of the Regulatory Action:

As noted, the amendments clarify, streamline, and improve certain provisions of the LCFS regulation; collectively, these changes are expected to help ensure the successful implementation of the program.

The amendments address several aspects of the regulation, including: reporting requirements, credit trading, regulated parties, opt-in and opt-out provisions, definitions, and other clarifying language. A summary description of each of the amendments is provided below; a more detailed discussion of the changes can be found in the ISOR for this proposed regulatory action.

Opt-In and Opt-Out Provisions

Various low-carbon and exempted fuel providers, already meeting 2020 carbon intensity standards, have expressed their intent and desire to opt into the LCFS program as a regulated party, but they are unsure of the process and if they can opt out in the future. Specific opt-in and opt-out provisions will specify the process and information submittals needed for a fuel provider to opt in or opt out as a regulated party.

In addition, several out-of-state fuel producers and intermediate fuel suppliers expressed the desire to opt into the program as regulated parties. The current regulatory language does not confer regulated party status to these out-of-state entities because of jurisdictional concerns. These parties are further upstream and closer to the starting point of fuel production than currently designated regulated parties (i.e., fuel importers and California producers). The amendments will permit such out-of-state entities to voluntarily elect to become regulated parties and thereby become subject to California jurisdiction.

Officer to consider taking action on such proposed pathways. See http://www.arb.ca.gov/fuels/lcfs/122310lcfs-rep-adv.pdf.

[5] See Advisories 10-02, 10-03, 10-04, and 10-04A at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm.

[6] See http://www.arb.ca.gov/fuels/lcfs/LCFS_Guidance_(Final_v.1.0).pdf.

Further, several gas utilities have expressed a desire to opt into the program when a person, who would normally be qualified to opt in as a regulated party for compressed natural gas (CNG), decides not to do so. An example of this is a school district that operates its own CNG fueling station; if it chooses not to opt into the LCFS program,[7] the gas utilities would be able to opt into the regulation in the school district's place under specified conditions. By opting into the program in lieu of an entity that chooses not to opt in, the gas utility will be able to capture LCFS credits that otherwise would have been orphaned and unavailable for use in the credit market.

These opt-in/opt-out provisions are intended to work in tandem with the enhanced regulated party changes described below.

Enhanced Regulated Party

Staff has identified several ways to enhance the regulated party definitions so that more fuel producers and suppliers will become or can become regulated parties. First, as noted above, several out-of-state fuel providers and intermediate entities have expressed their desire to be able to opt in as a regulated party under the regulation. Accordingly, staff is proposing to amend the definition for "producer" to include producers in California and outside the State, and amendments to facilitate regulated party status for intermediate entities. Once an out-of-state producer opts in, it can pass the compliance obligation down to an intermediate entity before the California importer; the intermediate entity, in turn, would need to opt in to formalize its status as the regulated party for that fuel.

Second, several fuel marketers that operate transloading[8] facilities expressed their desire to be regulated under the program as "importers." The current regulatory text would prohibit such entities from becoming regulated parties. This is because the current definition for "import facility" requires the presence of a stationary storage tank into which the fuel is transferred after delivery into the State. The amended definitions of "importer" and "import facility" such that the regulated party status is conferred to those entities that own title to a fuel in the transportation equipment when the fuel is delivered in California.

Method 2A/2B Certification

The approval of new or modified fuel pathways (i.e., a Method 2A/2B approval)[9] under the regulation currently requires a formal rulemaking. A formal rulemaking is a lengthy and resource-intensive undertaking, requiring an "initial statement of reasons;" a 45-day comment period; a "final statement of reasons," which provides the agency's responses

[7] Under section 95480.1(b) of the current LCFS regulation, an entity that provides certain low CI fuels for transportation use, such as CNG for school buses, is normally exempt from the regulation and would need to opt into the program in order to become a regulated party and generate LCFS credits.
[8] A "transloading" facility is one in which fuel (e.g., ethanol) is delivered by rail tank car and transferred directly into a cargo tanker truck without first going into a stationary storage tank. Indeed, transloading facilities do not have stationary storage tanks for the fuel that is delivered by rail.
[9] See 17 CCR section 95486(c) through (f).

to comments received on the proposal; and a public hearing. This formal process typically takes about six months to a year. Based on the potential efficiency gains, the Board directed staff under Resolution 09-31 to investigate the feasibility of converting the rulemaking process into a more streamlined certification process.[10] From this investigation, staff converted the current process into an application program to facilitate more expeditious reviews of Method 2A/2B submittals.

Credit Trading

The current LCFS regulation allows regulated parties to trade and transact LCFS credits, but it does not specify ARB's role in the transactions, information about the credit market to be published by ARB, and other relevant provisions and requirements. Therefore, a new section was added to the LCFS regulation to provide more detail on how credits and deficits will be tracked. The amendments also specify the process for regulated parties to use for acquiring, banking, transferring, and retiring credits. Other provisions relevant to credit trading are also included.

High Carbon-Intensity Crude Oil

The current regulation contains a provision requiring regulated parties of petroleum-based fuels to account for their use of high carbon-intensity crude oil (HCICO) in their crude slates. The purpose of the HCICO provisions is to ensure that increases in the overall CI of CARBOB[11] and ULSD that might occur over time due to the use of more-carbon-intensive crudes are mitigated and do not diminish the emission reductions anticipated from the LCFS regulation. A regulated party is required to use the average CI value shown in the Lookup Table if the fuel/blendstock is derived from crude oil that is either not a HCICO[12], or was included in the 2006 California baseline crude mix (i.e., originated from a location which contributed two percent or more of the total crude oil refined in California in 2006 ["crude basket"]). A crude oil that does not satisfy both of these conditions is referred to as non-basket HCICO.

The current regulation requires the regulated party to account for a "baseline deficit" (the difference in CI between the compliance standard and average CI for CARBOB/ULSD as shown in the Lookup Table), as well as an "incremental deficit" incurred from using a non-basket HCICO (the difference between the average CI for all crudes, including HCICO, and the actual CI of the HCICO used). Petroleum refiners in California assert that the current HCICO provisions are overly burdensome to their industry, while other stakeholders maintain that the LCFS should continue to prevent increases in lifecycle carbon emissions that could occur if higher intensity crudes are used to replace existing supplies. ARB staff worked with stakeholders to determine if there were better options that would both meet the intent of the regulation (to ensure that the LCFS benefits are not diminished due to increases in GHG emissions from

[10] See http://www.arb.ca.gov/regact/2009/lcfs09/res0931.pdf.
[11] CARBOB means the California reformulated gasoline blendstock for oxygenate blending.
[12] HCICO is defined as any crude oil that has a total production and transport carbon-intensity value greater than 15.00 g CO2e/MJ. See section 95486(b)(2)(A).

higher carbon intensity crude supplies) and address, to the extent possible, the concerns laid out by the various stakeholders.

Accordingly, staff refined the accounting approach that will improve the regulation in a number of ways. The proposal is similar to the existing provision in that it will continue to require refiners to account for both a "baseline deficit" and an "incremental deficit." This will maintain the requirement that refiners account for sector-wide changes over time due to the CI of crudes processed in California.

However, the amendments differ from the existing provision in several ways. First, the concept of a grandfathered "basket" of crudes will be replaced with a "baseline" from which additional HCICO use will be calculated. Second, the baseline deficit will be based on a more recent baseline year to reflect more accurate data than were available for the 2009 rulemaking. Third, the incremental deficit will not apply a 15.00 g CO_2e/MJ bright line for differentiating between HCICOs and non-HCICOs. Instead, the amendments will eliminate the distinction entirely and simply require refiners to account for the difference in actual crude CIs that occur over time relative to a specified baseline. Thus, this will eliminate the "either/or" approach in the current provision and replace it with a continuum-based approach.

Electricity Regulated Party Revisions

The Board directed staff in Resolution 09-31 to review the provisions applicable to regulated parties for electricity and propose amendments if appropriate. Since the Board approved the regulation in 2009, the markets for electric vehicles and EV fueling infrastructure have evolved and continue to evolve. The amendments clearly designate the regulated parties for various electric vehicle (EV) charging scenarios, the requirements that will apply to designated regulated parties, and, to maximize the number of electricity-generated credits available for use in the LCFS, the default regulated party if the first-in-line regulated party declines to participate in the LCFS. The proposal will apply to potential regulated parties such as electric utilities, non-utilities installing electric vehicle service equipment (EVSE) with a customer contract, business owners, and fleet operators who include three or more EVs in their fleets.

Energy Economy Ratios

In Resolution 09-31, the Board directed staff to reevaluate the Energy Economy Ratios (EER) for heavy-duty vehicles burning CNG or liquefied natural gas (LNG) vehicles and update them if appropriate. Accordingly, staff has reevaluated those EERs and is proposing to revise them to reflect updated information. In addition, staff has reevaluated and proposes revisions to the EERs for light-duty battery electric vehicles (BEV), plug-in-hybrid electric vehicles (PHEV), and light-duty fuel cell vehicles (FCV). These changes, including changes to how the EERs are used in specified LCFS calculations, reflect engine efficiency and fuel economy data that were not available during the original 2009 rulemaking. These changes will affect how LCFS credits and

deficits are calculated, with an overall effect of increasing LCFS credits available for trading.

Reporting Requirements

Staff proposes several amendments to various reporting requirements, including elimination of the requirement to report renewable identification numbers (RINs) and energy volumes in "gasoline gallon equivalent" (GGE) units. The amendments will also require reporting of volumes in their native units to the nearest whole number. Further, staff will require the use of the LCFS Reporting Tool (LRT) for reporting purposes. Although the current regulatory text does not explicitly require use of the LRT, it has become the *de facto* standard for reporting purposes by all parties registered as regulated parties, and the proposal will simply formalize what is already occurring in practice.

Miscellaneous Changes

The amendments include a number of miscellaneous changes. This includes deleting the reference to the alternative fuel specification in the definitions of "compressed natural gas," "biogas," and "liquefied natural gas." This change will better reflect the GHG basis of the regulation. Further, amendments will codify a number of provisions specified in the LCFS regulatory advisories released to date. Finally, a number of grammatical, typographical, or other non-substantial corrections were made.

Comparable Federal Regulations: As noted in the 2009 notice of proposed rulemaking, there were no federal regulations that were comparable to the LCFS regulation at that time. This remains true. Therefore, there are no federal regulations that are comparable to the LCFS regulation or the proposed amendments to the LCFS regulation.

Changes to Underlying Laws: There have been no changes to the statutory authority governing adoption of this regulation.

Changes to the Effect of the Regulation: None.

Changes to the Proposed Amendments Since the Publication of the Notice: ARB conducted three additional 15-day change comment periods pursuant to Government Code section 11346.8.

The first set of 15-day changes added quarterly and annual reporting requirements related to crude oils, added a public comment period for Method 2A/2B applications, and updated Tables 6 and 7 in section 95486 to reflect changes made to the regulation in a previous rulemaking that were approved by the Office of Administrative Law on February 21, 2012. The second set of 15-day changes made modifications, in response to comments received, to annual reporting requirements and Method 2A/2B application requirements. The third set of 15-day changes made conforming modifications to certain definitions and the Method 2A/2B application process, incorporated the OPGEE

model and three fuel pathway supplement documents into the regulation, added individual crude carbon intensity values in new Table 8, and included an application process for producers of crude oil using innovative crude production methods.