

## **Reporting and Verification Guidance for Natural Gas Fractionators** for California's Mandatory GHG Reporting Program

### **Introduction**

This document provides guidance for natural gas liquid (NGL) fractionators using Cal e-GGRT to report fuel supplier emissions and product data pursuant to the Regulation for Mandatory Reporting of Greenhouse Gas Emissions (title 17, California Code of Regulations, section 95100-95158) (MRR). Unlike MRR, this guidance does not have the force of law, does not establish new mandatory requirements for greenhouse gas (GHG) reporting, and in no way supplants, replaces, or amends any of the legal requirements of the Regulation. Conversely, an omission or truncation of regulatory requirements in this guidance does not relieve operators of their legal obligation to fully comply with all requirements of MRR.

Section 95101(c)(8) of MRR requires that NGL fractionators report emissions from NGL produced on-site and delivered to others, regardless of the quantity supplied. All NGL fractionators must report emissions from the supplied fuel pursuant to section 95122 of MRR. Section 95122 of MRR contains requirements for calculating and reporting GHG emissions that result from complete combustion of NGLs and liquefied petroleum gas (LPG) products produced at NGL fractionation facilities. In addition, NGL fractionators are required to report covered product data pursuant to section 95156(c) of MRR. Covered product data are used for allowance allocation purposes in the Cap-and-Trade Program.

It should be noted that for the purposes of allowance allocation under the Cap-and-Trade Program, the product data reporting requirements in this guidance document also apply to natural gas processing facilities and onshore petroleum and natural gas production facilities with a natural gas processing plant that processes less than 25 million standard cubic feet per day (MMscf), pursuant to MRR section 95156(c).

The current document contains revisions to reflect the following 2016 MRR amendment that goes into effect for 2018 data reported in 2019:

- NGL fractionators must report the total quantity of LPG that is excluded from emissions reporting due to a final destination outside of California (section 1.4)

Other regulatory revisions that go in effect for 2018 data and may affect NGL fractionators include the following:

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- Revisions to the definition of a “natural gas processing” facility in section 95102(a) and 95150(a)(3) that affects the reporting of combustion, vented, and fugitive emissions; and
- Revisions to section 95101(b)(3) that affect how a supplier calculates total entity emissions for the purpose of determining rule applicability.

Because these changes will not directly affect how NGL fractionators report *supplier* emissions or product data, which is the focus of this guidance, they are not discussed further in this document. Please refer to [Reporting Guidance for Petroleum and Natural Gas Systems Emissions](#) and [Reporting Guidance for Determining Rule Applicability](#) for a discussion of these regulatory revisions.

### 1 Reporting Guidance for NGL Fractionators

This section provides guidance to NGL fractionators for reporting fuel supplier emissions from NGLs and LPGs pursuant to the requirements in section 95122 of MRR, as well as reporting NGL covered product data pursuant to section 95156(c). In the California Electronic Greenhouse Gas Reporting Tool (Cal e-GGRT), NGL and LPG emissions data are reported in Subpart NN, and covered product data are reported in Subpart W.

#### 1.1 Reporting GHG Emissions Data

Section 95122(a)(1) of the MRR requires NGL fractionators to report two sets of fuel supplier emissions data:

1. Emissions from NGL products produced and supplied to others (irrespective of the final destination of the product), as specified in the U.S. Environmental Protection Agency (USEPA) Mandatory Reporting Rule 40 CFR Part 98.402(a) (Subpart NN). Emissions are calculated from the quantity of NGL products produced and supplied to others. This data is equivalent to the data reported under the USEPA Mandatory Reporting Rule, Subpart NN. **Under CARB's MRR, these emissions are considered the “total emissions” from NGL fractionation.**
2. Emissions from LPG produced and supplied to others, except for LPG for which a destination outside California can be demonstrated. LPG emissions required to be reported pursuant to section 95122(a)(1) are a subset of NGL emissions. Emissions are calculated from the quantity of LPG produced and supplied to others. The quantity supplied is reported by individual LPG constituent. **These emissions are considered “covered emissions” for Cap-and-Trade purposes.**

Table 1 below summarizes the two sets of data NGL fractionators are required to report.

**Table 1: NGL Products and LPG Constituents Reported under Subpart NN**

<b>NGLs Required per 40 CFR 98.402(a)</b>	<b>LPG Constituents Required per MRR</b>
<i>Ethane (LPG and non-LPG)</i>	<i>LPG – Ethane</i>
<i>Propane (LPG and non-LPG)</i>	<i>LPG – Ethylene</i>
<i>Butane (LPG and non-LPG)</i>	<i>LPG – Propane</i>
<i>Isobutane (LPG and non-LPG)</i>	<i>LPG – Propylene</i>
<i>Pentanes Plus* (LPG and non-LPG)</i> <i>*Includes natural gasoline</i>	<i>LPG – Butane</i>
	<i>LPG – Butylene</i>
	<i>LPG – Isobutane</i>
	<i>LPG – Isobutylene</i>
	<i>LPG - Pentanes Plus</i>

### 1.1.1 NGL and LPG Reporting Requirements

Under MRR, LPG, commonly referred to as “propane,” is a commercial fuel that meets the specifications in section 95102(a). LPG is typically used as a fuel for purposes such as heating, transportation, and BBQ grills. LPG includes products sold as LPG (grades HD-5 and HD-10), as well as other constituent mixtures that meet the definition of LPG specified in section 95102(a) of MRR. While total NGLs are reported (listed in the first column of Table 1), only the emissions associated with LPG constituents (listed in the second column of Table 1) are considered covered emissions for Cap-and-Trade compliance obligation purposes and are assessed for material misstatement during verification.

### 1.1.2 Covered Emissions Calculation

For NGL fractionators, covered emissions are those associated with downstream combustion of LPG supplied in California. Covered emissions are therefore equal to the sum of the CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions from all LPG constituents that are produced by the NGL fractionator and delivered, unless a destination outside of California can be demonstrated. Verifiers must evaluate the covered emissions for material misstatement, which means that verifiers will closely review the measurement, data management, and quality control processes used to calculate the volume of LPG and total emissions to ensure they meet the accuracy requirements in section 95103(k) of MRR. Verifiers will also review transaction data to verify that LPG excluded from reporting had a final destination outside of California.

## 1.2 Reporting Supplier Emissions in Cal e-GGRT

NGL fractionators report supplier emissions in Cal e-GGRT by opening Subpart NN and selecting "Natural gas liquid fractionator" as the Supplier Type. The NGL fractionator overview page begins with these instructions:

### OVERVIEW OF SUBPART REPORTING REQUIREMENTS FOR NATURAL GAS LIQUID (NGL) FRACTIONATORS

Section 95122 (a)(1) requires NGL Fractionators to report CO<sub>2</sub> emissions, as specified in 40 CFR §98.402(a), that would result from the complete combustion or oxidation of the total annual quantity of ethane, propane, butane, isobutane, or pentanes plus that is produced and supplied to others. These five products are listed below and include both LPG and non-LPG products. These products determine the NGL Fractionator Total Emissions. In addition to this information, NGL fractionators that supply Liquefied Petroleum Gas products in California must also report the total GHG emissions that would result from the complete combustion or oxidation of all LPG products produced and supplied, unless destination outside of California can be demonstrated. The nine individual constituents of the LPG products are listed below. These LPG products determine the NGL Fractionator Covered Emissions.

NGL fractionators report both total NGLs (LPG and non-LPG) produced and supplied, and total LPG constituents produced and delivered *unless a destination outside of California can be demonstrated*. The two categories are referenced hereafter as "NGLs" and "LPG." As shown in Figure 1, reporters input NGLs in Cal e-GGRT in the top section of the GHG Summary table as ethane, propane, butane, isobutane, and pentanes plus. Reporters input LPG in the bottom section of the GHG Summary table, by individual constituent.

### 1.2.1 Selecting NGL and LPG constituents

After selecting the appropriate NGLs and LPG constituents in the reporting table, the reporter enters the data for each constituent separately by clicking on the "Open" button and following the instructions.

### 1.2.2 Entering NGL Data

For NGL products, the reporter enters both LPG and non-LPG products into the tool and the tool calculates emissions using equation NN-8 of 40 CFR Part 98 Subpart NN (see Figure 2). The tool calculates total CO<sub>2</sub> for each NGL constituent by subtracting the emissions from the volume of product received from upstream producers (CO<sub>2m</sub>) from the emissions from the total product supplied by the reporter (CO<sub>2i</sub>). The net difference is equal to the total emissions from the product produced and delivered by the NGL fractionator. When entering volumes "received," the reporter should only enter products

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that were received from upstream suppliers in the form of fractionated “purity” products or constituent mixtures. Reporters do **not** report bulk y-grade mixtures as products “received.”

**Figure 1: Choosing NGL and LPG Products in Cal e-GRRT**

Supplier Type \* Natural gas liquid fractionator Add/Change

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**GHG SUMMARY**

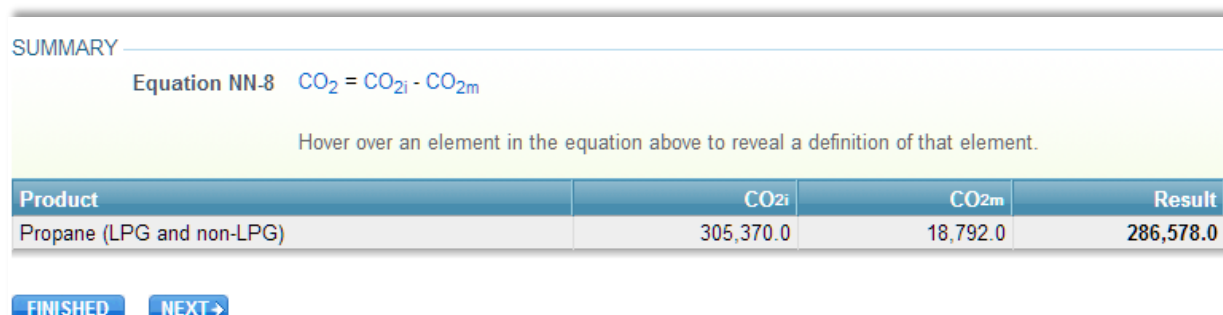
Products <sup>1,3</sup>	CO <sub>2</sub> (metric tons)	CH <sub>4</sub> (metric tons) <sup>4</sup>	CO <sub>2</sub> e of CH <sub>4</sub> (metric tons) <sup>4</sup>	N <sub>2</sub> O (metric tons) <sup>4</sup>	CO <sub>2</sub> e of N <sub>2</sub> O (metric tons) <sup>4</sup>	Status <sup>2</sup>	
<input type="checkbox"/> Ethane (LPG and non-LPG)							
<input type="checkbox"/> Propane (LPG and non-LPG)							
<input checked="" type="checkbox"/> Butane (LPG and non-LPG)	28,081.0	1.29	27.2	0.259	80.2	Complete	<span style="background-color: #2196F3; color: white; padding: 2px 5px; border-radius: 3px;">OPEN</span>
<input type="checkbox"/> Isobutane (LPG and non-LPG)							
<input type="checkbox"/> Pentanes Plus (LPG and non-LPG)							
<input type="checkbox"/> LPG Ethane							
<input type="checkbox"/> LPG Ethylene							
<input type="checkbox"/> LPG Propane							
<input type="checkbox"/> LPG Propylene							
<input type="checkbox"/> LPG Butane							
<input type="checkbox"/> LPG Butylene							
<input type="checkbox"/> LPG Isobutane							
<input type="checkbox"/> LPG Isobutylene							
<input type="checkbox"/> LPG Pentanes Plus							
<b>Total</b>	<b>0.0</b>	<b>1.29</b>	<b>27.18</b>	<b>0.259</b>	<b>80.247</b>		

**MISCELLANEOUS INFORMATION FOR NGL FRACTIONATORS**

Natural Gas Received (Mscf)	Y-Grade Bulk NGLs Received (bbl)	Propane Odorized and Delivered (bbl)	
20,000	600	10,000	<span style="background-color: #2196F3; color: white; padding: 2px 5px; border-radius: 3px;">OPEN</span>

Total volume (bbls) of LPG excluded from emissions reporting due to demonstration of final destination outside California, as described in section 95122(d)(8)

**Figure 2: NGL calculation**

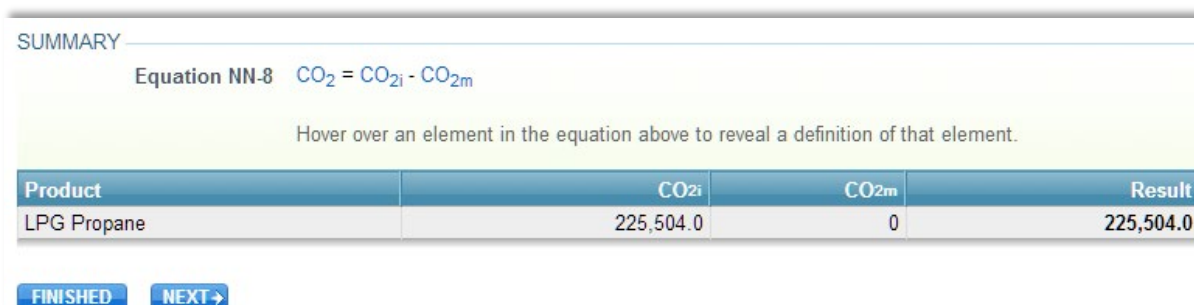


### 1.2.3 Entering LPG Data

LPG data are reported both as part of NGL products (aggregated with non-LPG products), listed in the top section of the GHG Summary table shown in Figure 1, and as part of LPG constituent products, listed in the bottom section of the GHG Summary table. When reported as an NGL product, the volume of LPG reported is the total barrels produced on-site and delivered to others. When reported as an LPG constituent product, the volume of LPG reported is the total barrels produced on-site and delivered to others in California.

When entering LPG constituent data, the tool does not allow the reporter to enter LPG volume data as “supplied” minus “received.” There are no fields to report volumes received from an upstream supplier because the CO<sub>2m</sub> parameter of equation NN-8 is set to zero for LPG products (see Figure 3). Therefore, the volume reported under the CO<sub>2i</sub> parameter (i.e., volume produced on-site and supplied to others) must not include any LPG that was produced by a different fractionation facility and stored, transferred, odorized, or repackaged on-site.

**Figure 3: LPG calculation**



### **1.3 Total Emissions and Covered Emissions**

Although volume data for LPG products are entered in the NGL section and in the LPG section of the GHG Summary table, the tool does not double count emissions from LPG products. The "Total Emissions" from NGL fractionation calculated by Cal e-GGRT are equal to the sum of the NGL product emissions only. The "Covered Emissions" from NGL fractionation are equal to the sum of the emissions from the LPG constituents only.

### **1.4 Reporting NGL Production Volumes as Covered Product Data in Subpart W**

In addition to reporting supplier emissions data in Subpart NN of Cal e-GGRT, NGL fractionators are required to report product data pursuant to section 95156(c) in Subpart W of Cal e-GGRT. Product data reporting requirements in section 95156(c) also apply to natural gas processing facilities and onshore petroleum and natural gas production facilities with a natural gas processing plant that processes less than 25 MMscf per day, and this data should also be reported in Subpart W of Cal e-GGRT. The volume of NGLs produced is considered "covered product data"<sup>1</sup> and is used for allowance allocation purposes in the Cap-and-Trade Program. In contrast to emissions data, all NGL products (LPG and non-LPG) are used in this calculation, and the sum of these values is what the verifier evaluates for material misstatement. The covered product data reported in Subpart W of Cal e-GGRT should reflect the NGLs produced at the facility (as opposed to produced *and delivered* as reported in Subpart NN) in the reporting year. Therefore, these data should typically be largely consistent with the volumes reported under Subpart NN unless there is significant onsite inventory storage from year to year. NGL products are either reported as an individual bulk product (e.g., ethane, ethylene), or as LPG if part of a mixed LPG product. Therefore, a volume of LPG should not be reported as both an individual bulk product (e.g., propane) and as LPG. Natural gasoline is also reported as a covered product.

### **1.5 Additional Data Reporting Requirements**

Beginning with 2018 data reported in 2019, NGL fractionators are required to report the total volume (in barrels) of LPG excluded from emissions reporting due to a final destination outside of California, pursuant to section 95122(d)(8). This data is entered at the very bottom of the NGL fractionator overview page, shown in Figure 1. For the

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<sup>1</sup> "Covered product data" means all product data included in the allocation of allowances under sections 95870, 95890, and 95891 of the cap-and-trade regulation, regardless of whether the Cap-and-Trade regulation imposes a compliance obligation for the data year." (Section 95102(a) of MRR).

entered value to be included in your report, you must hit "Save" at the bottom of the NGL fractionator overview page.

## 2 Reporting Example for NGL Fractionators

This section provides an example of how NGL fractionator data is reported in Cal e-GGRT using a hypothetical reporting scenario. The example provided is based in part on case-specific factual circumstances and is offered here only as guidance that does not supplant the requirements of MRR.

### Reporting Scenario

An NGL fractionator delivers the following products:

- 2,000 barrels (bbl) of bulk ethane
- 6,000 bbls of isobutane
- 5,000 bbls of natural gasoline
- 100,000 bbls of HD-5 LPG, consisting of:
  - 90% propane; 5% butane; 5% propylene

The NGL fractionator receives the following products from upstream fractionators and odorizes the LPG for sale to consumers:

- 1,000 bbls of bulk ethane
- 10,000 bbls of non-odorized LPG, consisting of:
  - 90% propane; 5% butane; 5% propylene

Additional Information: The NGL fractionator can demonstrate that 20 percent of the LPG was delivered outside of California.

### 2.1 Reporting NGL quantities produced and supplied to others (irrespective of the final destination of the product)

In the GHG Summary table found in the NGL Fractionator overview page, the NGL fractionator selects the NGLs to report. Because the reporter delivered bulk ethane, isobutene, natural gasoline, and HD-5 LPG containing propane, butane, and propylene, they select Ethane (LPG and non-LPG), Propane (LPG and non-LPG), Butane (LPG and non-LPG), Isobutane (LPG and non-LPG), and Pentanes Plus (LPG and non-LPG) (Figure 4); natural gasoline is reported under Pentanes Plus (LPG and non-LPG).



**Figure 4: Selecting NGL products**

GHG SUMMARY

	Products <sup>1, 3</sup>	CO <sub>2</sub> (metric tons)	CH <sub>4</sub> (metric tons) <sup>4</sup>	CO <sub>2</sub> e of CH <sub>4</sub> (metric tons) <sup>4</sup>	N <sub>2</sub> O (metric tons) <sup>4</sup>	CO <sub>2</sub> e of N <sub>2</sub> O (metric tons) <sup>4</sup>	Status <sup>2</sup>	
<input checked="" type="checkbox"/>	Ethane (LPG and non-LPG)						Incomplete	<a href="#">OPEN</a>
<input checked="" type="checkbox"/>	Propane (LPG and non-LPG)						Incomplete	<a href="#">OPEN</a>
<input checked="" type="checkbox"/>	Butane (LPG and non-LPG)						Incomplete	<a href="#">OPEN</a>
<input checked="" type="checkbox"/>	Isobutane (LPG and non-LPG)						Incomplete	<a href="#">OPEN</a>
<input checked="" type="checkbox"/>	Pentanes Plus (LPG and non-LPG)						Incomplete	<a href="#">OPEN</a>

To report Butane (LPG and non-LPG), for example, the reporter clicks OPEN in the GHG Summary table. In the page titled “Fuel: Annual Volume of Butane (LPG and non-LPG) Supplied to all end users,” the NGL fractionator reports the quantity of butane supplied (Figure 5). Because the NGL fractionator supplied 100,000 bbls of LPG product containing 5 percent butane, the reporter enters 5,000 bbls in the Total annual volume of product supplied field.

**Figure 5: Entering NGL product “supplied”**

**Section 95122 (Subpart NN): Suppliers of Natural Gas and Natural Gas Liquids (2018)**

[Subpart Overview](#) » [Butane \(LPG and non-LPG\)](#) » [Eq. NN-2](#)

**CO<sub>2</sub> QUANTITY CALCULATION**

NGL fractionators that supply Liquefied Petroleum Gas products in California must report the total GHG emissions that would result from the complete combustion or oxidation of all LPG products produced and supplied, unless destination outside of California can be demonstrated.

- ▷ [Equation Summary \(NN-8\)](#)
- ▷ [CO<sub>2</sub>: \(NN-2\) Potential CO<sub>2</sub> quantities from product supplied to all end users](#)
- ▷ **Fuel: Annual Volume of Butane (LPG and non-LPG) Supplied to all end users**
- ▷ [EF: Emissions Factor](#)
- ▷ [CO<sub>2m</sub>: \(NN-7\) CO<sub>2</sub> associated with product received from other fractionators](#)

**TOTAL ANNUAL VOLUME OF PRODUCT SUPPLIED TO ALL USERS**

Total annual volume of product supplied  (bbl)

Days in reporting year for which substitute data procedures were used  (days)

Industry standard used to measure the volume

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In the page titled “Fuel: Annual Volume of Butane (LPG and non-LPG) received from other fractionators,” the NGL fractionator reports the quantity of butane received

(Figure 6). Because the NGL fractionator received from upstream suppliers 10,000 bbls of LPG containing 5 percent butane, the reporter enters 500 bbls in the Total annual volume of NGL product received field.

**Figure 6: Entering NGL product “received”**

**Section 95122 (Subpart NN): Suppliers of Natural Gas and Natural Gas Liquids (2018)**

Subpart Overview » Butane (LPG and non-LPG) » **NGL Product Received**

**CO<sub>2</sub> QUANTITY CALCULATION**

NGL fractionators that supply Liquefied Petroleum Gas products in California must report the total GHG emissions that would result from the complete combustion or oxidation of all LPG products produced and supplied, unless destination outside of California can be demonstrated.

- ▷ Equation Summary (NN-8)
  - ▷ CO<sub>2i</sub>: (NN-2) Potential CO<sub>2</sub> quantities from product supplied to all end users
  - ▷ CO<sub>2m</sub>: (NN-7) CO<sub>2</sub> associated with product received from other fractionators
  - ▷ **Fuel: Annual Volume of Butane (LPG and non-LPG) Received**
  - ▷ EF: Emissions Factor

TOTAL ANNUAL VOLUME OF NGL PRODUCT RECEIVED

Total annual volume of NGL product received  (bbl)

Days in reporting year for which substitute data procedures were used  (days)

Cal e-GGRT calculates the total CO<sub>2</sub> emissions for the product, by subtracting CO<sub>2m</sub> from CO<sub>2i</sub> (i.e., CO<sub>2</sub> from product supplied minus received) (Figure 7). The NGL fractionator clicks FINISHED to return to the NGL fractionator overview page.

**Figure 7: CO<sub>2</sub> emissions from Butane (supplied minus received)**

**SUMMARY**

Equation NN-8  $CO_2 = CO_{2i} - CO_{2m}$

Hover over an element in the equation above to reveal a definition of that element.

Product	CO <sub>2i</sub>	CO <sub>2m</sub>	Result
Butane (LPG and non-LPG)	1,380.5	138.0	<b>1,242.4</b>

**2.2 Entering LPG constituents produced on-site and supplied in California**

The NGL fractionator next reports the LPG product constituents produced on-site and supplied in California. The NGL fractionator selects the LPG constituent products to be reported in the GHG Summary table. Because the reporter delivered HD-5 LPG

consisting of 90% propane, 5% butane, and 5% propylene, the reporter selects LPG Propane, LPG Propylene, and LPG Butane (Figure 8).

**Figure 8: Selecting LPG constituent products**

<input type="checkbox"/>	LPG Ethane							
<input type="checkbox"/>	LPG Ethylene							
<input checked="" type="checkbox"/>	LPG Propane					Incomplete	<a href="#">OPEN</a>	
<input checked="" type="checkbox"/>	LPG Propylene					Incomplete	<a href="#">OPEN</a>	
<input checked="" type="checkbox"/>	LPG Butane					Incomplete	<a href="#">OPEN</a>	
<input type="checkbox"/>	LPG Butylene							
<input type="checkbox"/>	LPG Isobutane							
<input type="checkbox"/>	LPG Isobutylene							
<input type="checkbox"/>	LPG Pentanes Plus							

To report LPG Butane, for example, the reporter clicks OPEN in the GHG Summary table. In the page titled, “Fuel: Annual Volume of LPG Butane Supplied to all end users,” the NGL fractionator reports the quantity of butane produced on-site and supplied to end users in California (Figure 9). As described above, for NGL products, the NGL fractionator reports both the volume of product received and the volume of product supplied in Cal e-GGRT and Cal e-GGRT subtracts the volume of product received from volume supplied to determine the volume produced on-site. In contrast, for LPG products, the parameter for volume received is set to zero in Cal e-GGRT, so the NGL fractionator must subtract out the volume received from the volume supplied outside of Cal e-GGRT and report only the volume produced on-site into the field, Total annual volume of product supplied. The value entered in this field must also exclude volumes for which a destination outside of California can be demonstrated.

Note that fractionators may only subtract out constituents of finished LPG products (odorized or non-odorized) that are received from upstream suppliers. The reasoning is that the upstream supplier would have reported the covered emissions from the LPG so the downstream fractionator that may only be odorizing and selling the LPG should not also incur the emissions from this volume of LPG.

Because the NGL fractionator supplied 100,000 bbls of HD-5 LPG consisting of 5 percent butane, received 10,000 bbls of LPG consisting of 5 percent butane, and delivered 20 percent of produced LPG outside of California, the reporter enters 3,600 bbls in the Total annual volume of product supplied field. <sup>2</sup>

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<sup>2</sup> Total volume supplied in California = (100,000 bbls LPG – 10,000 bbls LPG) x 0.05 x 0.80 = 3,600 bbls LPG

**Figure 9: Entering LPG product “produced and supplied in California”**  
**Section 95122 (Subpart NN): Suppliers of Natural Gas and Natural Gas Liquids**  
**(2018)**

[Subpart Overview](#) » [LPG Butane](#) » [Eq. NN-2](#)

**CO<sub>2</sub> QUANTITY CALCULATION**

NGL fractionators that supply Liquefied Petroleum Gas products in California must report the total GHG emissions that would result from the complete combustion or oxidation of all LPG products produced and supplied, unless destination outside of California can be demonstrated.

- ▷ [Equation Summary \(NN-8\)](#)
- ▷ [CO<sub>2</sub>: \(NN-2\) Potential CO<sub>2</sub> quantities from product supplied to all end users](#)
- ▷ **Fuel: Annual Volume of LPG Butane Supplied to all end users**
- ▷ [EF: Emissions Factor](#)

<b>TOTAL ANNUAL VOLUME OF PRODUCT SUPPLIED TO ALL USERS</b>	
Total annual volume of product supplied	<input style="width: 90%;" type="text" value="3600"/> (bbl)
Days in reporting year for which substitute data procedures were used	<input style="width: 90%;" type="text" value="0"/> (days)
Industry standard used to measure the volume	<input style="width: 90%;" type="text" value="ASTM standard"/> ▼

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### 2.3 Sum of NGL data

The total emissions from NGL fractionation equal the sum of the CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions from all NGL products, which are displayed in the bottom row of the GHG Summary table in the NGL fractionator overview page (Figure 10). The total emissions (MTCO<sub>2e</sub>) from NGL fractionation in this example are equal to 23,733.6 + 23.88 + 70.515 = **23,828.0**,

The facility’s covered emissions from NGL fractionation equal the sum of the CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions from LPG constituent products. The GHG Summary table lists the GHG emissions for each LPG constituent product, but does not provide a total across products, as it does for NGLs. The NGL fractionator covered emissions (MTCO<sub>2e</sub>) in this example are equal to 15,221.5 + 907.6 + 994.0 + 15.6 + 0.9 + 1.0 + 46.1 + 2.6 + 2.8 = **17,192**.

**Figure 10: Summary of NGL and LPG in Cal e-GGRT**

GHG SUMMARY

	Products <sup>1, 3</sup>	CO <sub>2</sub> (metric tons)	CH <sub>4</sub> (metric tons) <sup>4</sup>	CO <sub>2</sub> e of CH <sub>4</sub> (metric tons) <sup>4</sup>	N <sub>2</sub> O (metric tons) <sup>4</sup>	CO <sub>2</sub> e of N <sub>2</sub> O (metric tons) <sup>4</sup>	Status <sup>2</sup>	
<input checked="" type="checkbox"/>	Ethane (LPG and non-LPG)	253.7	0.01	0.2	0.002	0.5	Complete	<a href="#">OPEN</a>
<input checked="" type="checkbox"/>	Propane (LPG and non-LPG)	19,026.9	0.93	19.5	0.186	57.6	Complete	<a href="#">OPEN</a>
<input checked="" type="checkbox"/>	Butane (LPG and non-LPG)	1,242.4	0.06	1.2	0.011	3.6	Complete	<a href="#">OPEN</a>
<input checked="" type="checkbox"/>	Isobutane (LPG and non-LPG)	1,593.0	0.07	1.5	0.015	4.5	Complete	<a href="#">OPEN</a>
<input checked="" type="checkbox"/>	Pentanes Plus (LPG and non-LPG)	1,617.5	0.07	1.5	0.014	4.3	Complete	<a href="#">OPEN</a>
<input type="checkbox"/>	LPG Ethane							
<input type="checkbox"/>	LPG Ethylene							
<input checked="" type="checkbox"/>	LPG Propane	15,221.5	0.74	15.6	0.149	46.1	Complete	<a href="#">OPEN</a>
<input checked="" type="checkbox"/>	LPG Propylene	907.6	0.04	0.9	0.008	2.6	Complete	<a href="#">OPEN</a>
<input checked="" type="checkbox"/>	LPG Butane	994.0	0.05	1.0	0.009	2.8	Complete	<a href="#">OPEN</a>
<input type="checkbox"/>	LPG Butylene							
<input type="checkbox"/>	LPG Isobutane							
<input type="checkbox"/>	LPG Isobutylene							
<input type="checkbox"/>	LPG Pentanes Plus							
	<b>Total</b>	<b>23,733.6</b>	<b>1.14</b>	<b>23.88</b>	<b>0.227</b>	<b>70.515</b>		

**2.4 Reporting Volumes of LPG Excluded from Emissions Reporting**

Beginning with 2018 data reported in 2019, NGL fractionators must report the volume of LPG that was excluded from emissions reporting due to demonstration of a final destination outside of California. This value does not affect the facility’s calculated emissions. The volume of LPG excluded from emissions reporting is entered at the bottom of the NGL fractionator overview page (Figure 11).

In this example, the NGL fractionator produced and supplied 90,000 bbls of LPG (i.e., 100,000 bbls supplied – 10,000 bbls received), but had excluded twenty percent of this amount from emissions reporting because the volume could be demonstrated to have a final destination outside of California, as discussed in section 2.2. Thus, the NGL fractionator enters the excluded volume of 18,000 bbls (i.e., 90,000 bbls x 0.20) at the bottom of the the NGL fractionator overview page and clicks SAVE to report this data (Figure 11).

**Figure 11: Volume of LPG excluded from emissions reporting**

Total volume (bbls) of LPG excluded from emissions reporting due to demonstration of final destination outside California, as described in section 95122(d)(8)

[← Facility Overview](#)
[Save](#)

## 2.5 Covered Product Data Reporting in Cal e-GGRT

NGL fractionators report products pursuant to section 95156(c) under Subpart W of Cal e-GGRT. As described in section 1.4, total covered product data for NGL fractionators includes all NGLs (LPG and non-LPG) produced on-site in the reporting year. Figure 12 below shows how NGL products are reported in the [Petroleum and Natural Gas Systems – Emissions Reporting Workbook](#), under the NGL tab.

For example, the NGL fractionator reports for Ethane in Subpart W the total ethane supplied minus total ethane received from an upstream supplier: 2,000 bbls supplied - 1,000 bbls received = **1,000 bbls produced**. In this example, the total ethane produced is the same volume as the ethane “produced and supplied” that is reported in Subpart NN of Cal e-GGRT. However, if there was inventory storage onsite, the volume produced would have to be adjusted to account for the carry-over of product in the inventory storage system from year to year in order to reflect the actual volume of ethane produced in the reporting year. Regardless of the approach taken to quantify the volume, the reporter must ensure that only the volume of NGL product produced in the reporting year is reported as product data in Subpart W.

**Figure 12: NGL product data entered in Subpart W**

	A	B	C	D
1	<b>Natural Gas Fractionating or Processing Facility - Additional Data Reporting</b>			
2				
3	<b>Facility Name</b>			
4				
5				
6	<b>Source Category (covered product data)</b>	<b>Barrels corrected to 60 degrees fahrenheit</b>		
7	<b>Total</b>	<b>102,000.0</b>		
8	Ethane	1000.0		
9	Ethylene			
10	Propane			
11	Propylene			
12	Butane			
13	Butylene			
14	Isobutane	6000.0		
15	Isobutylene			
16	Pentanes plus			
17	Natural Gasoline	5000.0		
18	Liquified Petroleum Gas	90000.0		
19	Bulk natural gas liquids not included in the preceding list			

For reporting LPG, fractionators must report the aggregate volume of LPG rather than the constituent volumes reported in Subpart NN of Cal e-GGRT. In this example, the

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LPG produced on-site equals the aggregate volume of LPG supplied minus the aggregate volume of LPG received: 100,000 bbls - 10,000 bbls = **90,000 bbls**.

Total covered product data for the NGL fractionator equals **102,000 bbls**. This is the value that the verifier will evaluate for material misstatement.

### **3 Additional Information**

Detailed training materials for reporting using Cal e-GGRT:

<https://ww2.arb.ca.gov/mrr-tool>.

The GHG Mandatory Reporting Regulation, with full requirements:

<https://ww2.arb.ca.gov/mrr-regulation>.

Additional reporting and applicability guidance documents to assist reporters in complying with the MRR: <https://ww2.arb.ca.gov/mrr-guidance>.

For help with reporting or verification, please contact the appropriate staff member:

<https://ww2.arb.ca.gov/mrr-contacts>.