# 7-DAY CALIBRATION ERROR EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| Import Errors | TEST-IMP1A: Invalid ORISPL/Facility Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit/Stack/Pipe ID Check<br>TEST-IMP2B: Undefined Unit/Stack/Pipe Check<br>TEST-IMP3A: Non-numeric Data Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C: Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP3E: Correction of Decimal Places<br>TEST-IMP3F: Justification of Numeric Fields<br>TEST-IMP3G: Blank Numeric Data Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check (Modified v3.0)<br>TEST-IMP5: Undefined Monitoring System IDs (Modified v3.0)<br>TEST-IMP6A: Undefined Components (Modified v3.0)<br>TEST-IMP6B: Component ID Not Linked to Monitoring System (Modified v3.0)<br>TEST-IMP7: Duplicate Record Check (Modified v3.0)<br>TEST-IMP8: Invalid Test Numbers for EDR v2.0 or v2.1 (Modified v3.0)<br>7DAY-IMP1: Assign Test Numbers for EDR v1.3<br>7DAY-IMP2A: Determine Test Completion Date/Time and Test Quarter and Year<br>7DAY-IMP2B: Final Assignment of Test Numbers<br>7DAY-IMP3: Date Out of Date Range<br>7DAY-IMP4: Span/Test Reason/Span Scale Consistency Check | | | | | |
| 100 | One or more per file | | | | | |
| | Facility/ORISPL Number (4) | Y | Y | > 0 | | Required by import/data entry |
| | Calendar Quarter Data Contained in Report (10) | Y | Y | 1 - 4 | | Required by import/data entry |
| | Calendar Year Data Contained in Report (11) | Y | Y | ≥1993 | | Required by import/data entry |
| | EDR Version (15) | Y | Y | | Y | Required by import/data entry |

## 7-DAY CALIBRATION ERROR EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 600 | TEST-3: Program Criteria Check (New v3.0)<br>TEST-5A: Program Check (New v3.0) | | | | | |
| | Unit/Stack ID (4) | -- | -- | | | Required by import and data entry |
| | Component ID (10) | -- | -- | | | Required by import and data entry<br>7DAY-1A and 1B: Component Type Check (Modified v3.1) |
| | Monitoring System ID (13) | -- | -- | | | Required by import and data entry |
| | Date (16)* | Y | Y | ≥1993 | | TEST-4: Future Date Check (Modified v3.0) |
| | Hour (19)* | Y | Y | 00 - 23 | | |
| | Instrument Span (24)* | Y | Y | | | 7DAY-2A and 2B: Check for Instrument Span > 0 and CO2/O2 Span Between 0 - 25 (Modified v3.1)<br>7DAY-6A, 6B and 6C: Span/RT 530 Comparison (Warning) (Modified v3.1) |
| | Reference Value (37)* | | | ≥0 | | 7DAY-3A, 3B, 3C, 3D, and 3E: Calibration Gas Comparison to Span (Warning) (Modified v3.1) |
| | Measured Value (50)* | | | | | |
| | Results (63) | | | ≥0 | | |
| | APS Flag (68) | Y | Y | | Y | 7DAY-4A and 4B: Component Type/APS Check (Warning) (Modified v3.1) |
| | Cal Gas Level (69)* | Y | Y | | Y | |
| | Span Scale (70) | | | | Y | 7DAY-5A and 5B: Comparison of Component Type and Span Scale (Warning) (Modified v3.1) |

## 7-DAY CALIBRATION ERROR EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 600 (cont.) | Test Number (71) | Y | Y | | -- | Required by import/data entry |
| | Reason for Test (73) | Y | Y | | Y | |
| RTs 600 Checks and Calculations | 7DAY-7: Check for Number of Zero and Upscale Gas Injections<br>7DAY-8A and 8B: Check for Correct Number and Type of H/Z Level Gas Injections (Modified v3.0)<br>7DAY-9: Check Relationships of Reference Values for Calibration Gas Levels (Modified v3.0)<br>7DAY-10: Check for Performance of Zero-Level Gas Injections/Signals on Different Days<br>7DAY-11: Check for Performance of Upscale Gas Injections/Signals on Different Days<br>7DAY-12: Check for Performance of Each Pair of Upscale and Zero Gas Injections/Signals on Same Day<br><br>Do not perform 7-Day Calibration Error recalculations if checks 7DAY-1, 7DAY-2, 7DAY-6 through 7DAY-12 or any RT 600 range and table checks with asterisks are failed.<br><br>7DAY-13 and 13B: Calculation of 7-DAY Gas Injection/Signal Results<br>7DAY-14: Determination of Recalculated Gas Injection/Signal Results (Modified v3.1)<br>7DAY-15: APS Flag Check<br>7DAY-16A and 16B: Comparison of Reported and Recalculated Gas Injection/Signal Results<br>7DAY-17: Determination of Overall Test Status<br>7DAY-18: Pass/Fail Inconsistency Check | | | | | |

## LINEARITY EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| Import Errors | TEST-IMP1A: Invalid ORISPL Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit/Stack ID Check<br>TEST-IMP2B: Undefined Unit/Stack Check<br>TEST-IMP3A: Non-numeric Data Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C: Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields (Modified v3.1)<br>TEST-IMP3E: Correction of Decimal Places<br>TEST-IMP3F: Justification of Numeric Fields<br>TEST-IMP3G: Blank Numeric Data Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check (Modified v3.0)<br>TEST-IMP5: Undefined Monitoring System IDs (Modified v3.0)<br>TEST-IMP6A: Undefined Component IDs (Modified v3.0)<br>TEST-IMP6B: Component ID not linked to Monitoring System ID (Modified v3.0)<br>TEST-IMP7: Duplicate Record Check (Modified v3.0)<br>TEST-IMP8: Invalid Test Numbers for EDR v2.0 or v2.1 (Modified v3.0)<br>LIN-IMP1: Assign Test Numbers for EDR v1.3<br>LIN-IMP2A: Determine Test Completion Date/Time and Test Quarter and Year<br>LIN-IMP2B: Final Assignment of Test Numbers (Modified v3.1)<br>LIN-IMP3 Gas Injection Dates Out of Date Range<br>LIN-IMP4: Field Consistency Check in RTs 601<br>LIN-IMP5: Field Consistency Check in RTs 602<br>LIN-IMP6: Consistency Check Between RTs 601 and 602<br>LIN-IMP7: Extraneous RT 602 Check (Modified v3.1) | | | | | |

## LINEARITY EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 601 | TEST-3: Program Criteria Check (New v3.0)<br>TEST-5A: Program Check (New v3.0)<br>LIN-2: Identification of Aborted Test<br>LIN-3: Check for Simultaneous Gas Injections<br>LIN-4: Check for Inappropriate Gas Injections Sequence<br>LIN-5: Too Many Gas Levels Check<br>LIN-6A and 6B: Check for Appropriate Gas Levels (Modified v3.0)<br>LIN-7A and 7B: Check for Simultaneous or Concurrent Test<br>LIN-8: Check Relationships of Reference Values for Calibration Gas Levels<br>LIN-12: Check for Insufficient Number of Gas Injections Per Gas Level<br>LIN-13: Check for Extraneous Gas Injections Per Gas Level (Warning)<br>LIN-23A and 23B: NOx System and Component Check (Modified v3.1) | | | | | |
| | Unit/Stack ID (4) | -- | -- | | | TEST-3: Program Check (Modified v3.0) |
| | Component ID (10) | -- | -- | | | Required by import/data entry<br>LIN-1A and 1B: Component Type Check (Modified v3.1) |
| | Monitoring System ID (13) | -- | -- | | | Required for import/data entry |
| | Date (16) | Y | Y | ≥ 1993 | | TEST-4: Future Date Check (Modified v3.0) |
| | Time (22) | Y | Y | | | TEST-1: Time Validation (Modified v3.0) |
| | Instrument Span (26) | Y | Y | > 0 | | LIN-9A, 9B, and 9C: Inconsistent Span (Warning) (Modified v3.1) |
| | Calibration Gas Reference Value (39) | Y | Y | ≥ 0 | | LIN-14A, 14B, 14C, and 14D: Calibration Gas Comparison to Span (Warning) (Modified v3.0) |
| | Measured Value (52) | Y | Y | | | |
| | Calibration Gas Level (65) | Y | Y | | Y | LIN-11: Zero Gas Level Check (Modified v3.0) |

## LINEARITY EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 601 (cont.) | Span Scale (66) | | | | Y | LIN-10A and 10B: Comparison of Component Type and Span Scale in RT 601 (Warning) (Modified v3.1) |
| | Test Number (67) | Y | Y | | | Required for import/data entry |
| | Indicator of Aborted Test (69) | | | | Y | |
| 602 | | | | | | |
| | Unit/stack ID (4) | -- | -- | | | |
| | Component ID (10) | -- | -- | | | |
| | Monitoring System ID (13) | -- | -- | | | |
| | Date (16) | Y | Y | ≥1993 | | TEST-4: Future Date Check (Modified v3.0) |
| | Instrument Span (22) | Y | Y | > 0 | | Reconciled during import/data entry |
| | Mean of Reference Method Values (35) | Y | Y | ≥ 0 | | |
| | Mean of Measured Values (48) | Y | Y | | | |
| | Results (61) | Y | Y | ≥ 0 | | |
| | APS Flag (66) | Y | Y | 0 - 1 | | |
| | Calibration Gas Level (71) | Y | Y | | Y | |
| | Span Scale (72) | | | | Y | Reconciled during import/data entry |

## LINEARITY EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 602 (cont.) | Test Number (73) | Y | Y | | | Reconciled during import/data entry |
| | Reason for Test (75) | Y | Y | | Y | Reconciled during import/data entry |
| Calculations | Do not perform linearity recalculations if any check except for LIN-9, LIN-13, LIN-14 has been failed or were not performed.<br>LIN-15: Calculation of Linearity Result for Each Gas Level<br>LIN-16: Determination of Linearity Check Results (Modified v3.1)<br>LIN-17: Identification of Missing RT 602<br>LIN-18A, 18B, and 18C: Identification of Extra RTs 602<br>LIN-19: RT 602 Date Check (Warning)<br>LIN-20: APS Flag Check<br>LIN-21: Comparison of Gas Level Results to Reported Results in RT 602<br>LIN-22: Pass/Fail Inconsistency Check | | | | | |

## LEAK CHECK EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| Import Errors | TEST-IMP1A: Invalid ORISPL/Facility Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit/Stack/Pipe ID Check<br>TEST-IMP2B: Undefined Unit/Stack/Pipe Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check (Modified v3.0)<br>TEST-IMP5: Undefined Monitoring System IDs (Modified v3.0)<br>TEST-IMP6A: Undefined Components (Modified v3.0)<br>TEST-IMP6B: Component ID Not Linked to Monitoring System (Modified v3.0)<br>TEST-IMP7: Duplicate Record Check (Modified v3.0)<br>LEAK-IMP1: Date Out of Date Range | | | | | |
| 603 | | | | | | |
| | Unit/Stack ID (4) | -- | -- | | | Required by import/data entry |
| | Component ID (10) | -- | -- | | | Required by import/data entry<br>LEAK-1A and 1B: Component Type Check |
| | Monitoring System ID (13) | -- | -- | | | Required by import/data entry<br>LEAK-2: Sample Acquisition Method Check |
| | Date (16) | Y | Y | ≥ 1993 | | TEST-4: Future Date Check (Modified v3.0) |
| | Hour (22) | Y | Y | 00 - 23 | | |
| | Status (26) | Y | Y | | Y | |
| | Reason for Test (29) | Y | Y | | Y | |

## FLOW-TO-LOAD CHECKS CRITERIA AND CHECKS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| Import Errors | TEST-IMP1A: Invalid ORISPL/Facility Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit/Stack/Pipe ID Check<br>TEST-IMP2B: Undefined Unit/Stack Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check<br>TEST-IMP5: Undefined Monitoring System IDs<br>TEST-IMP7: Duplicate Record Check<br>TEST-IMP9: Invalid Record Types for NBP-only Units/Stacks/Pipes (New v3.0)<br>TEST-IMP11: Invalid Quarter/Year Check<br>FTLRF-IMP1: RATA End Date Out of Date Range | | | | |
| 100 | One or more per file | | | | |
| | Facility/ORISPL Number (4) | Y | Y | > 0 | |
| | Calendar Quarter Data Contained in Report (10) | Y | Y | 1 - 4 | |
| | Calendar Year Data Contained in Report (11) | Y | Y | ≥1993 | |
| | EDR Version (15) | Y | Y | | Y |
| 605 | TEST-5B: Program Check for New EDR v2.1 RTs (New v3.0) | | | | |
| | Unit/Stack ID (4) | -- | | | Required by import and data entry |
| | Monitoring System ID (10) | -- | | | Required by import and data entry<br>FTLRF-1A and 1B: System Check |
| | Ref Flow RATA End Date (13) | Y | ≥1993 | | TEST-4: Future Date Check (Modified v3.0) |
| | Ref Flow RATA End Time (21) | Y | | | TEST-1: Time Validation (Modified v3.0) |

## FLOW-TO-LOAD CHECKS CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 605 (cont.) | Test Number (25) | Y | | | FTLRF-2A, 2B, 2C and 2D: Normal Load RATA Checks |
| | Average Gross Unit Load (27) | Y | | | FTLRF-3: Comparison of Reported Load to RATA |
| | Operating Level (33) | Y | | Y | |
| | Avg Ref Method Flow Rate (34) | | > 0 | | FTLRF-4: Comparison of Average Flow Rate to RATA |
| | Reference Flow/load Ratio (44) | | | | FTLRF-5A, 5B, 5C and 5D: Check for Use of Ratio or GHR Methodology<br>FTLRF-6: Calculation of Flow-to-Load Ratio and Comparison to Reported Ratio |
| | Avg Hourly Heat Input Rate (50) | | | | |
| | Ref Gross Heat Rate (57) | | | | FTLRF-7: Calculation of GHR Value and Comparison to Reported GHR |
| 606 | FTLCK-2: Check on Total Hours | | | | |
| | Unit/Stack ID (4) | -- | | | Required by import and data entry |
| | Monitoring System ID (10) | -- | | | Required by import and data entry<br>FTLCK-1A or 1B: System Check |
| | Cal Quarter (13) | Y | 1 - 4 | | |
| | Cal Year (14) | Y | >1997 | | |
| | Test Basis Indicator (18) | | | Y | |
| | Bias Adjusted Flow Rates Used (19) | | | Y | |
| | Avg % Difference Between Reference and Quarterly Ratios (20) | | 0.0 - 100.0 | | |

## FLOW-TO-LOAD CHECKS CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 606 (cont.) | Result (25) | Y | | Y | FTLCK-3A and 3B: Check for Required Data<br>FTLCK-4A, 4B, 4C and 4D: Determination of Flow-to-Load Check Results<br>FLTCK-5A and 5B: Check for Required Data |
| | No of Hours Used (26) | | <2209 | | |
| | No of Hours Excluded for Diff Fuels (30) | | <2209 | | |
| | No of Hours Excluded for Load Ramping (34) | | <2209 | | |
| | No of Hours Excluded Prior to Normal Load Flow RATA (42) | | <2209 | | |
| | No of Hours Excluded Prior to Diagnostic (46) | | <2209 | | |
| | No of Hours Excluded for Bypass Hours (50) | | <2209 | | |

## RATA EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| Import Errors | TEST-IMP1A: Invalid ORISPL/Facility Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit/Stack/Pipe ID Check<br>TEST-IMP2B: Undefined Unit/Stack/Pipe Check<br>TEST-IMP3A: Non-numeric Data Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP3E: Correction of Decimal Places<br>TEST-IMP3F: Justification of Numeric Fields<br>TEST-IMP3G: Blank Numeric Data Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check (Modified v3.0)<br>TEST-IMP5: Undefined Monitoring System IDs (Modified v3.0)<br>TEST-IMP6A: Undefined Components (Modified v3.0)<br>TEST-IMP6B: Component ID Not Linked to Monitoring System (Modified v3.0)<br>TEST-IMP7: Duplicate Record Check (Modified v3.0)<br>TEST-IMP8: Invalid Test Numbers for EDR v2.0 or v2.1 (Modified v3.0)<br>RATA-IMP1: Assign Test Numbers for EDR v1.3 (Modified v3.1)<br>RATA-IMP2A: Determine Test Completion Date/Time and Test Quarter and Year<br>RATA-IMP2B: Final Assignment of Test Numbers<br>RATA-IMP3: Run Completion Date Out of Date Range<br>RATA-IMP4: Units of Measure Consistency Check<br>RATA-IMP5: Units of Measure Consistency Check Between RT 610 and 611<br>RATA-IMP6: Extraneous RT 611 Check<br>RATA-IMP7: RTs 611 Consistency Check (Modified v3.0)<br>RATA-IMP8: Check for Invalid Data in RTs 611 for Non-Flow Systems (Modified v3.0)<br>RATA-IMP9: Extraneous RTs 614/615 Check (New v3.0)<br>RATA-IMP10: Flow Monitoring System Check for RTs 614/615/616 (New v3.0)<br>RATA-IMP11: Mismatched Run Numbers for RTs 614/615 Check (New v3.0)<br>RATA-IMP12: RT 614 Run Level Data Consistency Check (New v3.0)<br>RATA-IMP13: RT 614 Operating Level Data Consistency Check (New v3.0)<br>RATA-IMP14: Mismatched Run Numbers for RTs 615 Check (New v3.0)<br>RATA-IMP15: Extraneous RTs 616 (New v3.0) | | | | | |

## RATA EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| | RATA-IMP16: Invalid RTs 616 Check (New v3.0)<br>RATA-IMP17: More Than One RT 616 Check (New v3.0) | | | | | |
| 610 | TEST-3: Program Criteria Check (New v3.0)<br>TEST-5A: Program Check (New v3.0)<br>RATA-2: Identification of Aborted Test<br>RATA-4: Check for Simultaneous or Concurrent Runs<br>RATA-5: Check for Simultaneous or Concurrent Test<br>RATA-6: Check for Number of Excluded Runs<br>RATA-7: Check for Number of Included Runs<br>RATA-8: Check for Out-of-sequence or Missing Runs<br>RATA-9A and 9B: Check for RATA Duration Greater Than 1680 Operating Hours (Warning) (Modified v3.0)<br>RATA-56: Comparison of RT 610 values and 530 MEC/MDC/MDF (New v3.0)<br>RATA-57: Comparison of RT 610 NOx values and 530 MPF (New v3.0) | | | | | |
| | Unit/Stack ID (4) | -- | -- | | | Required by import/data entry<br>TEST-3: Program Check (Modified v3.0) |
| | Monitoring System ID (10) | -- | -- | | | Required by import/data entry<br>RATA-1A, 1B and 1C: Parameter Check (Modified v3.0) |
| | Run Start Date (13)* | Y | Y | ≥1993 | | RATA-11: Flow Run Length Check (Warning)<br>RATA-12: Non-Flow Run Length Check (Warning) (Modified v3.0)<br>TEST-2: Comparison of Start and End Times<br>TEST-4: Future Date Check (Modified) |
| | Run Start Time (19)* | Y | Y | | | TEST-1: Time Validation (Modified v3.0) |
| | Run End Date (23)* | Y | Y | ≥1993 | | TEST-4: Future Date Check (Modified ) |
| | Run End Time (29)* | Y | Y | | | TEST-1: Time Validation (Modified v3.0) |

## RATA EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 610 (cont.) | Units of Measure (33)* | Y | Y | 1 - 7, if Status = 1 | | RATA-3: Units of Measure/Parameter Verification |
| | Value from CEM Being Tested (34)* | Y | Y | >0, if Status = 1 | | RATA-55A: Check for Proper Rounding of Flow RATA Test Values (New v3.0) |
| | Value from Reference Method (47)* | Y | Y | >0, if Status = 1 | | RATA-55B: Check for Proper Rounding of Flow RATA Test Values (New v3.0) |
| | Run Number (60)* | Y | Y | 0 - 99 | | |
| | RATA Run Status (62)* | Y | Y | | Y | |
| | Operating Level (63)* | Y | Y | | Y | RATA-10A and 10B: RT 610 Operating Level Check (Warning) (Modified v3.0) |
| | Gross Unit Load (64) | Y | Y | >0, if run status =1 | | RATA-58: Comparison of RT 610 Unit Loads and 535 Maximum Load (New v3.0) |
| | Test Number (70) | Y | Y | -- | -- | Required by import/data entry |
| 611 | | | | | | |
| | Unit/stack ID (4) | -- | -- | | | Required by import/data entry |
| | Monitoring System ID (10) | -- | -- | | | Required by import/data entry |
| | RATA End Date (13) | Y | Y | ≥1993 | | TEST-4: Future Date Check (Modified) |
| | RATA End Time (19) | Y | Y | | | TEST-1: Time Validation (Modified v3.0) |

## RATA EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 611 (cont.) | Reference Method Used (23) | -- | -- | -- | | |
| | Units of Measure | -- | -- | -- | | Reconciled with RT 610 during import/data entry |
| | Arith Mean of CEM Values (35) | Y | Y | >0 | | |
| | Arith Mean of Ref Method Values (48) | Y | Y | >0 | | |
| | Arith Mean of the Difference (61) | | | | | |
| | Stand Deviation (74) | Y | Y | | | |
| | Conf Coefficient (87) | Y | Y | | | |
| | Relative Accuracy (100) | Y | Y | ≥ 0 | | |
| | T-value (105) | Y | Y | | | |
| | Adjust Factor (111) | Y | Y | | | |
| | Operating Level (116) | Y | Y | | Y | |
| | Aver Gross Unit Load (117) | Y | Y | > 0 | | RATA-25: RT 611 Average Gross Unit Load Check (Warning) |
| | Indicator of Normal Load (127) | Y | Y | | Y | ) |
| | APS Flag (128) | Y | Y | 0 - 1 | Y | |
| | Test Number (129) | -- | -- | -- | -- | Resolved during import/data entry |
| | Reason for RATA (131) | Y | Y | | Y | |

## RATA EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 611 (cont.) | # of Load Levels Tested (133) | Y | Y | 1 - 3 | | |
| | BAF from Multi Load Test (134) | Y, if col 133 > 1 | Y, if col 133 > 1 | | | |
| RT 610/611 Checks and Calculations | Do not perform RATA recalculations if checks RATA-1, RATA-3, RATA-4, RATA-5, RATA-6, RATA-7, RATA-8, TEST-1, TEST-2, TEST-3, and TEST-4 or any RT 610 range and table checks with asterisks are failed. Do not perform multi-load RA if RATA-16 has been failed or BAF calculations if RATA-16 or RATA-21 has been failed.<br><br>RATA-13A and 13B: Calculation of Relative Accuracy (Modified v3.1)<br>RATA-14: Determination of RATA Results (Modified v3.0)<br>RATA-15: Determination of BAF/Adjustment Factors<br>RATA-16A and 16B: Check for Correct Number of Load Levels<br>RATA-17A and 17B: RT 611 Number of Load Levels Check<br>RATA-18: Identification of Missing RT 611<br>RATA-19A, 19B, 19C, and 19D: Identification of Extra RTs 611<br>RATA-19E: Determination of BAF for $NO_x$ or $SO_2$ Low Emitters (New v3.0)<br>RATA-20: Determination of Relative Accuracy for Multi-load RATAs<br>RATA-21A and 21B: Determination of Normal Load Level (Modified v3.0)<br>RATA 21C, 21D, 21E, 21F, 21G and 21H: Normal Load Checks for Multi-load Flow Tests (New v3.0)<br>RATA-22A: Inconsistent Normal Load Indication for NBP Units (Warning) (Modified v3.0)<br>RATA-22B, 22C and 22D: Normal Load Checks for Single Load Tests (New v3.0)<br>RATA-22E and 22F: Normal Load Checks for Multi-load Tests (Warning) (New v3.0)<br>RATA-23: Determination of BAF for Multi-load RATAs (Modified v3.0)<br>RATA-24: RT 611 End Date and Time Check (Warning)<br><br>RATA-26A and 26B: APS Flag Check<br>RATA-27: Inconsistent RATA Results and Interim Values in RT 611<br>RATA-28A, 28B, and 28C: Identification of Inconsistent Values in RT 611 (Modified v3.0)<br>RATA-29A and 29B: RT 611 Flow and Heat Input BAF Check (Modified v3.0) | | | | | |

## RATA EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| RT 610/611 Checks and Calculations (cont.) | RATA-30A and 30B: Pass/Fail Inconsistency Message<br>RATA-31A, 31B and 31C: Comparison of RT 536 Loads and Average Gross Unit Load (New v3.0)<br>RATA-32A and 32B: Check of Separation for Multi-load Tests (New v3.0) | | | | | |

## FLOW RATA EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks v2.1 | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 614 | TEST-5B: Program Check for New EDR v2.1 RTs (New v3.0) | | | | |
| | Unit/stack ID (4) | -- | | | Required by import/data entry |
| | Monitoring System ID (10) | -- | | | Required by import/data entry |
| | Test Number (13) | Y | | | Reconciled with RT 610 during import/data entry |
| | Operating Level (15) | Y | | Y | Reconciled with RT 610 during import/data entry |
| | Run Number (16) | Y | | | Reconciled with RT 610 during import/data entry |
| | Run Start Date (18) | Y | | | Reconciled with RT 610 during import/data entry |
| | Run Start Time (26) | Y | | | Reconciled with RT 610 during import/data entry |
| | Run End Date (30) | Y | | | Reconciled with RT 610 during import/data entry |
| | Run End Time (38) | Y | | | Reconciled with RT 610 during import/data entry |
| | Flow Ref. Method (42) | Y | | Y | RATA-33A, 33B, 33C, 33D, 33E, and 33F: Reference Method Check for Flow RATAs (New v3.0)<br>RATA-34: RT 610/614 Duplicate Completeness Check (New) |
| | Number of Traverse Points (45) | Y | ≥ 12 | | RATA-40A: Traverse Points Check (New v3.0)<br>RATA 40B: Traverse Point ID Format Check (New v3.0) |
| | Barometric Pressure (47) | Y | 25-35 | | |
| | Stack Static Pressure (52) | | 0±10 | | |
| | %CO2 dry basis (57) | Y | 0.1-20.0 | | |
| | %O2 dry basis (62) | Y | 0.1-22.0 | | |

## FLOW RATA EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks v2.1 | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 614 (cont.) | Ref Method 3 or 3A (67) | Y | | Y | |
| | %Moisture (71) | Y | 0.1-75.0 | | |
| | Dry Molecular Weight (76) | Y | 25-35 | | RATA 38A and 38B: Determination of Molecular Weight (New v3.0) |
| | Wet Molecular Weight (81) | Y | 25-35 | | |
| | Stack Diameter (86) | Y | | | RATA-35A and 35B: Stack Diameter Check (New v3.0) |
| | Cross Sectional Area (91) | Y | | | |
| | Average Velocity for run w/o WAF (97) | Y | | | RATA-47: Method 2H Minimum Number of Traverse Points Check (New v3.0) |
| | Average Velocity for run with WAF (103) | | | | RATA-49A and 49B: WAF-Related Fields Velocity Check (New v3.0) |
| | Calculated WAF from this run (109) | | $\geq$0.97 | | RATA-51A, 51B, 51C, and 51D: Determination of WAF for the Operating Level (New v3.0) |
| | Calculated WAF applied to all runs of RATA (115) | | | | RATA-36A, 36B and 36C: Check of Calculated WAF for the Operating Level (Modified v3.1) |
| | Default WAF applied to all runs of RATA (121) | | | | RATA-37A, 37B, 37C, and 37D: Check of Default WAF (New v3.0) |
| | Average Stack Flow Wet (adjusted if applicable) (127) | Y | | | RATA-53: Average Wet Stack Flow Consistency Check (Warning) (New v3.0) |
| 615 | RATA-39: Number of Traverse Points Consistency Check (New v3.0) | | | | |
| | Unit/Stack ID (4) | -- | | | Required by import/data entry |
| | Monitoring System ID (10) | -- | | | Reconciled with RT 614 during import/data entry |

## FLOW RATA EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks v2.1 | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 615 (cont.) | Test Number (13) | Y | | | Reconciled with RT 614 during import/data entry |
| | Operating Level (15) | Y | | | Reconciled with RT 614 during import/data entry |
| | Run Number (16) | Y | | | Reconciled with RT 614 during import/data entry |
| | Ref. Method Probe Type (18) | Y | | Y | RATA-41A, 41B, 41C, and 41D: Probe Type Check (New v. 3.0) |
| | Probe ID (22) | Y | | | |
| | Pressure Measurement Device (33) | Y | | Y | |
| | Method 1 Traverse Point ID (35) | Y | | | |
| | Probe/Pitot Cal. Coefficient (38) | Y | 0.500-1.500 | | |
| | Date of Latest Probe/Pitot Calibration (43) | Y | | | RATA-42: Calibration Date Check (New v3.0)<br>TEST-4: Future Date Check (New v3.0) |
| | Average Velocity Differential Pressure at Point (51) | -- | | | RATA-43A and 43B: Velocity Differential Pressure Check (New v3.0) |
| | Average of SQRTs of Differential Pressure Differences at Point (56) | -- | | | |
| | Stack Temp at Point (61) | Y | 0 - 1000 | | |
| | Exterior Method 1 Traverse Point ID (66) | -- | | Y | RATA-44A, 44B, 44C, 44D, and 44E: Exterior Method 1 Traverse Point Consistency Checks (New v3.0) |
| | Number of Wall Effects Points (67) | -- | $\geq 2$ | | |

## FLOW RATA EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks v2.1 | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 615 (cont.) | Yaw Angle at Point (69) | -- | 0±90.0 | | |
| | Pitch Angle at Point (75) | -- | 0±90.0 | | |
| | Calculated Velocity at Point w/o Wall Effects (81) | Y | | | RATA-45A, 45B, and 45C: Calculation of Traverse Point Velocity Without Wall Effects (New v3.0) |
| | Calculated Replacement Velocity with Wall Effects (87) | -- | | | RATA-46A, 46B, and 46C: Replacement Velocity Consistency Check (Modified v3.1) |
| RT 614/615 Calculations | RATA-48A, 48B, 48C, and 48D: Determination of Average Run Velocity Without Wall Effects (New v3.0)<br>RATA-50A, 50B, 50C, 50D, 50E,50F, and 50G: Determination and Validation of Average Run Velocity With Wall Effects and WAF for the Run (Modified v3.1)<br><br>RATA-52A and 52B: Determination of Average Wet Stack Flow (New v3.0) | | | | |
| 616 | RATA-54A and 54C: Method D2H Check (New v3.0) | | | | |
| | Unit/Stack ID (4) | -- | | | Required by Import/data entry |
| | Monitoring System ID (10) | -- | | | Required by Import/data entry |
| | Test Number (13) | Y | | | Reconciled with RT 611 during import/data entry |
| | Operating Level (15) | Y | | | Reconciled with RT611 during import/data entry |
| | Rata End Date (16) | Y | | | Reconciled with RT611 during import/data entry |
| | Rata End Time (24) | Y | | | Reconciled with RT611 during import/data entry |
| | Default WAF Used (28) | Y | | | RATA 54B: Method D2H Check (New v3.0) |

## CYCLE TIME TEST EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| Import Errors | TEST-IMP1A: Invalid ORISPL/Facility Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit/Stack/Pipe ID Check<br>TEST-IMP2B: Undefined Unit/Stack/Pipe Check<br>TEST-IMP3A: Non-numeric Data Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C: Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP3E: Correction of Decimal Places<br>TEST-IMP3F: Justification of Numeric Fields<br>TEST-IMP3G: Blank Numeric Data Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check (Modified v3.0)<br>TEST-IMP5: Undefined Monitoring System IDs (Modified v3.0)<br>TEST-IMP6A: Undefined Components (Modified v3.0)<br>TEST-IMP6B: Component ID Not Linked to Monitoring System (Modified v3.0)<br>TEST-IMP7: Duplicate Record Check (Modified v3.0)<br>TEST-IMP8: Invalid Test Number for EDR v2.1 (Modified v3.0)<br>CYCL-IMP1: Assign Internal Test Numbers for EDR v1.3 and v2.0 (Modified v3.0)<br>CYCL-IMP2A: Determine Test Completion Date/Time and Test Quarter and Year<br>CYCL-IMP2B: Final Assignment of Test Numbers<br>CYCL-IMP3: Dates Out of Date Range<br>CYCL-IMP4: Data Consistency Check<br>CYCL-IMP5: Test Reason/Total System Time Consistency Check | | | | | |
| 621 | CYCL-6A and 6B: Starting and Ending Values Check (Warning) | | | | | |
| | Unit/Stack ID (4) | -- | -- | | | Required by import/data entry |
| | Component ID (10) | -- | -- | | | Required by import/data entry<br>CYCL-2A and 2B: Component Type Check (Modified v3.1) |
| | Monitoring System ID (13) | -- | -- | | | Required by import/data entry<br>CYCL-1A and 1B: System Parameter Check (Modified v3.0) |
| | Date (16)* | Y | Y | ≥1993 | | TEST-4: Future Date Check (Modified) |

## CYCLE TIME TEST EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 621 (cont.) | Start Time (22)* | Y | Y | | | TEST-1: Time Validation (Modified v3.0) |
| | End Time (26)* | Y | Y | | | TEST-1: Time Validation (Modified v3.0)<br>TEST-2: Comparison of Start and End Times |
| | Component Cycle Time (30) | Y | Y | > 0 | | |
| | Stable Starting Monitor Value (32) | Y | Y | | | |
| | Stable Ending Monitor Value (45) | Y | Y | | | |
| | Calibration Gas Value (58)* | Y | Y | ≥0 | | CYCL-3: Check Relationships of Reference Values for Injection Levels<br>CYCL-4A and 4B: Missing Span Values (Warning) (Modified v3.1)<br>CYCL-5A and 5B: Calibration Gas Comparison to Span (Warning) (Modified v3.1) |
| | Cal Gas Level (71)* | Y | Y | | Y | |
| | Total or System Cycle Time (72)* | Y | Y | > 0 | | |
| | Reason for Test (74) | Y | Y | | Y | |
| | Test Number (76) | Y | Y | | | Required by import/data entry |
| RTs 621 Checks and Calculations | CYCL-7: Number of Required Records Check (Modified v3.1)<br><br>Do not perform Cycle Time Test recalculations if any checks except for CYCL-4, CYCL-5 or CYCL-6 are failed or if any RT 621 range and table checks with asterisks are failed.<br><br>CYCL-8A and 8B: Calculation of Component Cycle Time<br>CYCL-9A, 9B and 9C: Calculation of System Cycle Time and Determination of Results | | | | | |

## OFF-LINE/ON-LINE CALIBRATION DEMONSTRATION CRITERIA AND CHECKS (RT 623) (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| Import Errors | TEST-IMP1A: Invalid ORISPL/Facility Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit/Stack/Pipe ID Check<br>TEST-IMP2B: Undefined Unit/Stack/Pipe Check<br>TEST-IMP3A: Non-numeric Data Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C: Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP3E: Correction of Decimal Places<br>TEST-IMP3F: Justification of Numeric Fields<br>TEST-IMP3G: Blank Numeric Data Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check<br>TEST-IMP5: Undefined Monitoring System IDs<br>TEST-IMP6A: Undefined Components (Modified v3.0)<br>TEST-IMP6B: Component ID Not Linked to Monitoring System (Modified v3.0)<br>TEST-IMP7: Duplicate Record Check (Modified v3.0)<br>TEST-IMP8: Invalid Test Numbers for EDR v2.1 (Modified v3.0)<br>OFFON-IMP1: Assign Temporary Test Numbers for EDR v2.0<br>OFFON-IMP2A: Determine Demonstration Completion Date/Time and Test Quarter and Year<br>OFFON-IMP2B: Final Assignment of Test Numbers (Modified v3.1)<br>OFFON-IMP3: Date Out of Date Range<br>OFFON-IMP4: Span/Test Reason/Span Scale Consistency Check | | | | | |
| 623 | TEST-3: Program Criteria Check (New v3.0)<br>TEST-5B: Program Check for new EDR v2.1 RTs (New v3.0) | | | | | |
| | Unit/Stack ID (4) | -- | -- | | | Required by import and data entry |
| | Component ID (10) | -- | -- | | | Required by import and data entry<br>OFFON-1A and 1B: Component Type Check (Modified v3.1) |
| | Monitoring System ID (13) | -- | -- | | | Required by import and data entry |
| | Date (16)* | Y | Y | ≥1993 | | TEST-4: Future Date Check |

**OFF-LINE/ON-LINE CALIBRATION DEMONSTRATION CRITERIA AND CHECKS (RT 623) (MDC VERSION 3.1) (cont.)**

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 623 (cont.) | Hour (22)* | Y | Y | 00 - 23 | | |
| | Instrument Span (24)* | Y | Y | | | OFFON-2A and 2B: Check for Instrument Span > 0 and CO2/O2 Span Between 0 and 25 (Modified v3.1)<br>OFFON-6A, 6B and 6C: Span/RT 530 Comparison (Warning) (Modified v3.1) |
| | Reference Value (37)* | | | ≥0 | | OFFON-3A, 3B, 3C, 3D and 3E: Calibration Gas Comparison to Span (Warning) (Modified v3.1) |
| | Measured Value (50)* | | | | | |
| | Results (63) | | | ≥0 | | |
| | APS Flag (68) | Y | Y | | Y | OFFON-4A, 4Band 4C: Component Type/APS Check (Warning) (Modified v3.1) |
| | Cal Gas Level (69)* | Y | Y | | Y | |
| | Span Scale (70) | | | | Y | OFFON-5A and 5B: Comparison of Component Type and Span Scale (Warning) (Modified v3.1) |
| | Off-line/on-line Indicator (73)* | Y | Y | | Y | |
| | Reason for Test (76) | Y | Y | | Y | |
| | Test Number (77) | | Y | | -- | Required by import/data entry |

## OFF-LINE/ON-LINE CALIBRATION DEMONSTRATION CRITERIA AND CHECKS (RT 623) (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| RTs 623 Checks and Calculations | OFFON-7A and 7B: Check for Number of Zero and Upscale Gas and Off-line/On-line Gas Injections<br>OFFON-8: Check Relationships of Reference Values for Calibration Gas Levels<br><br>Do not perform Off-line/On-line Calibration Error recalculations if checks OFFON-1, OFFON-2, OFFON-6 through OFFON-9 or any RT 623 range and table checks with asterisks are failed.<br><br>OFFON-9: Check for Printing of Off-line and On-line Calibrations<br>OFFON-10A and 10B: Calculation of Off-line/On-line Gas Injection or Reference Signal Results<br>OFFON-11: Determination of Recalculated Gas Injection or Reference Signal Results (Modified v3.1)<br>OFFON-12: APS Flag Check<br>OFFON-13A and 13B: Comparison of Reported and Recalculated Gas Injection or Reference Signal Results<br>OFFON-14: Determination of Overall Test Status<br>OFFON-15: Pass/Fail Inconsistency Check | | | | | |

## MISCELLANEOUS TEST EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| Import Errors | TEST-IMP1A: Invalid ORISPL/Facility Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit/Stack/Pipe ID Check<br>TEST-IMP2B: Undefined Unit/Stack/Pipe Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C: Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check (Modified v3.0)<br>TEST-IMP5: Undefined Monitoring System IDs (Modified v3.0)<br>TEST-IMP6A: Undefined Components (Modified v3.0)<br>TEST-IMP6B: Component ID Not Linked to Monitoring System (Modified v3.0)<br>TEST-IMP7: Duplicate Record Check (Modified v3.0)<br>MISC-IMP1: Date Out of Date Range | | | | | |
| 624 | | | | | | |
| | Unit/Stack ID (4) | -- | -- | | | Required by import/data entry |
| | Component ID (10) | -- | -- | | | Required by import/data entry |
| | Monitoring System ID (13) | -- | -- | | | Required by import/data entry |
| | Parameter (16) | Y | Y | | Y | MISC-1: System Check (New v3.0)<br>MISC-2: Parameter Check (New v3.0) |
| | Activity/Test Completion Date (20) | Y | Y | ≥1993 | | TEST-4: Future Date Check (Modified v3.0) |
| | Activity/Test Completion Hour (28) | Y | Y | 00 - 23 | | |
| | QA Test Activity Description (30) | Y | Y | | | |
| | Status (50) | Y | Y | | Y | |
| | Reason for Test (51) | Y | Y | | Y | |
| | QA Test Code (53) | -- | Y | | Y | |

## FUEL FLOW ACCURACY CHECK EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks v2.0 | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| Import Errors | TEST-IMP1A: Invalid ORISPL/Facility Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit/Pipe ID Check<br>TEST-IMP2B: Undefined Unit/Pipe Check<br>TEST-IMP3A: Non-numeric Data Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C: Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP3E: Correction of Decimal Places<br>TEST-IMP3F: Justification of Numeric Fields<br>TEST-IMP3G: Blank Numeric Data Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check (Modified v3.0)<br>TEST-IMP5: Undefined Monitoring System ID Check (Modified v3.0)<br>TEST-IMP6A: Undefined Components (Modified v3.0)<br>TEST-IMP6B: Component ID Not Linked to Monitoring System (Modified v3.0)<br>TEST-IMP7: Duplicate Record Check (Modified v3.0)<br>FUEL-IMP1: Assign Test Number<br>FUEL-IMP2A: Determine Test Completion Date/Time and Test Quarter and Year<br>FUEL-IMP2B: Final Assignment of Test Numbers (Modified v3.1)<br>FUEL-IMP3: Run Completion Date Out of Date Range<br>FUEL-IMP4: RTs 625 Consistency Check (Units of Measure)<br>FUEL-IMP5: RTs 626 Consistency Check (URV)<br>FUEL-IMP6: RTs 625/626 Consistency Check (Units of Measure)<br>FUEL-IMP7: Extraneous RT 626 Check<br>FUEL-IMP8: Rejection for ARP and Subpart H Units (New v3.0) | | | | |
| 625 | FUEL-2: RT 625/626 Not Evaluated for Accuracy or Adequacy (Information Only) (Modified v3.1)<br>FUEL-3: Program Check (New) (Warning) | | | | |
| | Unit/Pipe ID (4) | -- | | | Required by import/data entry |
| | Component ID (10) | -- | | | Required by import/data entry<br>FUEL-1A and 1B: RT 625 Component Type Check |

## FUEL FLOW ACCURACY CHECK EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks v2.0 | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 625 (cont.) | Monitoring System (13) | -- | | | Required by import/data entry |
| | Date (16) | Y | ≥1993 | | |
| | Test Number (22) | Y | ≥1993 | | Required by import/data entry |
| | Reference Flow Measurement Value (24) | Y | ≥ 0 | | |
| | Measured Flow Value (34) | Y | | | |
| | Units of Measure for URV and Flow Rate (44) | Y | | Y | |
| | Fuel Flow Rate Level (49) | Y | | Y | |
| 626 | | | | | |
| | Unit/Pipe ID (4) | -- | | | Required by import/data entry |
| | Component ID (10) | -- | | | Required by import/data entry |
| | Monitoring System (13) | -- | | | Required by import/data entry |
| | Date (16) | Y | ≥1993 | | |
| | Test Number (22) | Y | > 0 | | |
| | Component Upper Range Value (24) | Y | > 0 | | |
| | Mean of Reference Flow Values (34) | Y | ≥ 0 | | |
| | Mean of Measured Flow Values (44) | Y | | | |

## FUEL FLOW ACCURACY CHECK EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks v2.0 | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 626 (cont.) | Units of Measure for URV and Flow Rate (54) | Y | | Y | |
| | Accuracy Results (59) | Y | ≥ 0 | | |
| | Fuel Flow Rate Level (64) | Y | | Y | |

## FF ACCURACY TEST and ACCURACY TESTS FOR O, R, OR V FFMETERS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| Import Errors | TEST-IMP1A: Invalid ORISPL/Facility Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit/Stack/Pipe ID Check<br>TEST-IMP2B: Undefined Unit/Stack Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C: Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check<br>TEST-IMP5: Undefined Monitoring System IDs<br>TEST-IMP7: Duplicate Record Check<br>TEST-IMP9: Invalid Record Types for NBP-only Units/Stacks/Pipes<br>TEST-IMP10: Invalid Test End Dates (New v3.0)<br>ACC-IMP1: Date Out of Date Range (RT 627)<br>ACC-IMP2: Reassignment of Test Numbers (RT 627 or 628)<br>ACC-IMP3: Invalid Reinstallation Date/Hour (RT 627) | | | | |
| 627 | TEST-5B: Program Check (New v3.0) | | | | |
| | Unit/Pipe ID (4) | -- | | | Required by import and data entry |
| | Component ID (10) | -- | | | Required by import and data entry<br>ACC-2A, 2B and 2C: Component Check |
| | Monitoring System ID (13) | -- | | | Required by import and data entry<br>ACC-1A and 1B: System Check |
| | Test Completion Date (16) | | ≥1993 | | TEST-4: Future Date Check (Modified v3.0)<br>ACC-3A and 3B: Required Date Fields |
| | Test Completion Hour (24) | | 00 - 23 | | |
| | Reinstallation Date (26) | | ≥1993 | | |
| | Reinstallation Hour (34) | | 00 - 23 | | |
| | Accuracy at Low Fuel Flowrate (36) | | 0 - 100 | | |
| | Highest Accuracy at Mid Fuel Flowrate (41) | | 0 - 100 | | |

## FF ACCURACY TEST and ACCURACY TESTS FOR O, R, OR V FFMETERS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 627 (cont.) | Accuracy at High Fuel Flowrate (46) | | 0 - 100 | | |
| | Test Method (51) | | | Y | |
| | Test Result (52) | Y | | Y | ACC-4A and 4B: Test Results Check |
| | Test Number (53) | Y | 1 - 99 | | |
| 628 | TEST-5B: Program Check (New v3.0) | | | | |
| | Unit/Pipe ID (4) | -- | | | Required by import and data entry |
| | Component ID (10) | -- | | | Required by import and data entry<br>ACC-5A, 5B, 5C and 5D: Component Type, SAM and System Link Checks |
| | Monitoring System ID (13) | -- | | | Required by import and data entry<br>ACC-1A and 1B: System Check |
| | Test Completion Date (16) | Y | ≥1993 | | TEST-4: Future Date Check (Modified v3.0) |
| | Test Completion Hour (24) | Y | 00 - 23 | | |
| | Accuracy Determination at Low Level (26) | | 0 - 100 | | |
| | Acc Deter Methodology at Low Level (31) | | | Y | ACC-6: Accuracy Methodology Completeness Check |
| | Accuracy Determination at Mid Level (35) | | 0 - 100 | | |
| | Acc Deter Methodology at Mid Level (40) | | | Y | ACC-6: Accuracy Methodology Completeness Check |
| | Accuracy Determination at High Level (44) | | 0 - 100 | | |
| | Acc Deter Methodology at High Level (49) | | | Y | ACC-6: Accuracy Methodology Completeness Check |

**FF ACCURACY TEST and ACCURACY TESTS FOR O, R, OR V FFMETERS (MDC VERSION 3.1) (cont.)**

| Record Type | Field (Start Column) | No Blanks | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 628 (cont.) | Test Result (53) | Y | | Y | ACC-7A and 7B: Test Results Check |
| | Test Number (54) | Y | 1 - 99 | | |

## FUEL FLOW-TO-LOAD CHECKS CRITERIA AND CHECKS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| Import Errors | TEST-IMP1A: Invalid ORISPL/Facility Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit/Stack/Pipe ID Check<br>TEST-IMP2B: Undefined Unit/Stack Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check<br>TEST-IMP5: Undefined Monitoring System IDs<br>TEST-IMP7: Duplicate Record Check<br>TEST-IMP9: Invalid Record Types for NBP-only Units/Stacks/Pipes<br>TEST-IMP11: Invalid Quarter/Year (RT 630)<br>FFLRF-IMP1: Date Out of Date Range (RT 629) | | | | |
| 629 | TEST-5B: Program Check for New EDR v2.1 RTs (New v3.0) | | | | |
| | Unit/Pipe ID (4) | -- | | | Required by import and data entry |
| | Monitoring System ID (10) | -- | | | Required by import and data entry<br>FFLRF-1A and 1B: System Check |
| | Comp Date of Primary Element Inspection (13) | | ≥1993 | | TEST-4: Future Date Check (Modified v3.0) |
| | Comp Hour of Primary Element Inspection (21) | | 00 - 23 | | |
| | Comp Date of Accuracy Test (23) | Y | ≥1993 | | TEST-4: Future Date Check (Modified v3.0)<br>FFLRF-2A and 2B: Required Date Fields |
| | Comp Hour of Accuracy Test (31) | Y | 00 - 23 | | |
| | Beg Date of Baseline Period (33) | Y | ≥1993 | | TEST-4: Future Date Check (Modified v3.0) |
| | Beg Hour of Baseline Period (41) | Y | 00 - 23 | | |

## FUEL FLOW-TO-LOAD CHECKS CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 629 (cont.) | Comp Date of Baseline Period (43) | | ≥1993 | | TEST-4: Future Date Check (Modified v3.0)<br>FFLRF-2A and 2B: Required Date Fields<br>FFLRF-3: Baseline Data Completion Date Check |
| | Comp Hour of Baseline Period (51) | | 00 - 23 | | |
| | Avg Fuel Flow Rate (53) | | > 0 | | |
| | Average Load (63) | | > 0 | | FFLRF-4: Required Load Data<br>FFLRF-7B: Load and Units Checks |
| | Baseline Fuel Flow/load Ratio (69) | | > 0 | | FFLRF-5A, 5B and 5C: Conflicting or Missing Results<br>FFLRF-6A and 6B: Data Checks for Fuel Flow-to-load Ratio and GHR<br>FFLRF-10A: Baseline Results Check |
| | Units of Fuel Flow-to-load (75) | | 1 - 4 | | FFLRF-7A and 7B: Load and Units Checks<br>FFLRF-8A and 8B: Units of Measure Check |
| | Avg Hourly Heat Input Rate (76) | | > 0 | | FFLRF-9: Heat Input Rate Check |
| | Baseline GHR (83) | | | | FFLRF-6C and 6D: Data Checks for Fuel Flow-to-load Ratio and GHR<br>FFLRF-10B: Baseline Results Check |
| | Units of Baseline GHR (89) | | 1 - 2 | | FFLRF-7A: Load and Units Checks |
| | # of Hr Excluded for Co-firing (90) | | | | |
| | # of Hr Excluded for Ramping (93) | | | | |
| | # of Hr Excluded for Low Range Operation (96) | | | | |
| | Data Collection In Progress Flag (99) | | | Y | |

## FUEL FLOW-TO-LOAD CHECKS CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 630 | FFLCK-6: Check on Total Hours | | | | |
| | Unit/Pipe ID (4) | -- | | | Required by import and data entry |
| | Monitoring System ID (10) | -- | | | Required by import and data entry<br>FFLRF-1A and 1B: System Check |
| | Component ID (13) | | | | FFLCK-2A, 2B and 2C: Component Type Check |
| | Cal Quarter (16) | Y | 1 - 4 | | |
| | Cal Year (17) | Y | >1997 | | |
| | Test Basis Indicator (21) | | | Y | FFLCK-4A and 4B: Check for Consistency with RT 629 |
| | Avg % Difference Between Baseline and Quarterly Ratio (22) | | 0.0 - 100.0 | | FFLCK-5A, 5B and 5C: Determination of Fuel Flow/Load Check Results |
| | Result (27) | Y | | Y | |
| | No of Hours Used (28) | | <2209 | | FFLCK-3A, 3B and 3C: Check for Required Number of Hours |
| | No of Hours Excluded for Co-firing (32) | | <2209 | | |
| | No of Hours Excluded for Ramping (36) | | <2209 | | |
| | No of Hours Excluded for Low Range Operation (40) | | <2209 | | |

## LME CERTIFICATION DATA CRITERIA AND CHECKS (RT 645) (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | ARP | SUBH | | | |
| Import Errors | TEST-IMP1A: Invalid ORISPL/Facility Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit ID Check<br>TEST-IMP2B: Undefined Unit Check<br>TEST-IMP3B: Invalid Date/Year Fields<br>TEST-IMP3C: Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check<br>TEST-IMP7: Duplicate Record Check<br>TEST-IMP9A: Invalid Record Types for NBP-only Units/Stacks/Pipes<br>LME-IMP1: Valid Qualifying Year Check | | | | | |
| 645 | TEST-5B: Program Check for New EDR v2.1 RTs (New v3.0)<br>LME-1: Qualification Check for Type of Fuel<br>LME-3A, 3B, 3C and 3D: Check for Acceptability of Qualifying Data | | | | | |
| | Unit ID (4) | -- | -- | | | Required by import and data entry |
| | Cal Year of Application (10) | -- | -- | > 1999 | | Required by import and data entry |
| | Type of Qualification (14) | Y | Y | | Y | LME 4: Check of Type of Qualification |
| | Year 1 (16) | Y | Y | > 1990 | | LME-2: Year Comparisons for LME Qualifying Data |
| | Annual or OS Actual/Projected $NO_x$ Mass for Year 1 (20) | Y | Y | > 0 | | |
| | Annual or OS Calc $NO_x$ Mass for Year 1 (24) | Y | Y | > 0 | | |
| | Annual or OS Actual/Projected $SO_2$ Mass for Year 1 (28) | Y | | | | |
| | Annual or OS Calc $SO_2$ Mass for Year 1 (32) | Y | | | | |

## LME CERTIFICATION DATA CRITERIA AND CHECKS (RT 645) (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | ARP | SUBH | | | |
| 645 (cont.) | Operating Hours Year or OS 1 (36) | | | < 8,785 | | |
| | Year 2 (40) | Y | Y | > 1990 | | |
| | Annual or OS Actual/Projected $NO_x$ Mass for Year 2 (44) | Y | Y | | | |
| | Annual or OS Calc $NO_x$ Mass for Year 2 (48) | Y | Y | | | |
| | Annual or OS Actual/Projected $SO_2$ Mass for Year 2 (52) | Y | | | | |
| | Annual or OS Calc $SO_2$ Mass for Year 2 (56) | Y | | | | |
| | Operating Hours Year or OS 2 (60) | | | < 8,785 | | |
| | Year 3 (64) | Y | Y | > 1990 | | |
| | Annual or OS Actual/Projected $NO_x$ Mass for Year 3 (68) | Y | Y | > 0 | | |
| | Annual or OS Calc $NO_x$ Mass for Year 3 (72) | Y | Y | > 0 | | |
| | Annual or OS Actual/Projected $SO_2$ Mass for Year 3 (76) | Y | | | | |
| | Annual or OS Calc $SO_2$ Mass for Year 3 (80) | Y | | | | |
| | Operating Hours Year or OS 3 (84) | | | < 8,785 | | |

## APPENDIX E/UNIT DEFAULT TEST EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| Import Errors | TEST-IMP1A: Invalid ORISPL/Facility Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit/Stack/Pipe ID Check<br>TEST-IMP2B: Undefined Unit/Stack/Pipe Check<br>TEST-IMP3A: Non-numeric Data Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C: Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP3E: Correction of Decimal Places<br>TEST-IMP3F: Justification of Numeric Fields<br>TEST-IMP3G: Blank Numeric Data Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check (Modified v3.0)<br>TEST-IMP5: Undefined Monitoring System ID Check (RT 652/653) (Modified v3.0)<br>TEST-IMP7: Duplicate Record Check (Modified v3.0)<br>TEST-IMP8: Invalid Test Numbers for EDR v2.0 or v2.1 (Modified v3.0)<br>RT650-IMP1: Assign Test Number for EDR v1.3<br>RT650-IMP2A/B: Determine Test Type (Modified v3.1)<br>RT650-IMP2C: RT 650 Monitoring System ID Check<br>RT650-IMP2D: Determine Test Completion Date/Time and Test Quarter and Year<br>RT650-IMP2E: Final Assignment of Test Numbers (Modified v3.1)<br>RT650-IMP3: Run Completion Date Out of Date Range<br>RT650-IMP4A/B: Extraneous RT 651 Check<br>RT650-IMP5: Extraneous RT 652 or 653 Check<br>RT650-IMP6A/B: RTs 650 Consistency Check (Modified v3.0)<br>RT650-IMP7: RTs 650/651 Consistency Check | | | | | |

## APPENDIX E/UNIT DEFAULT TEST EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 650 | TEST-3: Program Criteria Check (New v3.0)<br>TEST-5A: Program Check (New v3.0)<br>APPE-4/UDEF-4: Check for Simultaneous or Concurrent Runs<br>APPE-5/UDEF-5: Check for Out-of-sequence or Missing Runs<br>APPE-6: Check for Simultaneous or Concurrent Tests<br>UDEF-6: Check for Simultaneous or Concurrent Tests<br>APPE-7/UDEF-7: Check for Number of Included Runs<br>APPE-8A and 8B: Check for Number of Load Levels (4 for ARP or SUBH units, 2 or more for NBP units) (Modified v3.0)<br>APPE-9: Check for Test Using Different Fuel<br>APPE-10A and 10B: Check for Presence and Correct Number of Heat Input Records for Oil Fuels (Modified v3.0)<br>UDEF-11A and 11B: Check for Presence and Correct Number of Heat Input Records for Oil Fuels<br>APPE-11A and 11B: Check for Presence and Correct Number of Heat Input Records for Gas Fuels<br>UDEF-12A and 12B: Check for Presence and Correct Number of Heat Input Records for Gas Fuels<br>APPE-12A, 12B, and 12C: Check for Presence and Correct Number of Heat Input Records for Mixed Fuels<br>UDEF-13A, 13B, and 13C: Check for Presence and Correct Number of Heat Input Records for Mixed Fuels<br>APPE-36/UDEF-29: Check of Heat Input Rate and Load Level Correspondence | | | | | |
| | Unit/Pipe ID (4) | -- | -- | | | Required by import/data entry<br>TEST-3: Program Check (New v3.0)<br>APPE-1: Stack/Pipe Check<br>UDEF-1: Stack/Pipe Check<br>APPE-2: RT 585 NOx Methodology Cross Check<br>UDEF-2: RT 585 NOx Methodology Cross Check |
| | Monitoring System ID (10) | -- | -- | | | Required by import/data entry<br>APPE-3A, 3B and 3C: Parameter Check (Modified v3.0) |
| | Run Start Date (13) | Y | Y | ≥1993 | | APPE-13/UDEF-14: Run Length Check (Warning)<br>TEST-2: Comparison of Start and End Times<br>TEST-4: Future Date Check (Modified v3.0) |
| | Run Start Time (19) | Y | Y | | | TEST-1: Time Validation (Modified v3.0) |
| | Run End Date (23) | Y | Y | ≥1993 | | TEST-4: Future Date Check (Modified v3.0) |

## APPENDIX E/UNIT DEFAULT TEST EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 650 (cont.) | Run End Time (29) | Y | Y | | | TEST-1: Time Validation (Modified v3.0) |
| | Reference Method Response Time (33) | Y | Y | 1 - 800 | | |
| | Value from Reference Method During Run (36) | | | 0 - 3 | | |
| | Run Number (44) | Y | Y | >0 | | |
| | Operating Level (46) | Y | Y | 0 - 99 | | |
| | Type of Fuel Combusted (48) | Y | Y | | Y | |
| | Total Heat Input or Load During the Run (49) | Y | Y | | | APPE-16: Compare Total Heat Input to Total Heat Input in RTs 652/653<br>UDEF-17: Verification of Reported Heat Input |
| | Elapsed Time (56) | | Y | 0.0 - 8.0 | | |
| | Hourly Heat Input Rate During Run (59) | Y | Y | > 0 | | APPE-15/UDEF-16: Recalculation of Hourly Heat Input Rate Reported During Run |
| | Test Number (66) | Y | Y | -- | -- | Resolved during import/data entry |
| | Flag to Indicate Highest NOx Rate for Unit Default Testing (68) | | | | Y | UDEF-8A and 8B: Checks for Flagged Default Rates<br>UDEF-9: Check for Selection of Correct Default Value<br>UDEF-10A, 10B and 10C: Cross Check with Unit-specific $NO_x$ Default in RT 531 (Modified v3.1) |
| | Adjusted $NO_x$ Default Rate (69) | | | | | |

## APPENDIX E/UNIT DEFAULT TEST EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 651 | APPE-17: Check for Missing RT 651<br>APPE-19A, 19B and 19C: Identification of Extra RTs 651<br>APPE-24A, 24B and 24C: Comparison of RT 651 Results with RT 56O Segment Records (Modified v3.1) | | | | | |
| | Unit/Pipe ID (4) | -- | -- | | | Required by import/data entry |
| | Monitoring System ID for Appendix E System (10) | -- | -- | | | Required by import/data entry (except for multi-fuel tests) |
| | Completion Date of Last Run in Level (13) | Y | Y | ≥1993 | | APPE-20: Check for Accuracy of Completion Date/Time (Warning)<br>TEST-4: Future Date Check (Modified v3.0) |
| | Completion Time of Last Run in Level (19) | Y | Y | | | TEST-1: Time Validation (Modified v3.0) |
| | Arithmetic Mean of Reference Method Values at This Level (23) | | | 0 - 3 | | APPE-21: Check of Arithmetic Mean of Reference Values |
| | F-Factor (31) | Y | Y | 1000-11,000 | | |
| | Average Heat Input Rate at This Level (41) | Y | Y | > 0 | | APPE-22: Check of Average Heat Input Rate |
| | Operating Level (48) | Y | Y | 1 - 99 | | |
| | Type of Fuel Combusted (50) | -- | | -- | -- | Resolved during import/data entry |
| | Test Number (51) | Y | Y | | | Resolved during import/data entry |
| 652 | APPE-25/UDEF-18: RT 652 Consistency Check (Modified v3.1)<br>APPE-27A and 27B/UDEF-20A and 20B: Extraneous RT 652/653 Check | | | | | |
| | Unit/Pipe ID (4) | -- | -- | | | Required by import/data entry |

## APPENDIX E/UNIT DEFAULT TEST EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 652 (cont.) | Monitoring System ID for Oil Flow System (10) | -- | -- | | | Required by import/data entry<br>APPE-26A and 26B/UDEF-19A and 19B: RT 652 Parameter Check |
| | Run Start Date (13) | -- | -- | | | Resolved during import/data entry |
| | Run Start Time (19) | -- | -- | | | Resolved during import/data entry |
| | Run End Date (23) | -- | -- | | | Resolved during import/data entry |
| | Run End Time (29) | -- | -- | | | Resolved during import/data entry |
| | Run Number (33) | Y | Y | 1 - 99 | | |
| | Mass Flow of Oil During Run (35) | Y | Y | | | APPE-31A, 31B, 31C and 31D/UDEF-24A, 24B, 24C, and 24D: Mass Oil Check (Modified v3.0) |
| | GCV of Oil (45) | Y | Y | > 0 | | |
| | Heat Input from Oil During Run (55) | Y | Y | > 0 | | APPE-32/UDEF-25: Recalculated Heat Input for Oil Check |
| | Volumetric Flow of Oil During Run (62) | | | | | APPE-28/UDEF-21: Verification of Volumetric Oil Flow |
| | Units of Measure for Oil Flow (72) | Y if V-Flow >0 | Y if V-Flow >0 | | Y | |
| | Density of Oil (77) | | | | | |
| | Units of Measure for Density of Oil (85) | Y if Den-sity >0 | Y if Den-sity >0 | | Y | APPE-30/UDEF-23: Check for Consistency of Oil Flow Units |
| | Test Number (90) | Y | Y | | | Resolved during import/data entry |

## APPENDIX E/UNIT DEFAULT TEST EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 652 (cont.) | GCV Units of Measure (92) | Y | Y | | Y | APPE-29A and 29B/UDEF-22A and 22B: Check for Consistency of GCV Units of Measure |
| 653 | APPE-27A and B/UDEF-20A and B: Extraneous Fuel Flow Record Check | | | | | |
| | Unit/Pipe ID (4) | -- | -- | | | Required by import/data entry |
| | Monitoring System ID for Gas Flow System (10) | -- | -- | | | Required by import and data entry<br>APPE-34A and 34B/UDEF-27A and 27B: RT 653 Parameter Check |
| | Run Start Date (13) | -- | -- | | | Resolved during import/data entry |
| | Run Start Time (19) | -- | -- | | | Resolved during import/data entry |
| | Run End Date (23) | -- | -- | | | Resolved during import/data entry |
| | Run End Time (29) | -- | -- | | | Resolved during import/data entry |
| | Flow of Gas During Run (33) | Y | Y | > 0 | | |
| | GCV of Gas (43) | Y | Y | > 0 | | |
| | Heat Input from Gas During Run (53) | Y | Y | > 0 | | APPE-35/UDEF-28: Recalculated Heat Input for Gas Check |
| | Test Number (60) | Y | Y | | | Resolved during import/data entry |

## IDENTICAL UNIT TESTS EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| Import Errors | TEST-IMP3A: Non-numeric Data Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C: Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP3E: Correction of Decimal Places<br>TEST-IMP3F: Justification of Numeric Fields<br>TEST-IMP3G: Blank Numeric Data Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check (Group ID) (Modified v3.0)<br>TEST-IMP7: Duplicate Record Check (Modified v3.0)<br>IDEN-IMP1: Determine Test Completion Date/Time and Test Quarter and Year<br>IDEN-IMP2: Presence of Unit in MDC<br>IDEN-IMP3: Determine Purpose of Group Test<br>IDEN-IMP4: Test Date Out of Date Range<br>IDEN-IMP5: RTs 660 Purpose Consistency Check<br>IDEN-IMP6: RT 660 Includes $NO_x$ Default Rate for AE Test<br>IDEN-IMP7A/B: Extraneous RT 661 Check<br>IDEN-IMP8: RTs 660 $NO_x$ Default Rate Consistency Check | | | | | |
| 660 | IDEN-1: Duplicate Unit Check<br>IDEN-6A and 6B: Ratio of Number of Tests Conducted to Number of Units<br>IDEN-14: Program Check (New v3.0) | | | | | |
| | Group ID (4) | -- | -- | | | Required by import/data entry |
| | ORIS Code (12) | Y | Y | | | IDEN-14: Program Check (New v3.0) |
| | Plant Name (18) | Y | Y | | | |
| | Unit ID (38) | Y | Y | | | |
| | Test Status (44) | Y | Y | | Y | |

## IDENTICAL UNIT TESTS EVALUATION CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|---|
| | | v2.0 | v2.1 | | | |
| 660 (cont.) | Test Date (46) | | | ≥1993 | | IDEN-3A, 3B, 3C, and 3D: Check for Consistency Between Test Date, Test Purpose, and Test Status<br>IDEN-4: Check for Presence of Related Tests<br>TEST-4: Future Date Check (Modified v3.0) |
| | Default Rate from Identical Unit Testing (54) | | | 0 - 3.0 | | IDEN-5: Check for Correct Group Default Rate<br>IDEN-13A and 13B: Cross Check with Unit-specific $NO_x$ Default in RT 531 (Modified v3.0) |
| | Purpose of Group Tests (60) | | | | | Resolved and required during import/data entry |
| | Fuel Type (62) | | | | Y | |
| | $NO_x$ App E System ID (63) | | -- | | | IDEN-2A, 2B, 2C and 2D: Check for $NO_x$ Monitoring System ID (Modified v3.0) |
| 661 | Import/entry not allowed for ARP/Subpart H units<br>IDEN-7: Check for Minimum Number of RTs 661<br>IDEN-8: Check for Extraneous RTs 661 by Operating Level<br>IDEN-11A, 11B, and 11C: Comparison of RT 661 Results with RT 560 Segments (Modified v3.1)<br>IDEN-12: Check of Heat Input Rate and Load Level Correspondence | | | | | |
| | Group ID (4) | -- | -- | | | Required by import/data entry |
| | Test Completion Date (10) | Y | -- | ≥1993 | | TEST-4: Future Date Check (Modified v3.0)<br>IDEN-9: Comparison of Test Date with RTs 660 Dates (Warning) |
| | Operating Level (20) | Y | -- | ≥0 | | |
| | Aver Emission Rate at Level (22) | Y | -- | 0 - 3.0 | | IDEN-10A: Recalculation of Average from RTs 651 and Comparison of Results (Modified v3.0) |
| | Average HI Rate at Level (28) | Y | -- | > 0 | | IDEN-10B and 10C: Recalculation of Average from RT 651 and Comparison of Results (Modified v3.0) |

## RTs 695 THROUGH 699 CRITERIA AND CHECKS (MDC VERSION 3.1)

| Record Type | Field (Start Column) | No Blanks | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| Import Errors for RTs 695-699 | TEST-IMP1A: Invalid ORISPL/Facility Code Check<br>TEST-IMP1B: Presence of Monitoring Plan Data Check<br>TEST-IMP2A: Blank Unit/Stack/Pipe ID Check<br>TEST-IMP2B: Undefined Unit/Stack Check<br>TEST-IMP3B: Invalid Date Fields<br>TEST-IMP3C Lower-case Characters Check (Modified v3.1)<br>TEST-IMP3D: Justification of Alphanumeric Fields Check (Modified v3.1)<br>TEST-IMP4: Essential Keys Present Check<br>TEST-IMP5: Undefined Monitoring System IDs<br>TEST-IMP9: EDR Version Check<br>TEST-IMP10: Invalid Test End Dates<br>TEST-IMP11: Invalid Quarter/Year<br>SLF-IMP1: Valid Qualifying Year Check<br>GRACE-IMP1: Component ID for RATA Claim | | | | |
| 695 | TEST-5B: Program Check for New EDR v2.1 RTs | | | | |
| | Unit/Stack ID (4) | -- | | | Required by import and data entry |
| | Monitoring System ID (10) | -- | | | Required by import and data entry<br>SLF-1A and 1B: System Check |
| | Last Flow RATA End Date (13) | Y | ≥1993 | | TEST-4: Future Date Check (Modified v3.0) |
| | End Date of Hist. Load Data Collection Period (21) | Y | ≥1993 | | |
| | Hist % Use of Low Load Level Since Last RATA (29) | | 0 - 100 | | SLF-2: Check of Total Percentages |
| | Hist % Use of Mid Load Level Since Last RATA (34) | | 0 - 100 | | |
| | Hist % Use of High Load Level Since Last RATA (39) | | 0 - 100 | | |
| | Load Level for Single Load Flow RATA (44) | Y | | Y | SLF-3A, 3B and 3C: Check for Eligibility of Load Level for Single Load Flow RATA |

## RTs 695 THROUGH 699 CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 696 | TEST-5B: Program Check | | | | |
| | Unit/Pipe ID (4) | -- | | | Required by import and data entry |
| | Monitoring System ID (10) | -- | | | Required by import and data entry<br>FFEXT-1A and 1B: System Check |
| | Date of Last Accuracy Test (13) | Y | ≥1993 | | TEST-4: Future Date Check (Modified v3.0)<br>FFEXT-2: Check on Accuracy Test Date (Warning) |
| | Accuracy Test Expiration Date Without Extension (21) | Y | ≥1993 | | |
| | Accuracy Test Expiration Date With Extension (29) | Y | ≥1993 | | FFEXT-3A and 3B: Check on Accuracy Test Expiration Dates |
| | Type of Extension (37) | Y | | Y | FFEXT-4A, 4B, 4C, 4D, and 4E: Cross Check of Fuel Flow-to-Load Extensions and RTs 629/630 (Warning) (Modified v3.1) |
| | Quarter (39) | Y | 1 - 4 | | |
| | Year (40) | Y | ≥1998 | | |
| 697 | TEST-5B: Program Check for New EDR v2.1 RTs | | | | |
| | Unit/Stack ID (4) | -- | | | Required by import and data entry |
| | Monitoring System ID (10) | -- | | | Required by import and data entry |
| | Date of Last RATA (13) | | ≥1993 | | TEST-4: Future Date Check (Modified v3.0) |
| | RATA Expiration Date Without Extension (21) | | ≥1993 | | RTEXT-2A, 2B, 2C, 2D and 2E: Check RATA Expiration Date |
| | RATA Expiration Date With Extension (29) | | ≥1993 | | RTEXT-3A, 3B, 3C and 3D: Comparison of Old and New RATA Expiration Dates |
| | Type of Extension (37) | Y | | Y | RTEXT-1A, 1B, 1C and 1D: Check of System Based on Extension Type |
| | Year-to-date Hours of Usage of Very Low Sulfur Fuel (39) | | < 8,785 | | RTEXT-4A and 4B: Check Hours of High Sulfur Fuel Usage |

## RTs 695 THROUGH 699 CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 697 (cont.) | Year-to-date Hours of Regular Non-redundant CEMS Use (43) | | < 8,785 | | RTEXT-5A and 5B: Check Hours of Non-Redundant Backup Monitor Usage |
| | Quarter (47) | Y | 1 - 4 | | |
| | Year (48) | Y | ≥1998 | | |
| 698 | | | | | |
| | Unit/Stack ID (4) | -- | | | Required by import and data entry |
| | Component ID (10) | -- | | | QEXP-2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H, 2I, 2J and 2K: Check for Component Type Based on Exemption Type and Type of Test (Modified v3.1) |
| | Monitoring System ID (13) | -- | | | Required by import and data entry<br>QEXP-1A, 1B and 1C: System Type Check Based on Exemption Type and Type of Test |
| | Basis for Exemption (16) | Y | | Y | QEXP-3A and 3B: Check of Exemption Based on Very Low Scale Span |
| | Quarter (18) | Y | 1 - 4 | | |
| | Year (19) | Y | ≥1998 | | |
| | Span Scale (23) | | | Y | |
| 699 | GRACE-4A and 4B: Date Comparison Check | | | | |
| | Unit/Stack ID (4) | -- | | | Required by import and data entry |
| | Component ID (10) | | | | GRACE-2A, 2B, 2C, 2D and 2E: Check of Component IDs and Component Type (Modified v3.1) |
| | Monitoring System ID (13) | -- | | | Required by import and data entry<br>GRACE-1A, 1B, 1C and 1D: System Type Check Based on Type of Test |
| | Type of Test (16) | Y | | Y | |
| | Beginning of Grace Period (17) | Y | ≥1993 | Y | TEST-4: Future Date Check (Modified v3.0) |

## RTs 695 THROUGH 699 CRITERIA AND CHECKS (MDC VERSION 3.1) (cont.)

| Record Type | Field (Start Column) | No Blanks | Range Check | Table Check | Other Checks |
|---|---|---|---|---|---|
| 699 (cont.) | Date of Completion of Required Test (25) | | ≥1993 | | TEST-4: Future Date Check (Modified v3.0) |
| | Hour of Completion of Required Test (33) | | 00 - 23 | Y | |
| | # of Unit/stack Operating Hours in Grace Period (35) | | | | GRACE-3A and 3B: Check for Maximum Number of Hours |
| | Date of End of Grace Period (38) | | ≥1993 | | TEST-4: Future Date Check (Modified v3.0) |
| | Hour of End of Grace Period (46) | | 00 - 23 | | |