**ECMPS Reporting Requirements Related to the Amendments to the Protocol Gas Verification Program and Minimum Competency Requirements for Air Emissions Testing**

## I.  Introduction

The purpose of this document is to provide guidance for complying with the Emission Collection and Monitoring Plan System (ECMPS) reporting requirements related to the amendments to the Protocol Gas Verification Program (PGVP) and Minimum Competency Requirements for Air Emissions Testing (AETB). The final rule was published in the Federal Register (FR) on March 28, 2011. A copy of the rule is available on Regulations.gov (http://www.regulations.gov/) in Docket No. EPA-HQ-OAR-2009-0837 and on http://www.epa.gov/airmarkets/emissions/pgvp.html. These amendments have new record keeping requirements that include the submission of additional data elements in the files reported to EPA via ECMPS. The March 28, 2011 rule requires PGVP information to be recorded starting on September 26, 2011, and submitted prior to or concurrent with the submittal of the third quarter 2011 electronic quarterly emissions report. AETB information must be recorded starting on March 27, 2012, and submitted prior to or concurrent with the submittal of the first quarter 2012 electronic quarterly emissions report. The direct final rule corrections published in the Federal Register on August 12, 2011 do not affect the PGVP or AETB programs in any way. For more information, see the EPA website at http://www.epa.gov/airmarkt/emissions/pgvp.html.

**EPA has recently reevaluated the submission format of the existing PGVP Gas Type Code data element and determined that changes were necessary to better capture and simplify the reporting of this data. This change is effective beginning with the release of the Q1 2013 ECMPS Client Tool in March 2013. Submissions of all emissions and QA data (including resubmissions of prior quarters) will need to follow this format beginning with the Q1 2013 submission period. This is a format change to this data element only; no other data elements are affected.**

In accordance with the record keeping requirements of these amendments, the ECMPS XML file schemas and Client Tool application were changed beginning in March 2011, with additional refinement in subsequent releases. Special items of note during the 2013 Q1 implementation period and beyond:

- Vendor ID's are year specific. The vendor ID at the time of the cylinder's certification should be used for reporting purposes. For example, if a cylinder was certified on December 15, 2012, the 2012 vintage vendor ID year should be reported even if the cylinder is not placed into service until 2013.

- Report Gas Type Code "AIR" when using conditioned and purified ambient air that meets either paragraphs (2) or (3) in the zero air material definition in § 72.2 that is produced by a CEMS or CEMS conditioning system, only when it is used as a high-level $O_2$ gas for an oxygen analyzer. Do not report AIR when used to zero an analyzer. Do not report the Cylinder ID, PGVP Vendor ID, or the Expiration Date. [Note:  Part 75, Appendix A, § 2.1.3 only allows purified instrument air to be used as a high-level calibration material for an oxygen analyzer, not ambient air in a cylinder, unless the cylinder is an oxygen calibration gas meeting the requirements in Part 75, Appendix A, Section 5.1.]

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The following is a summary of the changes that have been made to the ECMPS XML file schemas and Client Tool application as result of the format changes to the GasTypeCode data element:
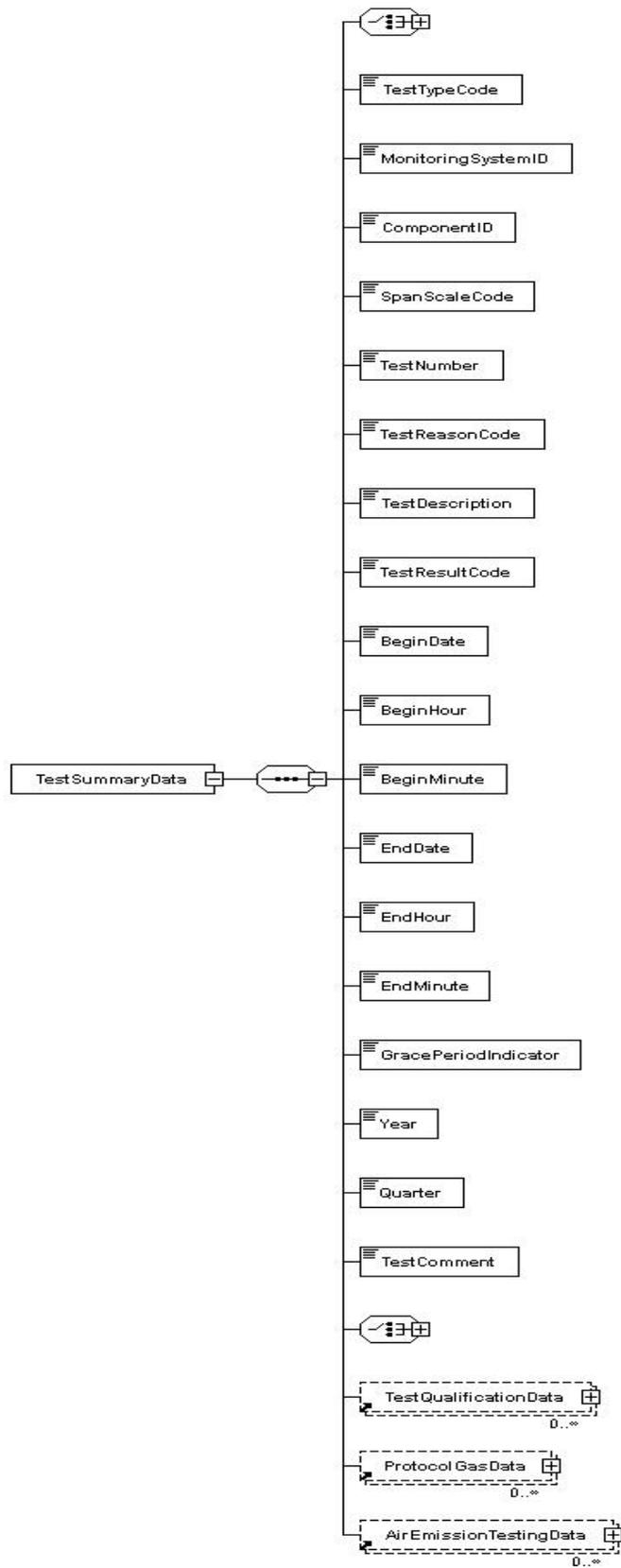
- The GasTypeCode data element is now a comma delimited list of Gas Component Codes with a maximum length of 255 characters. Users should report one or more of the certified components (See Table 2 below) contained in the cylinder. Users must also report the balance gas of each cylinder as either BALA (Air) or BALN (Nitrogen).

- The previous GasTypeCode list that identified specific blends or mixtures of gases is no longer supported. Table 3 is provided at the end of the document as a crosswalk to convert the previous mixtures into a list of one or more certified component codes.

- Reporting APPVD, AIR, SRM, NTRM, GMIS, RGM, PRM, or ZERO is considered a cylinder type. Do not report certified gas components when using these codes.

- The revised XML schemas have been posted on the ECMPS Support Website.

## II. QA and Certification Data Reporting Instructions

Two complex data elements have been added to the QA and Certification Data schema: the PROTOCOL GAS DATA record for reporting the new PGVP data elements and the AIR EMISSION TESTING record for reporting the new Air Emission Test data elements. Both records are direct dependents of the TEST SUMMARY DATA record (Figure 1).

**ECMPS Reporting Requirements Related to the Amendments to the Protocol Gas Verification Program and Minimum Competency Requirements for Air Emissions Testing**
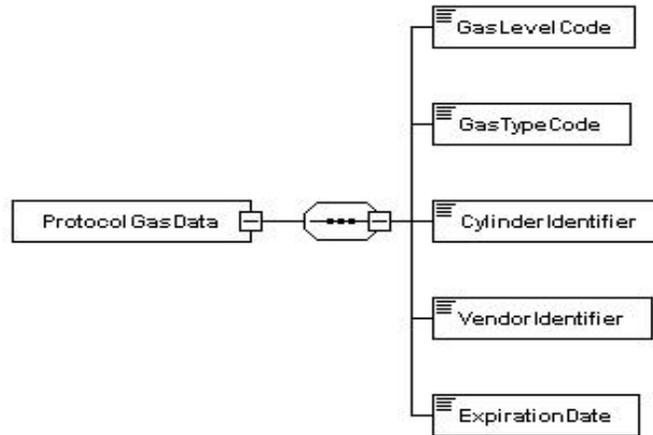
**Figure 1**
**TEST SUMMARY DATA XML Elements**

TestSummaryData

- TestTypeCode
- MonitoringSystemID
- ComponentID
- SpanScaleCode
- TestNumber
- TestReasonCode
- TestDescription
- TestResultCode
- BeginDate
- BeginHour
- BeginMinute
- EndDate
- EndHour
- EndMinute
- GracePeriodIndicator
- Year
- Quarter
- TestComment
- TestQualificationData 0..∞
- ProtocolGasData 0..∞
- AirEmissionTestingData 0..∞

A. PROTOCOL GAS DATA

**Figure 2**
**PROTOCOL GAS DATA XML Elements**



Description of Data

Report a PROTOCOL GAS DATA record for each cylinder of gas used during the performance of a linearity check or during a RATA conducted using one of the instrumental reference methods (6C, 7E, or 3A). For a linearity check report a record for each cylinder that contains the reference gases. A minimum of three records should be reported, one for each gas level (High, Mid, and Low) of the test. For RATA, Appendix E, and LME fuel or unit default tests conducted using Method 6C, 7E, or 3A  report one record for each cylinder used to determine analyzer calibration error, drift, and system bias. A minimum of three records should be reported, one for each gas level (High, Mid, and Low).

*Specific Considerations*

- You must report a PROTOCOL GAS DATA record when using standard reference material, NIST-traceable reference material, gas manufacturer's intermediate standard, research gas mixture, or SRM-equivalent compressed gas primary reference material in place of an EPA Protocol gas. Report all data elements in this record except the PGVP Vendor ID.

- Per §75.21(g)(6), you may use a non-expired EPA Protocol gas acquired from a vendor not participating in the PGVP as long as the cylinder was acquired prior to May 27, 2011. Report a PROTOCOL GAS DATA record for each cylinder acquired from a vendor not participating in the PGVP program. Report all data elements, reporting "NONPGVP" as the PGVP Vendor ID.

**ECMPS Reporting Requirements Related to the Amendments to the Protocol Gas
Verification Program and Minimum Competency Requirements for Air Emissions Testing**

**Table 1
Cylinder Compliance Dates**

|  | On or Before May 27, 2011 | After May 27, 2011 | Need to Procure from PGVP Participant? |
|---|---|---|---|
| Certified | X | | No |
| Ordered | X | | |
| Certified | | X | Yes |
| Ordered | | X | |
| Certified | X | | No |
| Ordered | | X | |
| Certified | | X | No |
| Ordered | X | | |

Note:  Official recordkeeping and reporting of PGVP Vendor IDs starts on September 26, 2011.
If an EPA Protocol gas production site is removed from the list of PGVP participants on the
same date as or after the date on which a particular cylinder has been certified or ordered,
continue to report the PGVP Vendor ID for that cylinder. When the fourth column of Table 1,
above, says "No", report "NONPGVP" as the PGVP Vendor ID.

- When conducting a RATA of a NOX-diluent monitoring system, report a PROTOCOL GAS
  DATA record for each cylinder used to determine analyzer calibration error, drift, and
  system bias for both the NOX and the diluents components of the reference method
  monitoring system. If you use separate cylinders for the NOX and the diluent gas, you
  should report at least six records, one for each gas level (High, Mid, and Low) of each
  gas. If you use cylinders that contain a blend of the NOX and the diluent gas, you should
  report at least three records, one for each gas level (High, Mid, and Low) of the blend.

PROTOCOL GAS DATA Elements

Gas Level Code                                                              Required: Yes
*Element Name: GasLevelCode*

Report a calibration gas level code of HIGH, MID, or LOW to indicate the concentration of the
gas in the cylinder. The definition of a high-level, mid-level, and low-level calibration gas can be
found in the Part 75, Appendix A, Section 5.2, and in EPA Reference Method 7E for RATAs.

Gas Type Code
*Element Name: GasTypeCode*                                                Required: Yes

Report one or more of the certified gas component codes in Table 2 to indicate the certified
components  in the cylinder. Also report the balance gas of each cylinder as either BALA (Air)
or BALN (Nitrogen). If you report APPVD, AIR, SRM, NTRM, GMIS, RGM, PRM, or ZERO
these are considered "stand-alone" cylinder types, do not report certified components codes
when reporting these codes.

**Table 2**
**EFFECTIVE Q1 2013**
**Gas Type Codes and Descriptions**

| Code | Description |
|---|---|
| SO2 | EPA Protocol Certified Gas Component $SO_2$ |
| NO | EPA Protocol Certified Gas Component NO |
| NO2 | EPA Protocol Certified Gas Component NO2 |
| NOX | EPA Protocol Certified Gas Component Total Oxides of Nitrogen |
| N2O | EPA Protocol Certified Gas Component Nitrous Oxide |
| CO2 | EPA Protocol Certified Gas Component $CO_2$ |
| CO | EPA Protocol Certified Gas Component CO |
| O2 | EPA Protocol Certified Gas Component $O_2$ |
| PPN | EPA Protocol Certified Gas Component Propane |
| CH4 | EPA Protocol Certified Gas Component Methane |
| HE | EPA Protocol Certified Gas Component Helium |
| H2S | EPA Protocol Certified Gas Component Hydrogen Sulfide |
| BALA | Balance Gas is Air |
| BALN | Balance Gas is Nitrogen |
| APPVD | Other EPA-approved EPA Protocol gas blend (see note below). Do not report certified components when using this code. |
| AIR | Zero Air Material (instrument air with no cylinder and meeting the requirements of paragraphs (2) or (3) of the ZAM definition in § 72.2). This code is reported only when it is used as a high-level O2 gas for an oxygen analyzer. Do not report AIR when used to zero an analyzer. Do not report certified components when using this code. |
| SRM | Standard reference material. Do not report certified components when using this code. |
| NTRM | NIST-traceable reference material. Do not report certified components when using this code. |
| GMIS | Gas manufacturer's intermediate standard. Do not report certified components when using this code. |
| RGM | Research gas mixture. Do not report certified components when using this code. |
| PRM | SRM-equivalent compressed gas primary reference material. Do not report certified components when using this code. |
| ZERO | Zero gas (meeting the definition of "Zero Air Material" in §72.2) used for the low level calibration of a reference analyzer used in RATA testing. Do not report certified components when using this code. |

Note:  If you use a blend of EPA Protocol gases that is not present in this table, you may report a value of "APPVD", but you will need to contact EPA before submitting the data in order to get permission to use this code.

Cylinder Identifier                                                    Required: No
*Element Name: CylinderIdentifier*

Report the vendor-assigned identification or serial number found on the cylinder.

For AIR or ZERO, leave this field blank.

Vendor Identifier                                                    Required: No
*Element Name: VendorIdentifier*

For an EPA Protocol gas, report the EPA-assigned PGVP Vendor ID of the production site that supplied the cylinder. An up-to-date list of PGVP Vendor IDs is located on the EPA website http://www.epa.gov/airmarkets/emissions/pgvp-detail.html, and can also be accessed via the ECMPS Support website.

Report "NONPGVP" if the cylinder was purchased from a non-participating vendor on or prior to May 27, 2011 (see Table 1 Note, above).

Leave this field blank if the Gas Type Code is AIR, ZERO, SRM, NTRM, GMIS, RGM, or PRM.

Expiration Date                                                    Required: No
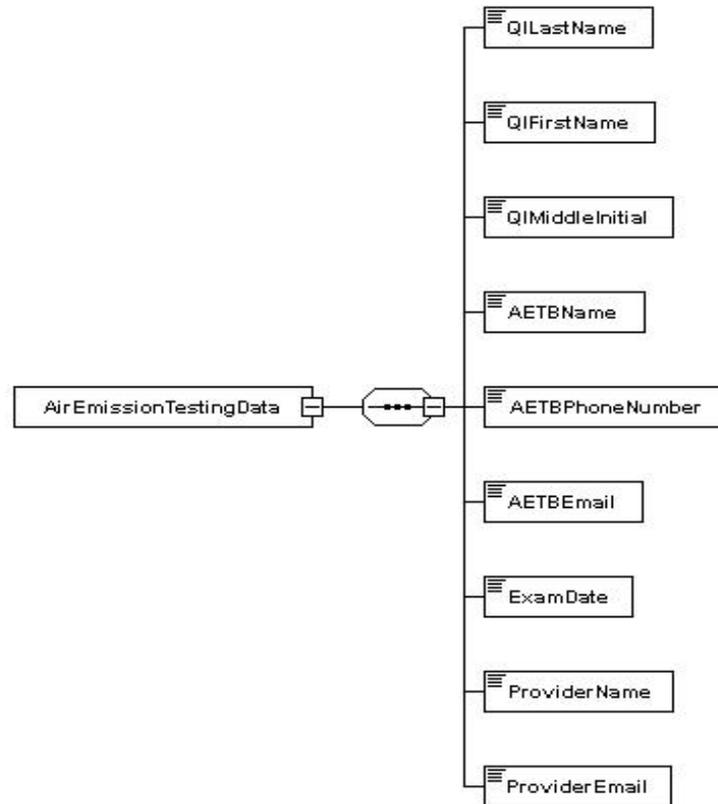*Element Name: ExpirationDate*

For an EPA Protocol gas, SRM, NTRM, GMIS, RGM, or PRM, report the cylinder's expiration date.

Leave this field blank if the Gas Type Code is AIR or ZERO.

B. AIR EMISSION TESTING DATA

**Figure 3**
**AIR EMISSION TESTING DATA XML Elements**



Description of Data

Report at least one AIR EMISSION TESTING DATA record for each RATA, Appendix E Test, and LME Unit Default Test. One record should be reported for each on-site Qualified Individual from an Air Emission Testing Body who conducted or oversaw the test. The Qualified Individual must be qualified for the methods employed in the test.

AIR EMISSION TESTING DATA Elements

QI Last Name                                                                          Required: Yes
*ElementName: QILastName*

Report the last name of the on-site Qualified Individual who conducted or oversaw the test.

QI First Name                                                                         Required: Yes
*ElementName: QIFirstName*

Report the first name of the on-site Qualified Individual who conducted or oversaw the test.

QI Middle Initial                                                      Required: No
*ElementName: QIMiddleInitial*

Report the middle initial of the on-site Qualified Individual who conducted or oversaw the test.

AETB Name                                                             Required: Yes
*ElementName: AETBName*

Report the name of the Air Emission Testing Body that performed the test.

AETB Phone Number                                                    Required: Yes
*ElementName: AETBPhoneNumber*

Report the phone number of the Air Emission Testing Body that performed the test. The number should contain dashes and be formatted as  999-999-9999. Phone number extensions should not be reported.

AETB Email                                                            Required: Yes
*ElementName: AETBEmail*

Report the email address of the Air Emission Testing Body that performed the test.

ExamDate                                                             Required: Yes
*ElementName: ExamDate*

Report the date that the on-site Qualified Individual took and passed the relevant qualification exam(s) for the reference method(s) that were performed during the test.

Provider Name                                                        Required: Yes
*ElementName: ProviderName*

Report the name of the provider(s) of the qualification test that took place on the exam date.

Provider Email                                                       Required: Yes
*ElementName: ProviderEmail*

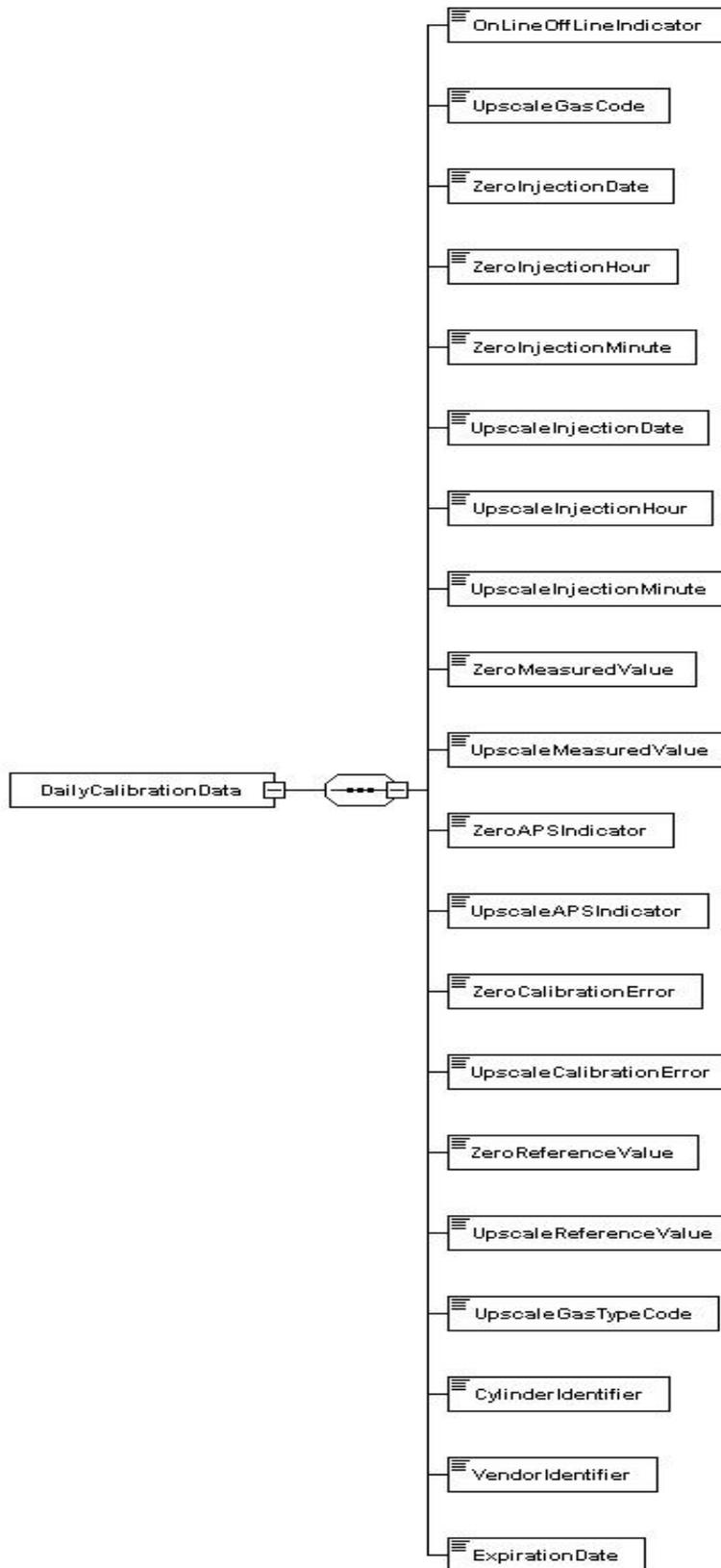Report the email address of the provider(s) of the qualification test that took place on the exam date.


## III.  Emissions Data Reporting Instructions

One complex data element has been modified in the Emissions schema for reporting the new PGVP data elements related to the daily calibration test: the DAILY CALIBRATION DATA record.

A.  DAILY CALIBRATION DATA

**Figure 4**
**DAILY CALIBRATION DATA XML Elements**

**ECMPS Reporting Requirements Related to the Amendments to the Protocol Gas Verification Program and Minimum Competency Requirements for Air Emissions Testing**

New DAILY CALIBRATION DATA Elements

Upscale Gas Type Code
*Element Name: UpscaleGasTypeCode*                                          Required: No

For $SO_2$, $NO_X$, $CO_2$, and $O_2$ components, report one of the gas type codes in Table 2 to indicate the type of gas in the cylinder used for the upscale injection.

Note:  If you use a blend of EPA Protocol gases that is not present in this table, you may report a value of "APPVD", but you will need to contact EPA before submitting the data in order to get permission to use this code.

Leave this field blank if the Component Type Code is FLOW or $H_2O$.

Cylinder Identifier                                                          Required: No
*Element Name: CylinderIdentifier*

For $SO_2$, $NO_X$, $CO_2$, and $O_2$ components, report the vendor-assigned identification or serial number found on the cylinder used for the upscale injection.

Leave this field blank if the Component Type Code is FLOW or $H_2O$ or the Gas Type Code is AIR.

Vendor Identifier                                                          Required: No
*Element Name: VendorIdentifier*

For an EPA Protocol gas, report the EPA-assigned PGVP Vendor ID of the production site that supplied the cylinder used for the upscale injection. PGVP Vendor IDs are year specific, therefore report the assigned PGVP Vendor ID that is applicable on the date the cylinder is certified. An up-to-date list of PGVP Vendor IDs is located on the EPA website http://www.epa.gov/airmarkets/emissions/pgvp-detail.html, and can also be accessed via the ECMPS Support website.

 Report "NONPGVP" if the cylinder was purchased from a non-participating vendor prior to May 27, 2011 (see Table 1 Note, above).

Leave this field blank if the Component Type Code is FLOW or $H_2O$ or if the Gas Type Code is AIR, SRM, NTRM, GMIS, RGM, or PRM.

Expiration Date                                                          Required: No
*Element Name: ExpirationDate*

For an EPA Protocol gas, SRM, NTRM, GMIS, RGM, or PRM, report the expiration date of the cylinder used for the upscale injection.

Leave this field blank if the Component Type Code is FLOW or $H_2O$ or if the Gas Type Code is AIR.

**Table 3 - FOR REFERNCE ONLY**
**Gas Type Codes Crosswalk**

| Discontinued GasTypeCode | Equivalent One or More Certified Components |
|---|---|
| AIR | AIR |
| APPVD | APPVD |
| GMIS | GMIS |
| NTRM | NTRM |
| PRM | PRM |
| RGM | RGM |
| SRM | SRM |
| ZERO | ZERO |
| CO2 | CO2 |
| N2C | CO,NO2 |
| N2C2 | CO2,NO2 |
| N2CC | CO,CO2,NO2 |
| NC | CO,NO |
| NC2 | CO2,NO |
| NCC | CO,CO2,NO |
| NO | NO |
| NO2 | NO2 |
| NX | NO,NO2 |
| NXC | CO,NO,NO2 |
| NXC2 | CO2,NO,NO2 |
| NXCC | CO,CO2,NO,NO2 |
| O2 | O2 |
| OC | CO,O2 |
| OC2 | CO2,O2 |
| OCC | CO,CO2,O2 |
| SC | CO,SO2 |
| SC2 | CO2,SO2 |
| SN | NO,SO2 |
| SN2 | NO2,SO2 |
| SN2C | CO,NO2,SO2 |
| SN2C2 | CO2,NO2,SO2 |
| SN2CC | CO,CO2,NO2,SO2 |
| SNC | CO,NO,SO2 |
| SNC2 | CO2,NO,SO2 |
| SNCC | CO,CO2,NO,SO2 |
| SNX | NO,NO2,SO2 |
| SNXC | CO,NO,NO2,SO2 |
| SNXC2 | CO2,NO,NO2,SO2 |
| SNXCC | CO,CO2,NO,NO2,SO2 |
| SO | O2,SO2 |
| SO2 | SO2 |
| SOC | CO,O2,SO2 |