

# Oil & Gas Production Sector

## Addendum to the General Verification Protocol

### FINAL DRAFT for Public Comment

---

#### 1.1 Background and Purpose

The guidance provided in The Registry's General Verification Protocol (GVP) applies to all Verification Bodies, including those Verification Bodies that are recognized by The Climate Registry (The Registry) to conduct verification of emission reports submitted by Members operating in the oil and gas production (O&GP) sector. However, as specified in The Registry's O&GP Protocol, there are a number of reporting requirements specific to this sector that are in addition to, or differ from, the requirements presented in The Registry's General Reporting Protocol (GRP). Therefore, Verification Bodies performing verifications of O&GP sector emissions reports must verify conformance with the reporting requirements specified in both the GRP and the O&GP Protocol.

In this addendum, specific additions and/or modifications to the GVP are specified to reflect The Registry's reporting requirements for the O&GP sector. Additions and modifications to the GVP are identified by the section number in the GVP to which they apply. In cases where sections of the GVP are not mirrored in this document, there are no additions or special requirements that have been identified for the O&GP sector.

---

#### 1.2 Overview of the O&GP Verification Process

Part 1 of the GVP provides an overview of the verification process as it pertains to The Registry's voluntary reporting program. For Part 1, there is one sector-specific issue that applies, relating to the sector-specific accreditation needed to conduct O&GP verifications. Accreditation is covered under Section 1.2.2 of the GVP.

To undertake verification for a Registry Member within the O&GP sector, the Verification Body must be accredited by a Registry partner Accreditation Body<sup>1</sup> to ISO 14065. The Verification Body must then demonstrate competency within the O&G (petrochemical production) sector and attain accreditation to this industry sector scope.<sup>2</sup> Since O&GP Members are not required to comply with the O&GP until reporting their emissions year 2010 data (to be reported in 2011), Verification Bodies conducting verifications for O&GP Members are not required to be accredited to the O&G sector until they will verify emissions year 2010 reports (to be reported in 2011) and later years.

---

<sup>1</sup> Currently the only Accreditation Body with which The Registry has an agreement to provide accreditation services is the American National Standards Institute (ANSI).

<sup>2</sup> In coordination with The Registry, ANSI is currently developing a process to accredit firms to industry sector scopes. In addition to an onsite assessment to review evidence of competency, it is likely that ANSI will require a witness assessment of the Verification Body at a complex facility (although not necessarily an O&GP facility) as part of the requirements for accreditation to the O&G sector.

# Oil & Gas Production Sector

## Addendum to the General Verification Protocol

### FINAL DRAFT for Public Comment

---

#### 2.4 Verification Standard

The verification standards applicable to the verification of OG&P Member's GHG emissions inventory are as follows:

- The Registry's General Reporting Protocol (relevant to all Members)
- ISO 14063-3 – *Specification with Guidance for the Validation and Verification of Greenhouse Gas Assertions* (relevant to all Members)
- The Registry's General Verification Protocol (relevant to all Members)
- The Registry's Oil & Gas Production Protocol (relevant to O&GP Members)
- The Registry's Oil & Gas Production GVP Addendum (this document, relevant to O&GP Members)

Verification Bodies must confirm that O&GP emissions sources are quantified using O&GP Protocol approved calculation methodologies (or simplified estimation methodologies, if the sources represent less than five percent of the CO<sub>2</sub>-e emissions). Calculation methodologies included in the GRP or O&GP Protocols are by definition *not* simplified methods, and hence emissions calculated using these Registry-approved methods do not count towards the 5 percent threshold for the use of simplified methods.

---

#### 2.7 Scope of Verification

Optionally reported metrics are not subject to verification.

---

#### 4.3 Implementing the Verification Plan

Table 4.1 in the GVP provides a list of general documents Verifiers may review during the verification effort. In addition, there are a number of documents more specific to the O&G sector that may prove useful to Verifiers in assessing conformance with the GRP and O&GP protocols, the completeness of the inventory, and risks of material misstatement associated with deficient internal controls. These sector-specific documents are listed in Table 4.1 below.

#### **Table 4.1 Additional Documents to be Reviewed During Verification Activities for O&GP Inventory Reports<sup>3</sup>**

---

<sup>3</sup> The documents and reports to be reviewed during verification include the documents listed in this table *in addition* to those listed in Table 4.1 of the GVP. Note that this is not intended to be a complete list, nor does

**Oil & Gas Production Sector**  
**Addendum to the General Verification Protocol**  
**FINAL DRAFT for Public Comment**

Activity or Emissions Source	Documents
Emission Source Inventory	<ul style="list-style-type: none"> <li>• List of Facility and Field Permits</li> <li>• Facility and Field Plot Plans Showing Direct Emission Sources</li> <li>• Process Flow Diagrams</li> <li>• Air Emission Inventory Reports</li> <li>• EPA Title V Reports</li> </ul>
Organizational, Operational and Geographic Boundaries	<ul style="list-style-type: none"> <li>• State Oil and Gas Production Reports</li> <li>• Summary of Lease and Royalty Information</li> <li>• List of JV Partners, if applicable</li> </ul>
Methodologies and Management Systems	<ul style="list-style-type: none"> <li>• Any Protocols and Emission Factors Used (in addition to the GRP and O&amp;GP)</li> <li>• Quality Assurance/Quality Control Plans for any Continuous Emissions Monitoring Systems</li> </ul>
Verifying Emissions - Direct Emissions from Stationary Combustion	<ul style="list-style-type: none"> <li>• Fuel Purchase Records</li> <li>• Other Fuel Volume Records</li> <li>• Data Acquisition and Handling System</li> <li>• Relative Accuracy Test Audit (RATA) results (cogeneration units)</li> <li>• Basis Adjustment Factor (if any) applied to CEMS data</li> <li>• Fuel Meter Data</li> <li>• Fuel Flow Meter Calibration and Maintenance Records</li> <li>• Fuel Compositional Analysis</li> <li>• Electric Generation Data (MWh) (cogeneration units)</li> <li>• Steam Generation Data (Mlbs) (cogeneration units)</li> </ul>
Verifying Emissions - Direct Vented Emissions	<ul style="list-style-type: none"> <li>• When directly measured, records of vented volumes and gas compositions</li> <li>• Records of scheduled and unscheduled maintenance activities involving equipment blowdowns and startups</li> <li>• Inventory of venting equipment by type and number</li> <li>• Any records from metering equipment up and downstream of vented emission sources</li> <li>• When using a software or simulation, details of all relevant input data</li> <li>• Records of mud volumes</li> <li>• Records of type of mud used</li> <li>• Records of loaded volumes and gas composition</li> <li>• Emission Factors used</li> </ul>

---

it imply that all of these documents must be reviewed during the verification process. It is left to the verifier to determine which documents are most useful to form a Verification Opinion.

**Oil & Gas Production Sector**  
**Addendum to the General Verification Protocol**  
**FINAL DRAFT for Public Comment**

Verifying Emissions - Direct Fugitive Emissions	<ul style="list-style-type: none"> <li>• When using a software or simulation, details of all relevant input data (i.e. pressure, temperature, etc)</li> <li>• Inventory of equipment with potential to generate fugitive emissions by type and number</li> <li>• Any records from metering equipment up and downstream of fugitive emission sources</li> <li>• Records of production volumes</li> <li>• Records of types of pneumatic devices and bleed rates</li> <li>• Record of type of components used in a E&amp;P field (i.e. pumps, valves, flanges, seals, etc)</li> <li>• Records of gas composition</li> <li>• Emission Factors used</li> </ul>
Verifying Emissions – Flaring Emissions	<ul style="list-style-type: none"> <li>• Records of volumes send to flares</li> <li>• Records of gas composition</li> <li>• Records of manufacturer data (i.e. equipment combustion efficiency)</li> <li>• Emission Factors used</li> </ul>
Verifying Emissions - Indirect Emissions Associated with Imported/Exported Electricity/Steam	<ul style="list-style-type: none"> <li>• Monthly Utility Bills</li> <li>• Records of imported or exported steam quantities and energy content</li> <li>• Emission Factors</li> </ul>
Verifying Metrics	<ul style="list-style-type: none"> <li>• Records of oil and gas produced</li> <li>• Alternative metrics (i.e. field age, total energy input)</li> </ul>

---

#### 4.4 Core Verification Activities

As discussed in Chapter 6 of the O&GP Protocol, a field is considered to be the equivalent of a facility for purposes of aggregating emissions from O&GP activities. In recognition of unique geographic realities in the O&GP sector, The Registry requires that distributed emission sources be aggregated and reported by oil or gas field, while facilities that conform to the traditional definition of a facility continue to be reported as separate facilities.

Section 4.4.4 of the GVP, and in particular Table 4.2, provides Verification Bodies guidance on determining the number of facilities to be visited during the verification process. The Verification Body should treat each field in which a Member has operations as equivalent to a single facility when selecting the sample of sites to visit. More specifically, the Verification Body should understand the term “facility” in Table 4.2 of the GVP to refer to either a standard facility (i.e., a single physical premises) or a field.

**Oil & Gas Production Sector**  
**Addendum to the General Verification Protocol**  
**FINAL DRAFT for Public Comment**

---

Attachment 1

***Checklist of Questions to Consider in Verifying O&GP Inventory  
Emissions Estimates***

This list of questions corresponds to GVP Appendix B1 (page 70 of GVP).

Preparing for Verification

1. Has the O&GP Member explained how sources were consolidated and reported as facilities or fields in CRIS?

Conformance

2. Are the GHG calculation methodologies/procedures properly entered in CRIS at the facility or field level, as appropriate?
3. Are the GHG calculation methodologies/procedures consistent with GRP/O&GP requirements and with other O&GP industry standards?
4. Are calculation methods used by O&GP Reporter consistent with O&GP protocol, as well as GRP?
5. Have you performed data triangulations where reasonable?
6. Are all CEM-calculated emissions included and documented as such?
7. Has there been an organizational change (merger, acquisition, divestiture, etc.) or a change in calculation methodologies potentially significant enough to result in a change in base year emissions of 5 percent or more? If so, has the O&GP Member recalculated base year emissions? If the resulting base year emissions update changed by more than 5 percent from the last-reported base year emissions inventory, did the O&GP Member report the updated base year emissions?
8. If the O&GP Member did not update base year emissions, did you verify that there were no organizational or methodological changes significant enough to necessitate a base year emissions update?
9. If the O&GP Member did update base year emissions, did you verify the updated emissions as per the standards in the GVP and this GVP addendum?

**Oil & Gas Production Sector**  
**Addendum to the General Verification Protocol**  
**FINAL DRAFT for Public Comment**

10. Are any discrepancies between your emissions estimates and the participant's emissions estimates material? If so, has the O&GP Member addressed those discrepancies and corrected the data in CRIS?
11. For stationary combustion emissions, has the same method (fuel use, load factors or CEMS) been used year-to-year?
12. If CEMS is being used, does the O&GP Member have an approved CEMS configuration to measure and report GHG emissions?
13. If the O&GP Member is reporting CO<sub>2</sub> emissions to The Registry using CEMS, does the fuel-based calculation corroborate the CO<sub>2</sub> emissions reported?

Completeness

14. Has the O&GP Member addressed all applicable sections of the O&GP Protocol, including the need for field-level aggregation of data, as well as all emissions from stationary combustion, vented and fugitive emissions, flaring emissions, and emissions from oil sands and oil shales operations when applicable?
15. Does the inventory report include all non-emissions data items required by the GRP and O&GP protocol (consolidation approaches used, equity shares if applicable, quantification methods used if the O&GP Member did not use CRIS to calculate emissions, etc.)?
16. Are all facilities and fields clearly and accurately defined and grouped in CRIS?
17. Are Vented and Fugitive emissions properly categorized and included in the inventory?
18. Are all fuel types identified for stationary combustion (start-up fuels, biomass, etc.)?
19. Are all required GHG emissions data included?

Risk Assessment

20. Does the O&GP Member's management system address the need for emissions inventory input from personnel who are knowledgeable of the oil and gas operations?
21. Does the O&GP Member's management system define who is a "qualified individual," and what constitutes "appropriate training," for personnel responsible for managing and reporting GHG emissions (see Appendix B1, Questions 22 and 23, of the GVP)?

Sampling Plan

**Oil & Gas Production Sector**  
**Addendum to the General Verification Protocol**  
**F I N A L D R A F T for Public Comment**

22. Does the Sampling Plan address direct and Indirect emissions separately for O&GP Members?
23. Was the overall Sampling Plan used as a factor in developing the site visit list?
24. Were the types of fields and facilities and their materiality considered when developing the list of site visits? Were direct and indirect emissions considered separately?
25. Has the O&GP Member used appropriate emission factors for purchased power?

Verification of Emission Estimates

26. What fuel type records were used as the basis for calculating emissions, and were these records appropriate? Consider direct and indirect emissions.
27. If alternative emission factors were used, did the O&GP Member establish a basis for concluding that they were more accurate than the default factors?
28. Did you apply the 5% materiality threshold separately to Scope 1 and Scope 2 emissions?
29. Are Tier designations appropriately assigned to each calculation of emissions in CRIS?