

# Part 60 vs. Part 75 RATA Testing Requirements

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# RATA IS.....

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Relative Accuracy is the absolute mean difference between the CEMS and the reference method (RM), plus the 2.5% error confidence coefficient of a series of tests, divided by the mean of the RM tests or the applicable emission standard.

# RELATIVE ACCURACY

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$$RA = \frac{|\bar{d}| + |CC|}{\overline{RM}} \times 100\%$$

△RA = Relative Accuracy

△|d| = Absolute value of mean difference (CEMS – RM)

△CC = Confidence Coefficient

△RM = Average Reference Method Value

# Part 60 vs. Part 75 RATA Testing Requirements

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- △ Reference Documents
- △ Affected Facilities
- △ RATA Parameters
- △ RATA Frequency
- △ Operations During RATA
- △ Performance Specifications
- △ Reference Method Notes

# Historical Perspective

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## △ 1970 CLEAN AIR ACT

△ EPA WAS CREATED ON DECEMBER 2, 1970

△ 40 CFR 60 ADOPTED, ESTABLISHED NSPS,

△ CEMS REQUIRED IN SOME SUB-PARTS

## △ 1990 CLEAN AIR ACT AMENDMENTS

△ TITLE IV: ACID DEPOSITION CONTROL (ACID RAIN)

△ 40 CFR PART 75 ADOPTED IN January, 1993

(CONTINUOUS EMISSION MONITORING)

# Reference Documents

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## △ 40 CFR 60

- △ APPENDIX B TO PART 60 - PERFORMANCE SPECIFICATIONS
- △ APPENDIX F TO PART 60 - QUALITY ASSURANCE PROCEDURES

## △ 40 CFR 75

- △ APPENDIX A TO PART 75 - SPECIFICATIONS AND TEST PROCEDURES
- △ APPENDIX B TO PART 75 - QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

# Affected Facilities

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## △ Part 75

- △ Electric Generating Units (EGUs)

  - △ Acid Rain, NOx Trading, CAIR, CAMD

## △ Part 60

- △ Stationary Sources

  - △ ~89 Source Categories in NSPS

    - △ Ammonium Sulfate Manufacture to VOC from SOCOMI Ops

    - △ Exception for EGUs in Subparts Da, Db, & GG can use Part 75 systems to meet Part 60 monitoring requirements

# Exempt EGU Facilities

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- △ Pre-11/15/1990 Simple Cycle CTs
- △ Pre-11/15/1990 <25 MW Units
- △ Certain cogeneration facilities that sell less than 1/3 of potential electrical output to utilities
- △ Qualifying facilities that have pre-11/15/1990 power purchase commitments for > 15 percent of capacity
- △ IPPs that have pre-11/15/1990 power purchase commitments for > 15 percent of capacity
- △ Most Solid waste incinerators



# RATA Parameters

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## Part 60 Performance Specs.

1	Opacity	10	
2	SO2 and NOX	11	PM
3	O2 and CO2	12A	Total Vapor Phase Mercury
4/4A/4B	Carbon Monoxide		
5	TRS		
6	Emission Rate	15	Extractive FTIR
7	Hydrogen Sulfide	16	Predictive Emissions Monitors
8/8A	Volatile Organic Compound		
9	Gas Chromatographic	18	(HCl)

# RATA Parameters

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## Part 75 RATA Parameters

- SO<sub>2</sub>
- NO<sub>x</sub>
- Heat input
- H<sub>2</sub>O
- Opacity
- CO<sub>2</sub>
- Hg

# RATA Frequency

REGULATION	PART 60	PART 75
BASIC FREQUENCY	AT LEAST ONCE EVERY FOUR CALENDAR QUARTERS	“SEMIANNUALLY” (WITHIN 2 QA OPERATING QUARTERS)
EXCEPTIONS	-	“ANNUALLY” (WITHIN 4 QA OPERATING QUARTERS)
GRACE PERIOD	NON-OPERATING QUARTERS	+ 720 OPERATING HOURS

# RATA Frequency

<b>REGULATION</b>	<b>PART 60</b>	<b>PART 75</b>
<b>TIME LIMIT</b>	PERFORMED IN THE QUARTER IN WHICH THE UNIT RECOMMENCES OPERATION	NOT TO EXCEED 8 CALENDAR QUARTERS BETWEEN SUCCESSIVE TESTS.
<b>ABSOLUTE TIME LIMIT</b>		8 CALENDAR QUARTERS + 720 OPERATING HOURS

# Operations During RATA

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△ 40 CFR PART 60

△ GREATER THAN 50% LOAD

△ 40 CFR PART 75

▪ BREAKS LOAD RANGE INTO 3 RANGES

△ RATA IN “MOST FREQUENTLY” USED RANGE  
OR 2<sup>ND</sup> “MOST FREQUENTLY” USED RANGE

△ BASED ON PREVIOUS FOUR OPERATING  
QUARTERS

△ Flow RATAs must be performed at 3 operating  
load levels; low, mid, and high

# Performance Specifications

## Part 60

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- △  $\text{NO}_x/\text{SO}_2 \leq 20\%$  of reference method mean or  $\leq 10\%$  of the applicable standard
- △  $\text{CO}_2/\text{O}_2 \leq 1\%$  difference
- △  $\text{CO} \leq 10\%$  of reference method or 5% of applicable standard
- △  $\text{CO} \leq 5.0$  ppm using PS-4A (<200 ppm range)
- △ Flow  $\leq 20\%$  of reference method or 10% of applicable standard.

# Performance Specifications

## Part 60

NO <sub>x</sub> /SO <sub>2</sub>	≤ 20% RA or 10% of Applicable Standard
CO <sub>2</sub> /O <sub>2</sub>	±1.0% CO <sub>2</sub> /O <sub>2</sub>
CO	≤ 10% RA or 5% of Applicable Standard
CO (<200 ppm limit)	±5 ppm CO
Flow	≤ 20% RA or 10% of Applicable Standard

# Performance Specifications

## Part 75

	Semiannual	Annual
SO <sub>2</sub> or NO <sub>X</sub>	≤ 10% RA or ±15 ppm	≤ 7.5% RA or ±12 ppm
SO <sub>2</sub> /diluent	≤ 10% RA or ±0.030 lb/mmBtu	≤ 7.5% RA or ±0.025 lb/mmBtu
NO <sub>X</sub> /diluent	≤ 10% RA or ±0.020 lb/mmBtu	≤ 7.5% RA or ±0.015 lb/mmBtu
CO <sub>2</sub> /O <sub>2</sub>	≤ 10% RA or ±1.0% CO <sub>2</sub> /O <sub>2</sub>	≤ 7.5% RA or ±0.7% CO <sub>2</sub> /O <sub>2</sub>
Moisture	≤ 10% RA or ±1.5% H <sub>2</sub> O	≤ 7.5% RA or ±0.1.0% H <sub>2</sub> O
Flow	≤ 10% RA or ±2.0 fps <sup>2</sup>	≤ 7.5% RA or ±1.5 fps



# Reference Method Notes

Parameter	Part 60	Part 75
Stratification And Traverses	3 Point Long Line  Strat <10% - 3 Pt Long/Short Line	Initial Strat. Test  Strat. <10% or <5 ppm/<0.3% – Short Line  Strat <5% or <3 ppm/<0.3% - Single Point
System Bias Calibration Frequency	Before And After As Many Runs Risked	Before And After Each Run
Calibration Gases	Protocol 1	PGVP
Tester Qualification	None	ASTM D-7036

# Summary

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- △ Part 60 has broader RATA applicability
  - △ More source categories
  - △ More parameters/species
- △ Part 75 is more detailed in general
  - △ More options for low emitters