# Reporting of Component and System IDs During Missing Data Periods

## I. Overview

As part of EPA's ongoing efforts to improve both the quality of reported emissions data and streamline the reporting process itself, EPA has identified several issues with respect to the tracking of unit/stack operating hours and required QA. To correct these issues, the 2019 Q3 ECMPS release will include several updates to improve the accuracy of emissions evaluations, reduce the number of incorrect errors and/or messages, and result in an overall more efficient reporting process with better data quality. All new related check results will be informational messages. EPA will monitor these results and change the severity of the error messages to Critical Level 1 in the future.

Key areas that these changes will impact and subsequently result in changes to how data is currently reported include:

- Reporting of system and component IDs during substitute data hours
- Reporting of NOXC, CO2C, O2C MHV records for NOx-diluent systems and MATS-only units during substitute data hours
- Reporting of O2C MHV records for O2 analyzers that are used to determine CO2C or H2O during substitute data hours
- Reporting of new MODC 46 in NOXC, CO2C, O2C MHV records for NOx-diluent systems and MATS-only units during substitute data hours
- Reporting of new MODC 46 in O2C MHV records for O2 analyzers that are used to determine CO2C or H2O during substitute data hours
- Reporting of formula ID in CO2C, H2O, ~~and~~ NOXR, and MATS DHV records during substitute data hours
- Reporting of NOXC, CO2C, O2C MHV records for combined-cycle turbines with primary and primary bypass monitoring systems designated under a single monitoring location
- Reporting of new MODC codes 46, 47, and 48 in NOXC, CO2C, O2C MHV records for combined-cycle turbines with primary and primary bypass monitoring systems designated under a single monitoring location

## II. Reporting of system and component IDs during substitute data hours

The 2019 Q3 ECMPS release will include changes to now require the reporting of system and/or component IDs during substitute data hours. The new check results will return informational messages if the hourly records do not include system and/or component IDs during any applicable missing data periods. These changes are specific to continuous emissions monitoring systems (CEMS). Appendix D, E, G and LME methods are not affected by these changes and reporting requirements during missing data periods for these units should continue as usual.

In the Monitor Hourly Value (MHV) data records during missing data periods, **both** system and component IDs will be required for:

- SO2
- Flow
- NOXC (system ID only required for NOXC systems)
- CO2C (system ID only required if the CO2 component is part of a CO2 system)
- O2C (system ID only required if the O2 component is part of an O2 or CO2 system)
- H2O

**Note:** system IDs will not be required for NOX, CO2, and O2 analyzers that are **only** part of a NOX emission rate system, nor will they be required for O2 analyzers that are **only** part of a NOX emission rate system and/or an H2O system. Only the component IDs will be required for these analyzers during missing data periods. Component IDs are also not required when stack flow rate is determined by averaging the readings from two flow components that are part of the same monitoring system.

In the MATS Monitor Hourly Value (MMHV) data records during missing data periods, **both** system and component IDs will be required for CEMS systems determining HGC, HCLC, and HFC. **Note:** for sorbent trap systems, the component ID should remain blank.

In the Derived Hourly Value (DHV) data records during missing data periods, system IDs will be required for:

- CO2C (if CO2 concentration is determined from an O2 monitor)
- H2O
- HI (CO2 or O2 CEMS system ID; otherwise should remain blank)
- NOXR (NOX system ID for CEMS system or NOXE system ID for Appendix E mixed-fuel curve; otherwise should remain blank).

**Special considerations:**

- If the location has more than one system for a parameter (i.e., a primary and a backup), report the ID of the primary system.
- If the component in use during the hour was a like-kind analyzer, report the component ID of the like-kind analyzer.

## III. Reporting of NOXC, CO2C, O2C MHV records for NOx-diluent systems and MATS-only units during substitute data hours

The 2019 Q3 ECMPS release will include changes to now require Monitor Hourly Value (MHV) records during substitute data hours for NOX, CO2, and/or O2 analyzers that are **only** part of a NOx-diluent system. CO2 and O2 analyzers used only for determining MATS emission rates should also report MHV records for every operating hour. The new check results will return informational messages if these MHV records are not reported during missing data hours or hours where the MATS emission rate is unavailable.~~.~~

Whenever the NOX concentration, diluent concentration, or both concentrations are missing for an hour, MHV records will be required for NOXC, CO2C, and/or O2C. The MHV records for each of these parameters should include Parameter Code, MODC (discussed in next section), and Component ID. All other fields should be blank. The appropriate substitute data value for NOXR should be reported in the Derived Hourly Value (DHV) records as usual, with the exception that a formula ID will also be required for these records (further discussed in later section).

Whenever the MATS derived hourly values are unavailable, the MHV records for CO2C and/or O2C should include Parameter Code, MODC, Monitoring System ID, and Component ID. All other fields should be blank. The MATS derived hourly value should be reported as normal, with the exception that a formula ID will also be required for these records.

**Note:** MHV records will still not be required for hours in which the flue gases are discharged through an unmonitored bypass stack and the NOX MER is used in the DHV records with an MODC of 23. Section VI. contains additional guidance on new MHV requirements for combined-cycle turbines with primary and primary bypass monitoring systems designated under a single monitoring location.

## IV. Reporting of O2C MHV records for O2 analyzers that are used to determine CO2C or H2O during substitute data hours

The 2019 Q3 ECMPS release will include changes to now require Monitor Hourly Value (MHV) records during substitute data hours for O2 analyzers that are used to determine derived CO2 concentration or derived H2O values. The new check results will return informational messages if these MHV records are not reported during missing data hours. These changes do not affect the O2 analyzer's part of other monitoring systems (e.g., CO2/O2 system) that are also used to determine other parameters where MHV records are already required for every operating hour (e.g., heat input). Wet and dry O2 monitors used to determine the hourly percent moisture will also be required to report MHV records during missing data hours. Two O2 MHV records should be reported for each hour. These changes do not affect the O2 analyzer's part of other monitoring systems that are also used to determine other parameters where MHV records are already required for every operating hour (e.g., O2 dry component used to determine heat input).

For instances where a new MHV record is needed for the hour (e.g., O2 wet and O2 dry components part of H2O system and only used for moisture), the record should include Parameter Code, MODC (discussed in section VI.), Component ID, and Moisture Basis. O2 analyzers that already report MHV records for every operating hour should continue to follow the guidelines in Table 15 on page 40 of the ECMPS Emissions Reporting Instructions for O2C MHV requirements during missing data hours.

## V. Reporting of new MODC 46 in NOXC, CO2C, O2C MHV records for NOx-diluent systems and MATS-only units during substitute data hours

The 2019 Q3 ECMPS release will include a new MODC of 46, which is to be used in the NOXC, CO2C, and/or O2C Monitor Hourly Value (MHV) records during substitute data hours. Report an MODC of 46 in the MHV records for NOXC, CO2C, and/or O2C if a) quality-assured NOXC is not available for the hour, b) quality-assured diluent concentration is not available for the hour, or c) both a and b. MODC 46 should also be reported for CO2 and/or O2 components that are not quality-assured for the hour and only used in determining MATS derived hourly values. ~~The new check result will return informational messages if this MODC is not used in the~~

~~NOXC, CO2C, and/or O2C MHV records during missing data periods.~~ This requirement is specific to NOX, CO2, and/or O2 analyzers that are **only** part of a NOx-diluent monitoring system or for CO2 and O2 analyzers only used in determining MATS derived hourly values.~~.~~

**Note:** Section VII. contains additional guidance on the use of MODC 46 for combined-cycle turbines with primary and primary bypass monitoring systems designated under a single monitoring location.

## VI. Reporting of new MODC 46 in O2C MHV records for O2 analyzers that are used to determine CO2C or H2O during substitute data hour

As mentioned above, the 2019 Q3 ECMPS release will include a new MODC of 46. MODC 46 should also be used for O2C Monitor Hourly Value (MHV) records during substitute data hours when the O2 analyzer is **only** used to determine derived CO2 concentration or derived H2O values. The new check result will return informational messages if this MODC is not used in these instances during missing data periods.

O2 analyzers that already report MHV records during missing data periods should continue to follow standard missing data reporting requirements.

## VII. Reporting of formula ID in CO2C, H2O, ~~and~~ NOXR, and MATS DHV records during substitute data hours

The 2019 Q3 ECMPS release will include changes to now require a formula ID for ~~parameters~~ CO2C (CO2 concentration determined from O2 readings), H2O (moisture determined from wet and dry O2 readings), ~~and~~ NOXR, and MATS in the Derived Hourly Value (DHV) data records during missing data periods. The new check result will return an informational message if a formula ID is not reported for the CO2C, H2O, ~~and~~ NOXR, and MATS ~~-~~DHV record during missing data hours.

## VIII. Reporting of NOXC, CO2C, O2C MHV records for combined-cycle turbines with primary and primary bypass monitoring systems designated under a single monitoring location

The 2019 Q3 ECMPS release will include changes to allow quality-assured and/or missing data Monitor Hourly Value (MHV) records for both primary and primary bypass NOx-diluent systems within the same hour. These changes are specific to primary and primary bypass NOx-diluent systems that are designated under a single monitoring location and are both operating in an hour. These changes do not affect the reporting guidelines (Question 16.5 of the Part 75 Emissions Monitoring Policy Manual) used in determining NOXR in the DHV records when both stacks are used in an hour. The next section contains guidelines specific to the reporting of MHV records for these configurations.

## IX. Reporting of new MODC codes 46, 47, and 48 in NOXC, CO2C, O2C MHV records for combined-cycle turbines with primary and primary bypass monitoring systems designated under a single monitoring location

Combined-cycle turbines with primary and primary bypass NOx-diluent monitoring systems designated under a single monitoring location should follow the guidelines outlined in section V. and use MODC 46 during missing data periods when **only** one stack is operating in an hour.

When both stacks are operating in an hour, there may be instances where combinations of measured (e.g., MODC 01 and 47) and missing (e.g., MODC 46 and 48) data needs to be reported.

Table 1 outlines twelve possible combinations of unit operation and control status for combined-cycle turbines with primary and primary bypass NOx-diluent systems designated under a single monitoring location and provides guidelines to follow when reporting MHV records for these systems.

When MODC 46 or 48 is used, the Parameter Code, MODC, and Component ID elements should be reported. When MODC 47 is used, the Parameter Code, Unadjusted Hourly Value, MODC, and Component ID elements should be reported.

**Table 1**

| Monitoring System Control Status | All Emissions Pass Through Primary System | All Emissions Pass Through Primary Bypass System | Both Stacks Used |
|---|---|---|---|
| P & PB both IC | Standard MHV records included **only** from Primary System (e.g., MODC 01) | Standard MHV records included **only** from Primary Bypass System (e.g., MODC 01) | The highest value from the Primary or Primary Bypass System is used to determine NOXR.<br><br>Report one set of MHV records from the Primary System and one set of MHV records from the Primary Bypass System. The system used to report the higher rate will report MHV records as normal (e.g., MODC 01) and the other system will report MODC 47 (NOx concentration and diluent concentration available, but not used to determine NOx Emissions Rate). |
| P is IC; PB is OOC | Standard MHV records included **only** from Primary System (e.g., MODC 01) | New missing data MHV records included **only** from Primary Bypass System with new MODC 46 | NOXR will either be a quality-assured value from the Primary System or substitute data value using MER (single missing data pool) or substitute data value from Primary Bypass System (two separate missing data pools), whichever is greatest.<br><br>If NOXR is quality-assured from Primary System, report one set of MHV records from the Primary System as normal (e.g., MODC 01) and one set of MHV records from Primary Bypass System using MODC 48.<br><br>If NOXR is substitute data value, report one set of MHV records from the Primary System using MODC 47 and one set of MHV records from the Primary Bypass System using MODC 46. |

| Monitoring System Control Status | All Emissions Pass Through Primary System | All Emissions Pass Through Primary Bypass System | Both Stacks Used |
|---|---|---|---|
| P is OOC; PB is IC | New missing data MHV records included **only** from Primary System with new MODC 46 | Standard MHV records included **only** from Primary Bypass System (e.g., MODC 01) | NOXR will either be a quality-assured value from the Primary Bypass System or substitute data value using standard unit-level missing data value (single missing data pool) or substitute data value from Primary System (two separate missing data pools), whichever is greatest.<br><br>If NOXR is quality-assured from Primary Bypass System, report one set of MHV records from the Primary Bypass System as normal (e.g., MODC 01) and one set of MHV records from Primary System using MODC 48.<br><br>If NOXR is substitute data value, report one set of MHV records from the Primary Bypass System using MODC 47 and one set of MHV records from the Primary System using MODC 46. |
| P & PB both OOC | New missing data MHV records included **only** from Primary System with new MODC 46 | New missing data MHV records included **only** from Primary Bypass System with new MODC 46 | NOXR will be based on substitute data.<br><br>Report one set of MHV records for each stack. The stack used to determine NOXR should report MHV records using MODC 46. The other stack should report MHV records using MODC 48. |