The Climate Registry (The Registry) published an updated General Reporting Protocol (GRP 2.0) in March 2013. While The Registry intends for the GRP 2.0 to be a complete document, it recognizes that updates and clarifications will be necessary as the voluntary greenhouse gas (GHG) reporting program evolves. Therefore, The Registry created this document to track all modifications relating to GRP 2.0. This document will be revised as new updates and clarifications are identified.

The updates and clarifications are presented in order of the chapters of GRP 2.0 and not according to the dates issued. “Issued” is the date when the clarification was first issued and “Effective” is the effective date, meaning all inventories reported on or after that date must follow these guidelines. The Registry releases the majority of technical updates at the beginning of each calendar year to help ensure consistency in reporting for all Members.

The updates and clarifications identified in this document will be incorporated into the next version of the GRP. Until the next version of the GRP is released, all Members and Verification Bodies should refer to the updates and clarifications listed below for the most current interpretation and explanation of GHG reporting policies, processes, and activities.

If you have any questions about the updates or clarifications in this document, please contact the help desk at help@theclimateregistry.org or (866) 523-0764 ext. 3.

<table>
<thead>
<tr>
<th>Chapter 6.2</th>
<th>Managing Entity-level Reporting and Confidential Business Information</th>
<th>p. 41</th>
<th>Issued: 01/10/14</th>
<th>Effective: 01/10/14</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Registry is removing the requirement for Members to submit a Public Disclosure Exemption Request Form in order to report at the entity-level, either for ease of disclosure or due to concerns about the disclosure of confidential business information. Members must contact The Registry to request activation of these reporting options in The Registry’s software.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In order to reflect this program change, Chapter 6.2 is amended to read:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Entity-level reporting allows for high-level disclosure of GHG emissions. Members that use this reporting option are not required to meet the facility-level reporting requirements outlined in this chapter, but they must have sufficient data records to support verification. Emissions information will be presented in public reports only at the</td>
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</tr>
</tbody>
</table>
entity level by gas and scope, although facility and source level data will be available to the Member in private reports.

Organizations interested in entity level reporting because of concerns about confidential business information (CBI) should contact The Registry to request the CBI reporting option be applied. This option allows Members to report their inventory in conformance with The Registry’s facility-level reporting requirements, while producing a public report that includes only entity level data. See Chapter 20 for more information on CBI.

<table>
<thead>
<tr>
<th>Chapter 6.4</th>
<th>Elimination of Public Disclosure Exemption Request Form</th>
<th>p. 43</th>
<th>Issued: 01/10/14 Effective: 01/10/14</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Registry is removing requirements to submit a Public Disclosure Exemption Request Form for Members concerned about the disclosure of CBI. Members must contact The Registry to request activation of the CBI reporting option in The Registry’s software.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In order to reflect this program change, the reference to the CBI Exemption Form on page 43 is amended to read:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emissions from all other stationary facility categories must be reported separately if Members are publicly reporting facility-level data or are reporting using the CBI option. Members must contact The Registry at <a href="mailto:help@theclimateregistry.org">help@theclimateregistry.org</a> or (866) 523-0764 ext. 3, to request activation of the CBI reporting option in The Registry’s software.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 14.2</th>
<th>Reporting Emissions Associated with Renewable Energy Products</th>
<th>p. 104</th>
<th>Issued: 01/10/14 Effective: 01/10/14</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Registry’s requirements for reporting emissions associated with renewable energy products mirror the requirements for reporting indirect emissions associated with other purchased power. As such, renewable energy project impacts on indirect emissions are reflected within a Member’s scope 2 emissions at the entity or facility level. Indirect emissions associated with renewable energy products are not required to be reported separately. Members may elect to disclose these emissions as supplemental information.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 19</th>
<th>Third-party Verification</th>
<th>p.140</th>
<th>Issued: 06/30/14 Effective: 06/30/14</th>
</tr>
</thead>
<tbody>
<tr>
<td>In order to ensure consistency with the GVP 2.1, Chapter 19 is amended to defer to that document. Changes to verification requirements relevant to</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chapter 20.2

Confidential Business Information

The Registry is removing requirements to submit a Public Disclosure Exemption Request Form for Members concerned about the disclosure of CBI.

In order to reflect this program change, Chapter 20.2 is amended to read:

If the release of facility-level emissions data will jeopardize an entity’s confidential business information (CBI), then the Member may elect to report using the CBI option. Members using the CBI reporting option are still required to conform to The Registry’s facility-level reporting requirements.

Members interested in reporting only entity-level information in The Registry’s software, for reasons other than CBI, can take advantage of The Registry’s entity-level reporting option. See Chapter 6 for more information on entity-level reporting.

Members must contact The Registry at 1-866-523-0764 ext. 3 or help@theclimateregistry.org to request activation of these reporting options in The Registry’s software.

Glossary of Terms

Facility

In order to ensure consistency with the GVP 2.1, the definition of a facility in the GRP is clarified to be:

Any installation or establishment located on a single site or on contiguous or adjacent sites in actual physical contact or separated solely by a public roadway or other public right-of-way that are owned and operated by an entity. A facility includes not only all of the stationary installations and equipment located at the site, but all mobile equipment that is under the control of the reporting entity and operates exclusively on a particular facility’s premises. Examples of such site-specific mobile equipment...
The Registry is updating its policy on Global Warming Potentials (GWPs) to enable the use of updated 100-year GWP factors from International Panel on Climate Change (IPCC) Assessment Reports that are more recent than the IPCC’s Second Assessment Report. In addition, updates have been made to Tables B.1 and B.2 to include new gasses and blends that are required to be reported to The Registry. Therefore, the language on page 178 of GRP 2.0 is amended to read:

If you report emissions of non-CO₂ gases, the mass estimates of these gases must also be reflected in your public report on a CO₂-equivalent (CO₂e) basis. Converting emissions of non-CO₂ gases to units of CO₂e allows GHGs to be compared on a common basis, i.e., the ability of each greenhouse gas to trap heat in the atmosphere. Global Warming Potential (GWP) factors represent the ratio of the heat-trapping ability of each GHG relative to that of CO₂.
The Registry relies on GWP defaults published by the International Panel on Climate Change (IPCC). As part of its activities, the IPCC revisits and updates these defaults in periodic Assessment Reports. When reporting emissions to The Registry, you may use GWPs from the Assessment Report that is most relevant to your operations providing the following conditions are met:

1. All GWPs must be 100-year values.
2. Where possible within an inventory, all GWPs must come from a single Assessment Report. If GWPs for a particular gas are not provided in the chosen Assessment Report, you must select the most recent GWP for that gas.
3. The source of all GWP values must be disclosed publicly.

Although not required, it is considered best practice to use GWP values from the most recent Assessment Report, and to use the same GWP values for the current inventory and a base year inventory, when a base year has been set.

To convert emissions of non-CO₂ gases to units of CO₂e, multiply the emissions of each gas in units of mass (e.g., metric tons) by the appropriate GWP factor in the following table.

**Table B.1. Global Warming Potential Factors for Required Greenhouse Gases**

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Formula</th>
<th>SAR</th>
<th>TAR</th>
<th>AR4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon dioxide</td>
<td>CO₂</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Methane</td>
<td>CH₄</td>
<td>21</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>Nitrous oxide</td>
<td>N₂O</td>
<td>310</td>
<td>296</td>
<td>298</td>
</tr>
<tr>
<td>Nitrogen trifluoride</td>
<td>NF₃</td>
<td>NA</td>
<td>10,800</td>
<td>17,200</td>
</tr>
<tr>
<td>Sulfur hexafluoride</td>
<td>SF₆</td>
<td>23,900</td>
<td>22,200</td>
<td>22,800</td>
</tr>
</tbody>
</table>

**Hydrofluorocarbons (HFCs)**

| HFC-23 (R-23) | CHF₃ | 11,700 | 12,000 | 14,800 |
| HFC-32 (R-32) | CH₃F₂ | 650 | 550 | 675 |
| HFC-41 (R-41) | CH₃F | 150 | 97 | 92 |
| HFC-43-10mee (R-4310) | C₂H₃F₁₀ | 1,300 | 1,500 | 1,640 |
| HFC-125 (R-125) | C₂HF₅ | 2,800 | 3,400 | 3,500 |
| HFC-134 (R-134) | C₂H₂F₄ | 1,000 | 1,100 | 1,100 |
### HFCs

<table>
<thead>
<tr>
<th>Compound</th>
<th>Formula</th>
<th>100-year GWP</th>
<th>500-year GWP</th>
<th>1,000-year GWP</th>
</tr>
</thead>
<tbody>
<tr>
<td>HFC-134a (R-134a)</td>
<td>C₂H₂F₄</td>
<td>1,300</td>
<td>1,300</td>
<td>1,430</td>
</tr>
<tr>
<td>HFC-143 (R-143)</td>
<td>C₂H₃F₃</td>
<td>300</td>
<td>330</td>
<td>353</td>
</tr>
<tr>
<td>HFC-143a (R-143a)</td>
<td>C₂H₂F₃</td>
<td>3,800</td>
<td>4,300</td>
<td>4,470</td>
</tr>
<tr>
<td>HFC-152 (R-152)</td>
<td>C₂H₄F₂</td>
<td>NA</td>
<td>43</td>
<td>53</td>
</tr>
<tr>
<td>HFC-152a (R-152a)</td>
<td>C₂H₄F₂</td>
<td>140</td>
<td>120</td>
<td>124</td>
</tr>
<tr>
<td>HFC-161 (R-161)</td>
<td>C₂H₅F</td>
<td>NA</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>HFC-227ea (R-227ea)</td>
<td>C₃HF₇</td>
<td>2,900</td>
<td>3,500</td>
<td>3,220</td>
</tr>
<tr>
<td>HFC-236cb (R-236cb)</td>
<td>C₃H₆F₆</td>
<td>NA</td>
<td>1,300</td>
<td>1,340</td>
</tr>
<tr>
<td>HFC-236ea (R-236ea)</td>
<td>C₃H₆F₆</td>
<td>NA</td>
<td>1,200</td>
<td>1,370</td>
</tr>
<tr>
<td>HFC-236fa (R-236fa)</td>
<td>C₃H₆F₆</td>
<td>6,300</td>
<td>9,400</td>
<td>9,810</td>
</tr>
<tr>
<td>HFC-245ca (R-245ca)</td>
<td>C₃H₅F₅</td>
<td>560</td>
<td>640</td>
<td>693</td>
</tr>
<tr>
<td>HFC-245fa (R-245fa)</td>
<td>C₃H₅F₅</td>
<td>NA</td>
<td>950</td>
<td>1,030</td>
</tr>
<tr>
<td>HFC-365mfc</td>
<td>C₃H₅F₅</td>
<td>NA</td>
<td>890</td>
<td>794</td>
</tr>
</tbody>
</table>

### Perfluorocarbons (PFCs)

<table>
<thead>
<tr>
<th>Compound</th>
<th>Formula</th>
<th>100-year GWP</th>
<th>500-year GWP</th>
<th>1,000-year GWP</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFC-14 (Perfluoromethane)</td>
<td>CF₄</td>
<td>6,500</td>
<td>5,700</td>
<td>7,390</td>
</tr>
<tr>
<td>PFC-116 (Perfluoroethane)</td>
<td>C₂F₆</td>
<td>9,200</td>
<td>11,900</td>
<td>12,200</td>
</tr>
<tr>
<td>PFC-218 (Perfluoropropane)</td>
<td>C₃F₈</td>
<td>7,000</td>
<td>8,600</td>
<td>8,830</td>
</tr>
<tr>
<td>PFC-31-1-10 (Perfluorobutane)</td>
<td>C₄F₁₀</td>
<td>7,000</td>
<td>8,600</td>
<td>8,860</td>
</tr>
<tr>
<td>PFC-318 (Perfluorocyclobutane)</td>
<td>c-C₄F₈</td>
<td>8,700</td>
<td>10,000</td>
<td>10,300</td>
</tr>
<tr>
<td>PFC-41-1-12 (Perfluoropentane)</td>
<td>C₅F₁₂</td>
<td>NA</td>
<td>8,900</td>
<td>9,160</td>
</tr>
<tr>
<td>PFC-51-1-14 (Perfluorohexane)</td>
<td>C₆F₁₄</td>
<td>7,400</td>
<td>9,000</td>
<td>9,300</td>
</tr>
<tr>
<td>PFC-91-1-18 (Perfluorodecalin)</td>
<td>C₁₀F₁₈</td>
<td>NA</td>
<td>NA</td>
<td>&gt;7,500</td>
</tr>
</tbody>
</table>

Source: Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (SAR) published in 1995, Third Assessment Report (TAR), published in 2001, and Fourth Assessment Report (AR4) published in 2007. All defaults 100-year GWP values. Where the source provides a range, The Registry has adopted the upper limit, which should be used for the purpose of reporting to The Registry. NA = data not available.

NOTE: Complete reporters must include emissions of all Kyoto-defined GHGs (including all HFCs and PFCs) in inventory reports. If HFCs or PFCs are emitted that are not listed above, complete reporters must use industry best practice to calculate CO₂e from those gases.
Given The Registry's updated policy, the “Note” following Table B.1 on page 1/9 of GRP 2.0 is hereby removed. It is no longer reflective of The Registry’s requirements. However, Table B.2 is updated to reflect The Registry’s new policy on GWPs and additional standardized refrigerant blends as follows:

Table B.2. Global Warming Potentials of Refrigerant Blends

<table>
<thead>
<tr>
<th>Refrigerant Blend</th>
<th>Gas</th>
<th>SAR</th>
<th>TAR</th>
<th>AR4</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-401A</td>
<td>HFC</td>
<td>18.2</td>
<td>15.6</td>
<td>16.12</td>
</tr>
<tr>
<td>R-401B</td>
<td>HFC</td>
<td>15</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>R-401C</td>
<td>HFC</td>
<td>21</td>
<td>18</td>
<td>18.6</td>
</tr>
<tr>
<td>R-402A</td>
<td>HFC</td>
<td>1,680</td>
<td>2,040</td>
<td>2,100</td>
</tr>
<tr>
<td>R-402B</td>
<td>HFC</td>
<td>1,064</td>
<td>1,292</td>
<td>1,330</td>
</tr>
<tr>
<td>R-403A</td>
<td>PFC</td>
<td>1,400</td>
<td>1,720</td>
<td>1,766</td>
</tr>
<tr>
<td>R-403B</td>
<td>PFC</td>
<td>2,730</td>
<td>3,354</td>
<td>3,444</td>
</tr>
<tr>
<td>R-404A</td>
<td>HFC</td>
<td>3,260</td>
<td>3,784</td>
<td>3,922</td>
</tr>
<tr>
<td>R-407A</td>
<td>HFC</td>
<td>1,770</td>
<td>1,990</td>
<td>2,107</td>
</tr>
<tr>
<td>R-407B</td>
<td>HFC</td>
<td>2,285</td>
<td>2,695</td>
<td>2,804</td>
</tr>
<tr>
<td>R-407C</td>
<td>HFC</td>
<td>1,526</td>
<td>1,653</td>
<td>1,774</td>
</tr>
<tr>
<td>R-407D</td>
<td>HFC</td>
<td>1,428</td>
<td>1,503</td>
<td>1,627</td>
</tr>
<tr>
<td>R-407E</td>
<td>HFC</td>
<td>1,363</td>
<td>1,428</td>
<td>1,552</td>
</tr>
<tr>
<td>R-407F</td>
<td>HFC</td>
<td>1,555</td>
<td>1,705</td>
<td>1,825</td>
</tr>
<tr>
<td>R-408A</td>
<td>HFC</td>
<td>1,944</td>
<td>2,216</td>
<td>2,301</td>
</tr>
<tr>
<td>R-410A</td>
<td>HFC</td>
<td>1,725</td>
<td>1,975</td>
<td>2,088</td>
</tr>
<tr>
<td>R-410B</td>
<td>HFC</td>
<td>1,833</td>
<td>2,118</td>
<td>2,229</td>
</tr>
<tr>
<td>R-411A</td>
<td>HFC</td>
<td>15</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>R-411B</td>
<td>HFC</td>
<td>4.2</td>
<td>3.6</td>
<td>3.72</td>
</tr>
<tr>
<td>R-412A</td>
<td>PFC</td>
<td>350</td>
<td>430</td>
<td>442</td>
</tr>
<tr>
<td>R-415A</td>
<td>HFC</td>
<td>25.2</td>
<td>21.6</td>
<td>22.32</td>
</tr>
<tr>
<td>R-415B</td>
<td>HFC</td>
<td>105</td>
<td>90</td>
<td>93</td>
</tr>
<tr>
<td>R-416A</td>
<td>HFC</td>
<td>767</td>
<td>767</td>
<td>843.7</td>
</tr>
<tr>
<td>R-417A</td>
<td>HFC</td>
<td>1,955</td>
<td>2,234</td>
<td>2,346</td>
</tr>
<tr>
<td>R-417B</td>
<td>HFC</td>
<td>2,450</td>
<td>2,924</td>
<td>3,027</td>
</tr>
<tr>
<td>-----------</td>
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<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>313</td>
<td>265</td>
<td>325</td>
</tr>
<tr>
<td>----------------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>R-504</td>
<td>HFC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-507 or R-507A</td>
<td>HFC</td>
<td>3,300</td>
<td>3,850</td>
<td>3,985</td>
</tr>
<tr>
<td>R-509 or R-509A</td>
<td>PFC</td>
<td>3,920</td>
<td>4,816</td>
<td>4,945</td>
</tr>
<tr>
<td>R-512A</td>
<td>HFC</td>
<td>198</td>
<td>179</td>
<td>189.3</td>
</tr>
</tbody>
</table>

Source: ASHRAE Standard 34-2013

**NOTE:** Members interested in publicly reporting emissions through The Registry using GWPs from an Assessment Report other than the SAR should contact The Registry at 1-866-523-0764 ext. 3 or help@theclimateregistry.org for technical guidance.