

# Guidance Document for LCFS New Pathway Applications

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This is a guidance document for the re-adopted Low Carbon Fuel Standard (LCFS) regulation (California Code of Regulations (CCR), title 17, §§ 95480-95497) that was approved by the Board on September 25, 2015. The LCFS regulation order text is located in the LCFS Rulemaking website.<sup>1</sup> The regulation text is not included in this document, but citations to the regulation text are provided for the reader's convenience.

This document is intended to assist alternative fuel producers or providers (referred to as "applicants" in this document) to apply for a new fuel pathway carbon intensity (CI) value calculated using the CA-GREET 2.0 model. This document only provides instructions to obtain a certified pathway CI but does not provide guidance on using the CA-GREET 2.0 model. Links to all relevant resources are provided.

After reviewing this document, if you have additional questions please contact:

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<sup>1</sup> LCFS Rulemaking website: <http://www.arb.ca.gov/regact/2015/lcfs2015/lcfs2015.htm>

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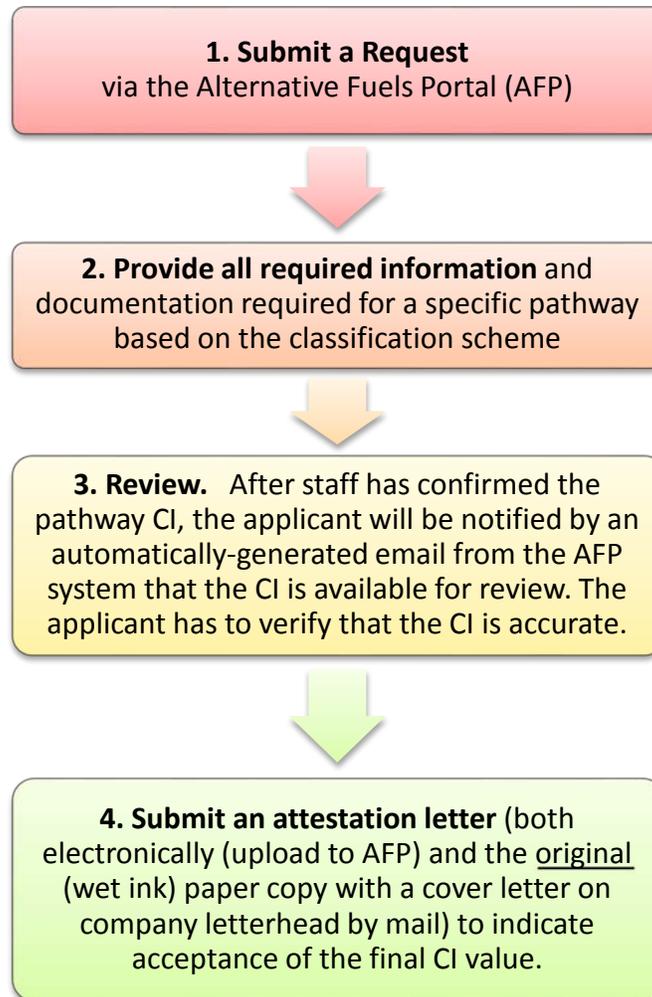
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## **Process for Requesting a New Pathway**

To obtain an updated CI value, an applicant must register and submit a New Pathway Application Request via a new web-based registration system, the Alternative Fuels Portal (AFP).<sup>2</sup> Registration via the AFP system replaces the LCFS application form that previous applicants may be familiar with.<sup>3</sup> Figure 1 provides details of steps required in obtaining a LCFS certified CI for a new fuel pathway.



**Figure 1. New Pathway Processing Steps**

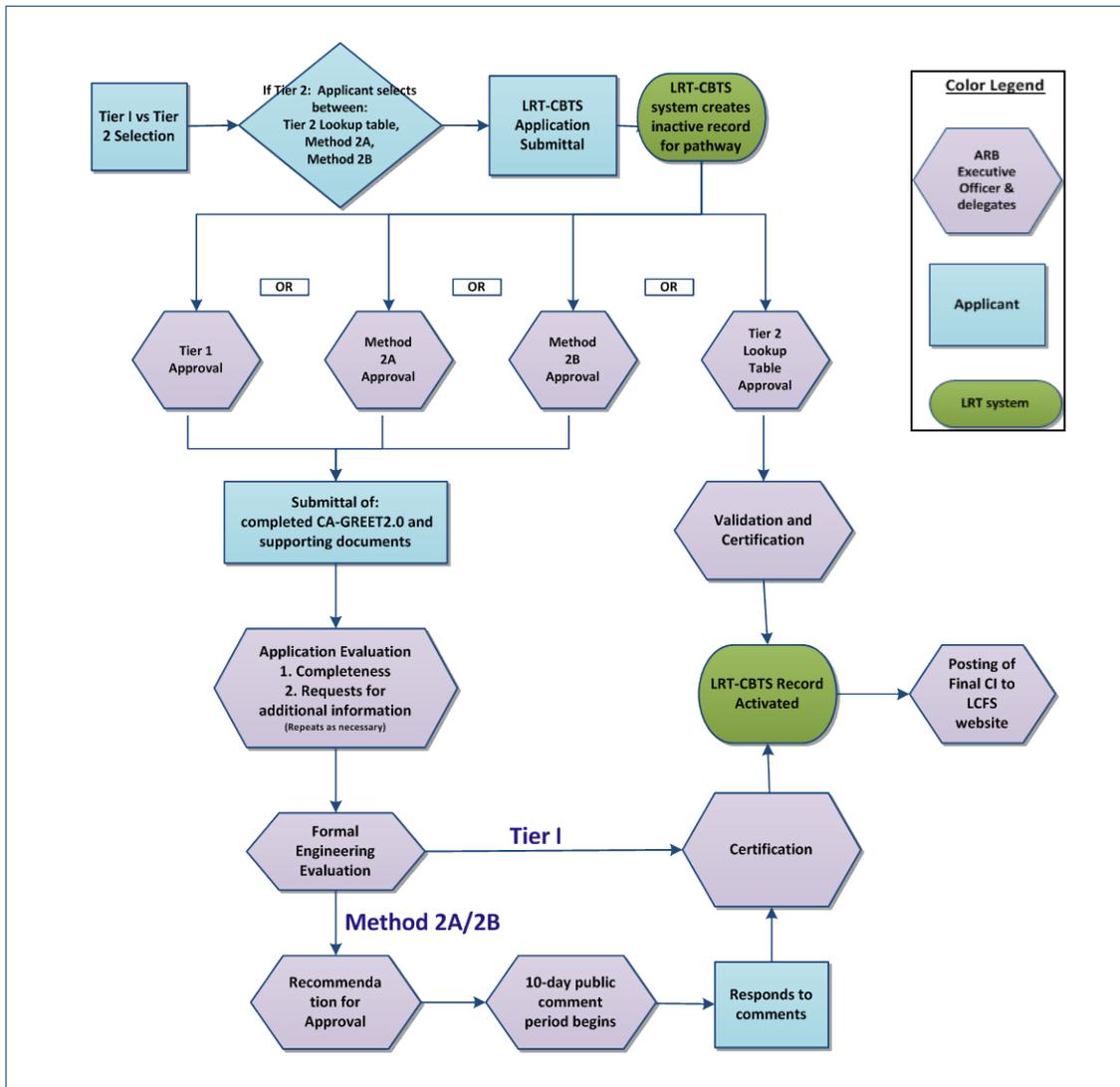
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<sup>2</sup> See [http://www.arb.ca.gov/fuels/lcfs/guidance/AFP\\_quickguidev1.pdf](http://www.arb.ca.gov/fuels/lcfs/guidance/AFP_quickguidev1.pdf) for specific guidance in using the AFP. Alternative Fuels Portal website: [www.arb.ca.gov/lcfsrt](http://www.arb.ca.gov/lcfsrt)

<sup>3</sup> Refer to **§ 95488(c)(1)** of the LCFS Regulation for information required to register using the AFP.

Under the new regulation, all fuel pathways will be classified using various categories and subcategories. Before registering, applicants need to understand which classification scheme is the most appropriate for their specific fuel pathway. The application and final certification process is slightly different for each classification scheme.

Figure 2 provides an overview of the classification scheme, application, evaluation, and certification process for all classification types. Each step is differentiated to delineate actions taken by the applicant vs. those taken by ARB systems or staff. The following sections of this document provide details under the various classifications.<sup>4</sup>



**Figure 2. Overview of Tier 1 and Tier 2 Pathway Certification Process**

<sup>4</sup> LCFS regulation § 95488(b)(3) and § 95488(c) provide complete details on the Tier and Method classification for fuel pathways.

## All Pathway Evaluation and Certification Process

Every application package will be reviewed for completeness and applicants will be notified if any additional information or documentation is required. If the application is found to be complete and no other information is needed, staff will update the AFP to indicate the application with a “deemed complete” date. ***This deemed complete date is important because applicants are eligible for credit generation from this date forward.***<sup>5</sup>

Two full years of data reflecting steady state commercial operation is required (although applications with only one calendar quarter of commercial operational data will be evaluated and, if the pathway CI is certified, will be marked ‘Provisional’).<sup>6</sup> Applications submitted without the required one quarter operating data will be marked as “incomplete” and will not be evaluated until at least one quarter commercial operational data is submitted.

Complete applications will move on to formal engineering review by ARB Fuels Evaluation staff. If any discrepancy is found in the application, model, or documentation, the applicant will be notified and staff will work with the applicant to resolve the issue. Once the engineering review is complete, the application will be reviewed and certified by the Executive Officer. Following certification, the CI will be posted on the LCFS Fuel Pathway Certification web page and will be available to the applicant in the LRT-CBTS to generate LCFS credits with appropriate submission of fuel volume data.

It is important to note that an applicant must be an active fuel producer and able to present evidence of the physical “fuel transport mode” (how the fuel reaches the California market) in order to apply for a certified CI value. In the past, this check was performed after the CI pathway application was certified. Staff has changed the administration of this step and now requires fuel transport mode to be demonstrated in conjunction with the CI pathway application.

### Tier 1 Fuel Pathways

Tier 1 includes conventionally produced first-generation fuel pathways. Under the Tier 1 process, applicants calculate their carbon intensity using the “Tier 1 Calculator” tab of the CA-GREET 2.0 Tier 1 Model.<sup>7</sup> Staff expects a majority of new applications to be classified as Tier 1. Figure 3 provides an overview of the Tier 1 certification process.

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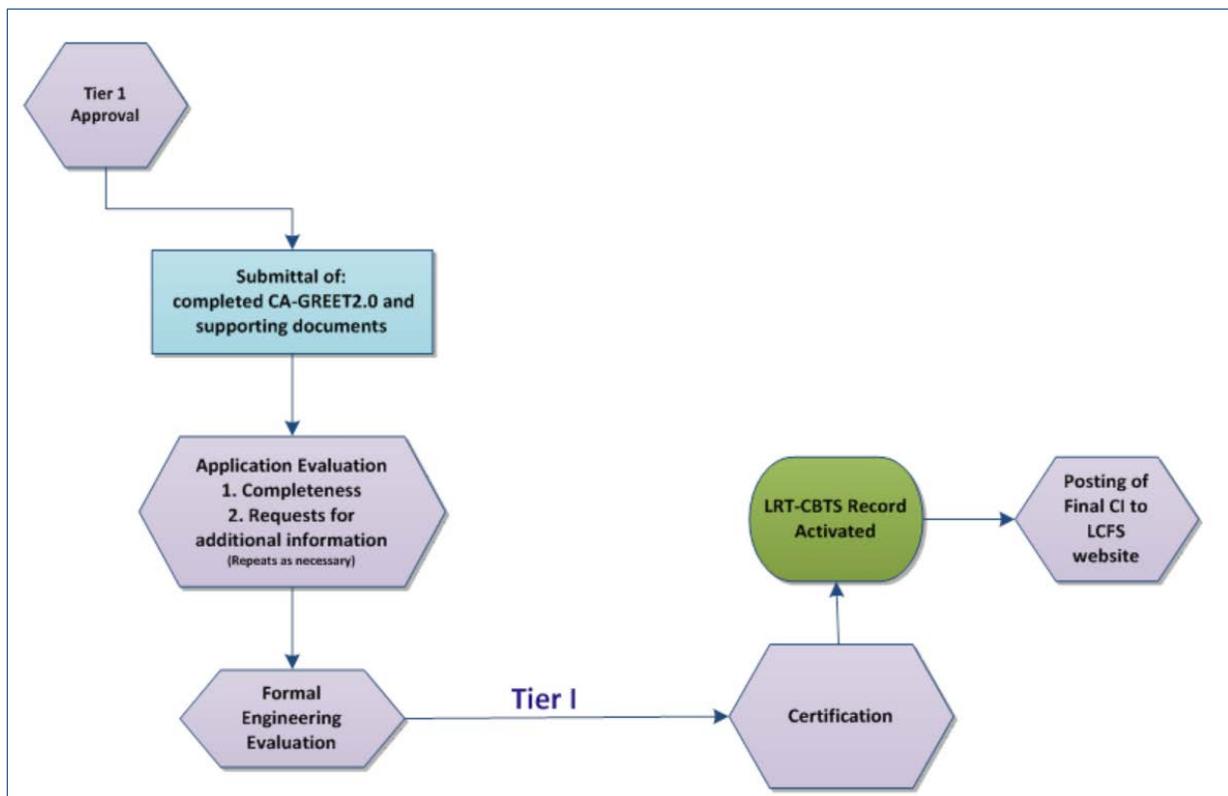
<sup>5</sup> See § 95486(a)(2) of the LCFS Regulation for details.

<sup>6</sup> See § 95488(d)(2) of the LCFS Regulation.

<sup>7</sup> Only fuels listed in the Tier 1 Tab are eligible for this designation. See §95488(b)(1) of the LCFS Regulation.

## Tier 1 Model and Data Submittal

After submitting a New Pathway Request Form through the AFP and selecting a Tier 1 pathway fuel, the applicant will receive notification of the Executive Officer's approval of the Tier 1 selection.<sup>8</sup> The applicant will then download the CA-GREET 2.0 Tier 1 Model and use the interface on the "T1 Calculator" tab to select the pathway and input fuel and facility-specific inputs in the cells highlighted in yellow. Only inputs to cells highlighted in yellow may be altered when using the Tier 1 Calculator. All other parameters are fixed and values may not be altered.



**Figure 3. Overview of the Tier 1 Pathway Certification Process**

Please refer to **§ 95488(b)** and **§ 95488(c)** of the regulation for all requirements for a Tier 1 pathway submittal and upload all necessary documentation into the AFP system. The pathway evaluation and certification process has been described earlier. For Tier 1 pathways, if certified, the pathway CI will be posted on the LCFS Fuel Pathway Certification web page and will be available to the applicant in the LRT-CBTS to generate LCFS credits with appropriate submission of fuel volume data.

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<sup>8</sup> The Executive Officer retains the final authority to designate the pathway classification scheme for all applicants and this decision is binding on the applicant.

## Tier 2 Fuel Pathway Classification

Tier 2 pathways involve next-generation fuels or first-generation fuels produced using innovative processes.<sup>9</sup> Figure 4 provides an overview of sub-classifications in the Tier 2 scheme.

Tier 2 applicants will either use a pathway in the Lookup Table<sup>10</sup> or modify a reference pathway to classify the pathway (Method 2A pathway), or may need to make significant modifications to CA-GREET 2.0 in order to accurately reflect their particular pathway (Method 2B pathway).

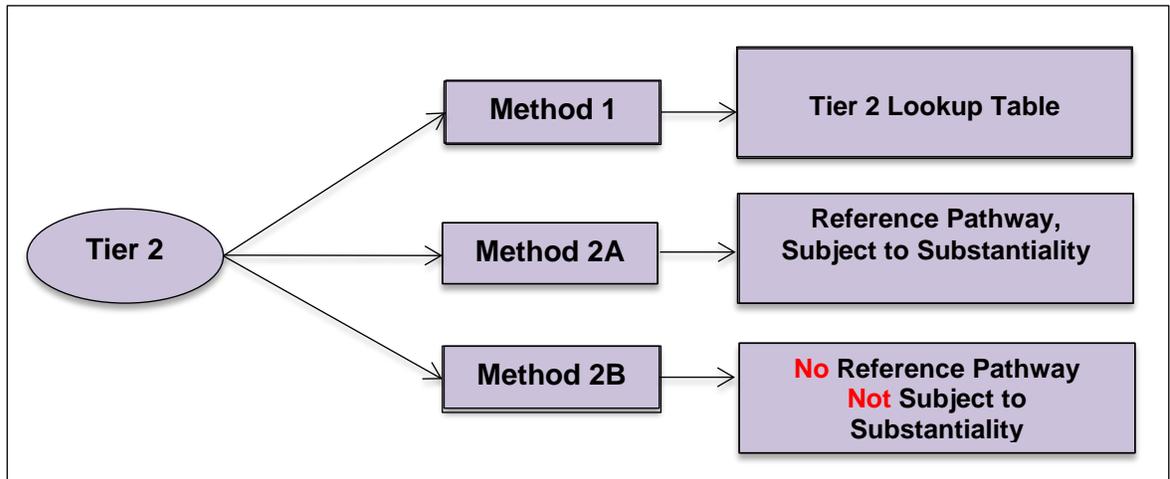


Figure 4: Tier 2 Classification Scheme

### Tier 2 Model and Data Submittal

The process is very similar to Tier 1. After submitting a New Pathway Request Form through the AFP and selecting a Tier 2 pathway fuel, the applicant will receive notification of the Executive Officer's approval of the Tier 2 selection. The applicant will then download the CA-GREET 2.0 Tier 2 Model and use the interface on the "T2 Calculator" tab to select the pathway and input fuel and facility-specific inputs in the cells highlighted in yellow. Since Tier 2 pathways involve next-generation fuels or first-generation fuels producing innovative processes it is important for applicants to follow the instructions in the Tier 2 Calculator model.

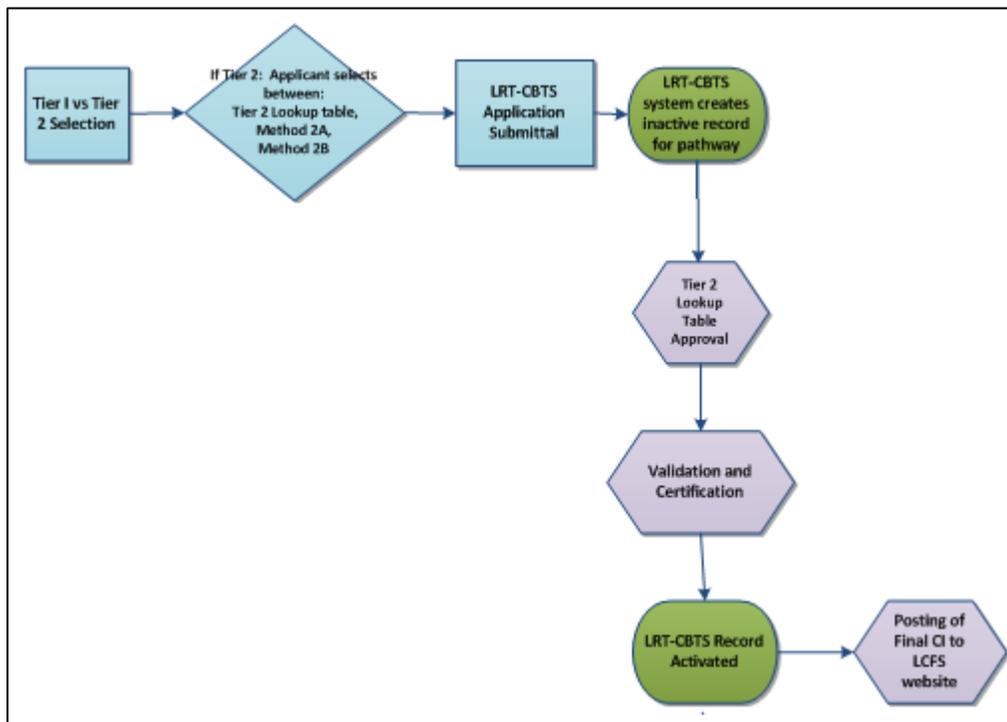
Please refer to **§ 95488** of the regulation for all requirements for a Tier 2 pathway submittal and upload all necessary documentation into the AFP system.

<sup>9</sup> Refer to **§ 95488** of the regulation for more information on Tier 2 pathways.

<sup>10</sup> See Table 6 in **§ 95488(c)(4)(F)** of the LCFS Regulation.

## Tier 2 Lookup Table Fuel Pathways

Providers of alternative fuels that appear in the Tier 2 Lookup Table must demonstrate that their pathway closely corresponds to their actual physical fuel production pathway. Figure 5 provides details of the Tier 2 Lookup Table pathway certification process.<sup>11</sup> The review and evaluation process for such pathways is similar to Tier 1 pathways, hence, if certified, the pathway CI will be posted on the LCFS Fuel Pathway Certification web page and will be available to the applicant in the LRT-CBTS to generate LCFS credits with appropriate submission of fuel volume data.



**Figure 5: Tier 2 Lookup Table Pathway Certification Process**

## Tier 2 Method 2A Fuel Pathways

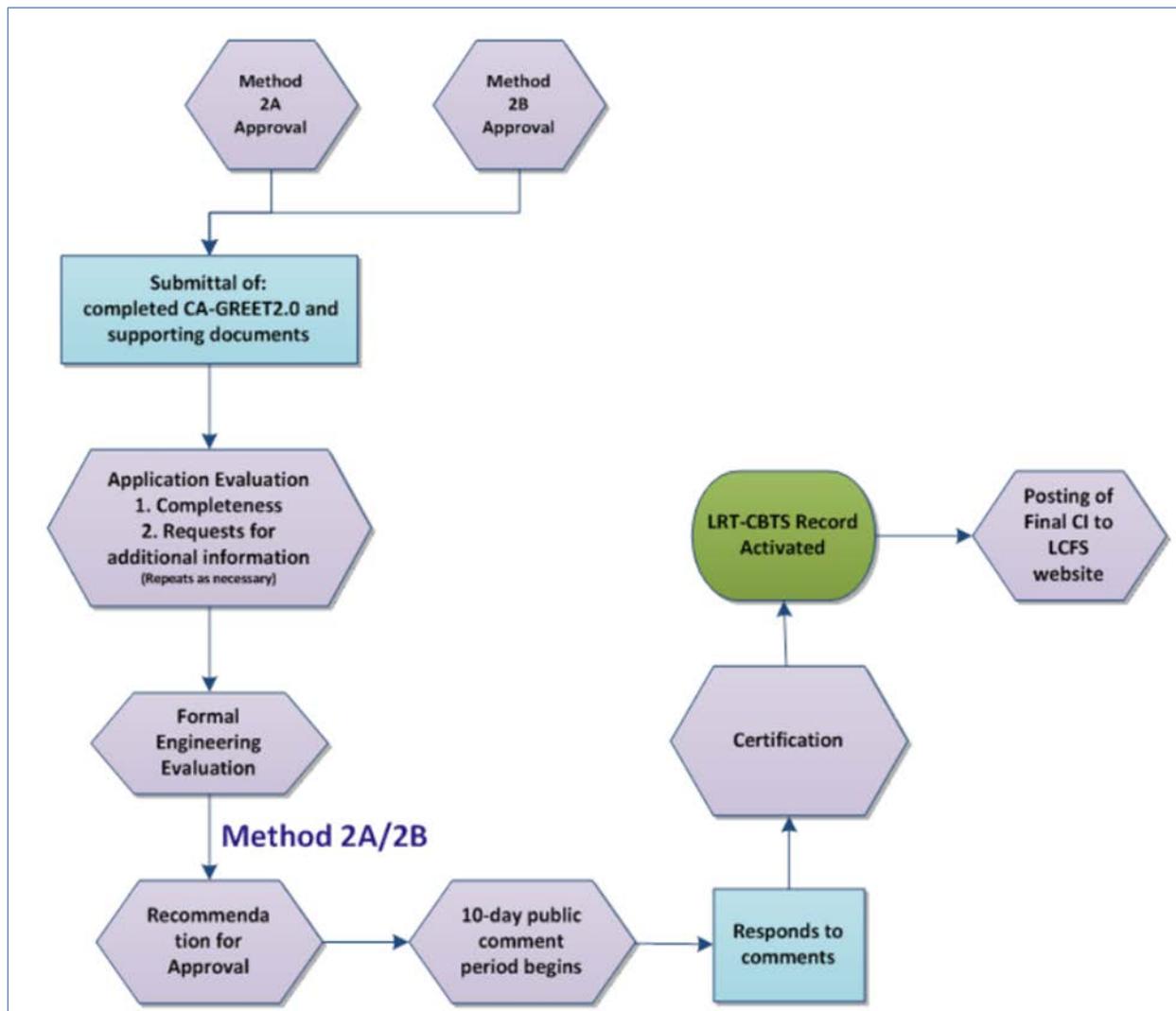
Method 2A is available for applicants who produce a fuel that has a reference pathway, but whose actual CI is substantially different from the reference pathway CI. Per **§ 95488(c)(1)(M)** of the rule, a reference pathway may be either 1) one of the pathways appearing in the Tier 2 Lookup Table, or 2) a Method 2 pathway for which the applicant previously obtained certification. Applicants may not use another company's pathway as their own reference pathway. The applicant must meet all substantiality

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<sup>11</sup> For complete demonstration and documentation requirements, refer to **§ 95488(c)(4)(C-F)** of the LCFS Regulation.

requirements as listed in **§ 95488(c)(4)(G)(2)** of the rule. Refer to **§ 95488(c)(4)(G)** for complete details on provisions that apply to Method 2A pathways.

Figure 6 provides an overview of the certification process for Method 2A (and Method 2B) pathways. Tier 2 Method 2A applicants must use the CA-GREET2.0 Tier 2 model, and use the tab labeled “T2 Calculator” – an interface similar to the “T1 Calculator” tab in the Tier 1 version. The Tier 2 Calculator contains general instructions for using the model. Refer to **§ 95488(b)(3)** and **§ 95488(c)** for Tier 2 required submittals for the pathway application process.



**Figure 6. Overview of Method 2A- and 2B Pathway Processing**

The review and evaluation process of a Method 2A pathway is similar to that for a Tier 2 Lookup Table pathway. However, for a Method 2A pathway, upon approval of a pathway CI a staff summary and all non-confidential information will be posted for public review and comments for 10 business days<sup>12</sup> and, if certified, the pathway CI will be posted on the LCFS Fuel Pathway Certification web page.

## **Tier 2 Method 2B Classification**

The Tier 2 Method 2B process is designed for next-generation fuels and first-generation fuels produced using innovative methods (such as carbon capture and sequestration, renewable sources of process energy, feedstock production improvements, and other unforeseen innovations). Such fuels may not be readily modeled in CA-GREET 2.0 Tier 2 model without modification of some calculations or the addition of life cycle inventory data for new feedstocks, chemicals and co-products and other parameters. This method therefore allows the greatest flexibility in terms of modeling and data sources. Applicants considering Method 2B pathways may consult staff prior to modeling their fuel pathways. Application and staff review for Method 2B pathways are similar to Method 2A pathways as detailed above. However, Method 2B pathways are not subject to the substantiality requirements.<sup>13</sup>

## **Provisional Pathway Applications**

As described above, applicants with one quarter of commercial operating data may apply for a provisional pathway CI. Applicants must request a New Pathway Request Form through the AFP system with an appropriate Tier and Method classification. ARB staff expects to expedite the processing and certification of CIs for provisional pathway applications. Applicants can review the LCFS **§ 95488(d)(2)** for more information regarding the provisional pathway applications.

## **Temporary Fuel Pathway Applications**

Temporary FPCs for fuels with indeterminate CIs are available under **§ 95488(d)(1)** of the regulation. These FPCs are provided for temporary use, including when a volume of fuel is from a production facility that cannot be identified or where the production facility is known but there is no approved fuel pathway application. An applicant must petition the Executive Officer using the Temporary FPC Request Form in the AFP system to use these values. Use of Temporary FPCs is limited to two quarters per application.

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<sup>12</sup> See **§ 95488(c)(5)(H)** for details

<sup>13</sup> See **§ 95488(c)(4)(G)2** for details

## Submit a New Attestation Letter

This applies to all pathways prior to formal certification. The newly certified CI cannot be activated without a new attestation letter to signal acceptance of the value and responsibility for its accuracy. Download the new standard attestation letter template from the AFP system (do not reuse any existing attestation); sign, date, and submit electronically via the AFP system and mail the original with a cover letter on company letterhead to the address shown below:

Attention: Anil Prabhu, Manager  
Fuels Evaluation Section  
Transportation Fuels Branch  
Air Resources Board  
1001 "I" St. – 6<sup>th</sup> Floor  
Sacramento, CA 95814