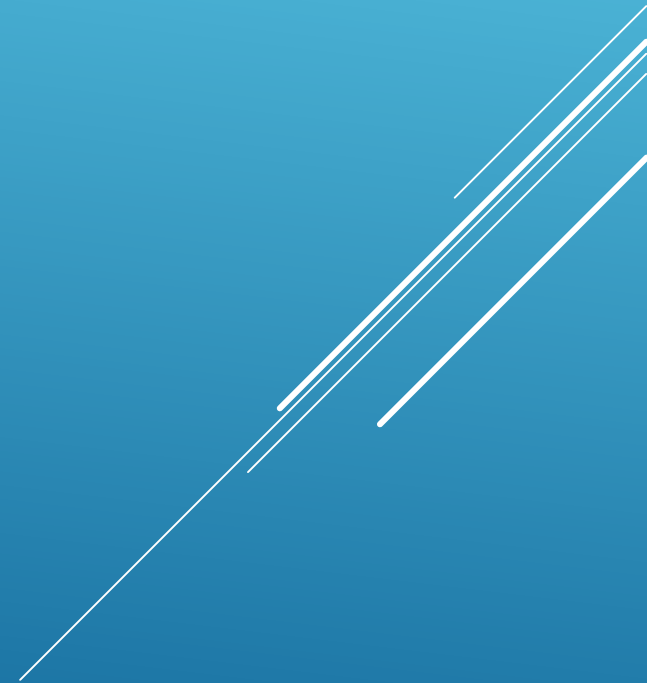


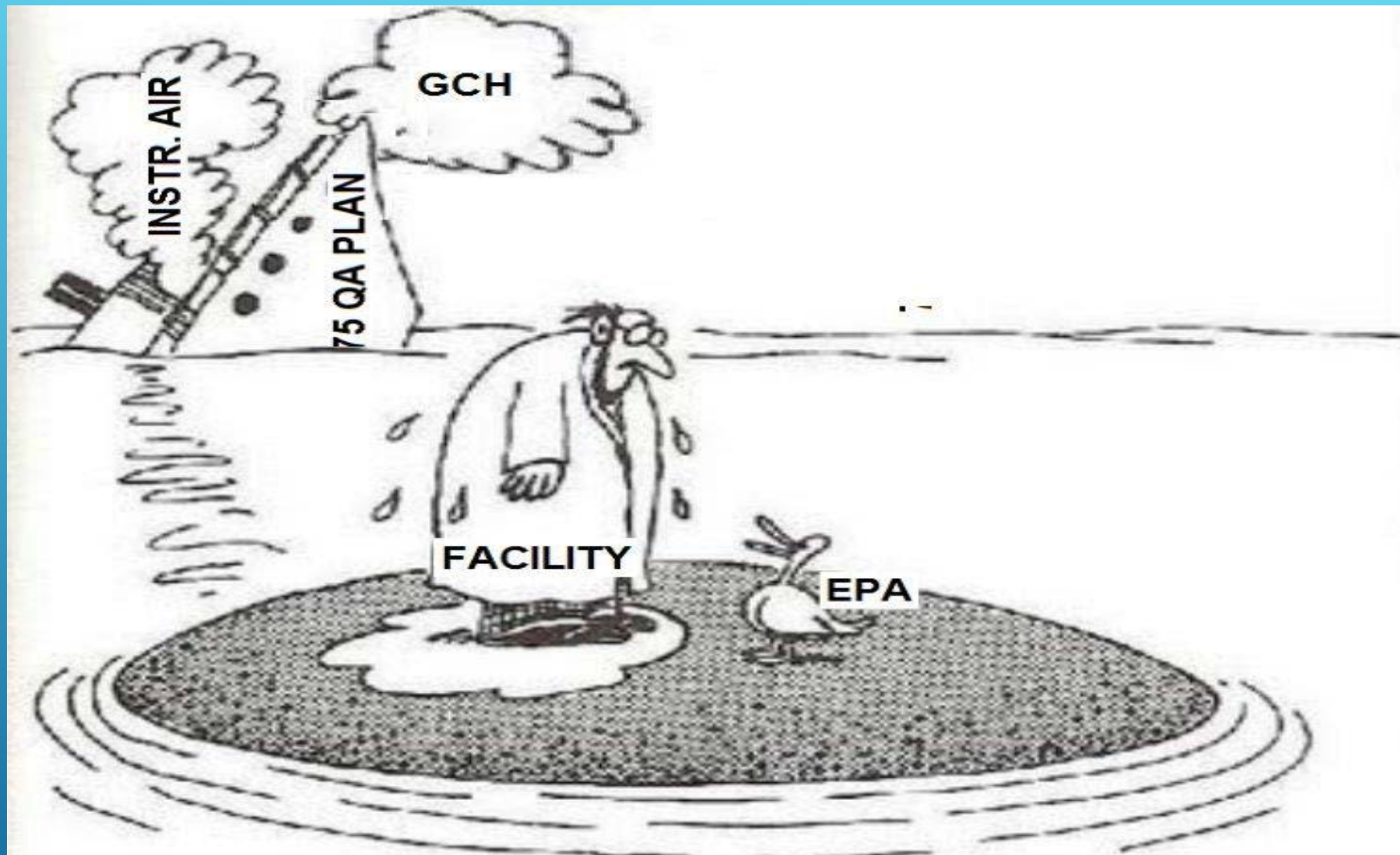
# Top Ten Practical Regulatory Issues That May or May Not Have Been Avoided if You Had Thought About it in Advance



(but You Probably Would Have  
Never Thought of it...in  
Advance).

Reggie Williams | Kelly Sullivan | Andrew Moscovich

A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue gradient background.



“So, Professor Jenkins! ... My old nemesis! ... We meet again, but this time the advantage is mine! Ha! Ha! Ha!”


*Lawson*

# #1: REVISITING OLD NEMESSES

## 1A. USING GAS CHROMATOGRAPH FOR HOURLY GCV DETERMINATION

A decorative graphic consisting of several parallel, diagonal cyan lines of varying lengths, located in the bottom right corner of the slide.

# GCH ISSUE

- ▶ COMMON SENSE
  - ▶ EMAIL FROM THE EPA (T. JOHNSON - 2014)
  - ▶ EPRI-2019 CONVERSATION WITH EPA (L. NICHOLS-2019)
- 

# 1B. INSTRUMENT AIR

## POLICY MANUAL QUESTION 9.10 REQUIREMENT

“...the utility must document that the conditioned gas will not contain concentrations of other gases that interfere with instrument O<sub>2</sub> readings (a certification statement from the vendor of the gas scrubbing system or equipment will suffice). Also, in the QA/QC plan for the plant ... include routine maintenance and quality control procedures for ensuring that the instrument air continues to be properly cleaned.”

# CISCO'S FORMAL INQUIRY

- Ambient air is typically free of interferent gas concentrations that would affect O<sub>2</sub> measurements
  1. Instrument air devices dry and filter
  2. Provide local NAAQS documentation
  3. QA based on Manufacturer (e.g. GCH)
  4. Greatest interferent NO<sub>2</sub> would have to be at 100% (ambient NO<sub>2</sub> ppb)

**EPA'S  
FORMAL  
RESPONSE**

**SO FAR...NOTHING!**

Decorative white lines consisting of several parallel diagonal strokes in the bottom right corner of the slide.



## #2: FUTURE'S AFFECT ON THE PAST

RATA



CAL.

# EPA'S RESPONSE

1. IF CALIBRATION WAS AN ANOMALY...
2. IF THE RATA PAST REFERENCE METHOD...
3. IF REPEAT CALIBRATION DID NOT REQUIRE SIGNIFICANT CORRECTIVE MAINTENANCE...

MAYBE!...

A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the slide.



# #3: The Dirty Secret Behind Fuel Flowmeters

# MICROMOTION REFERENCE METERS

**Micro Motion, Inc.**

Mass Flowmeter Ca

**Product Code**

**Serial ID**

**Order**

F300S355CCAAEZAZX

14477633



10187

PUCK700

25728393



PER EPA STANDARD, CFR 40, PART 75, APPENDIX D, SECTION 2.1.5.2

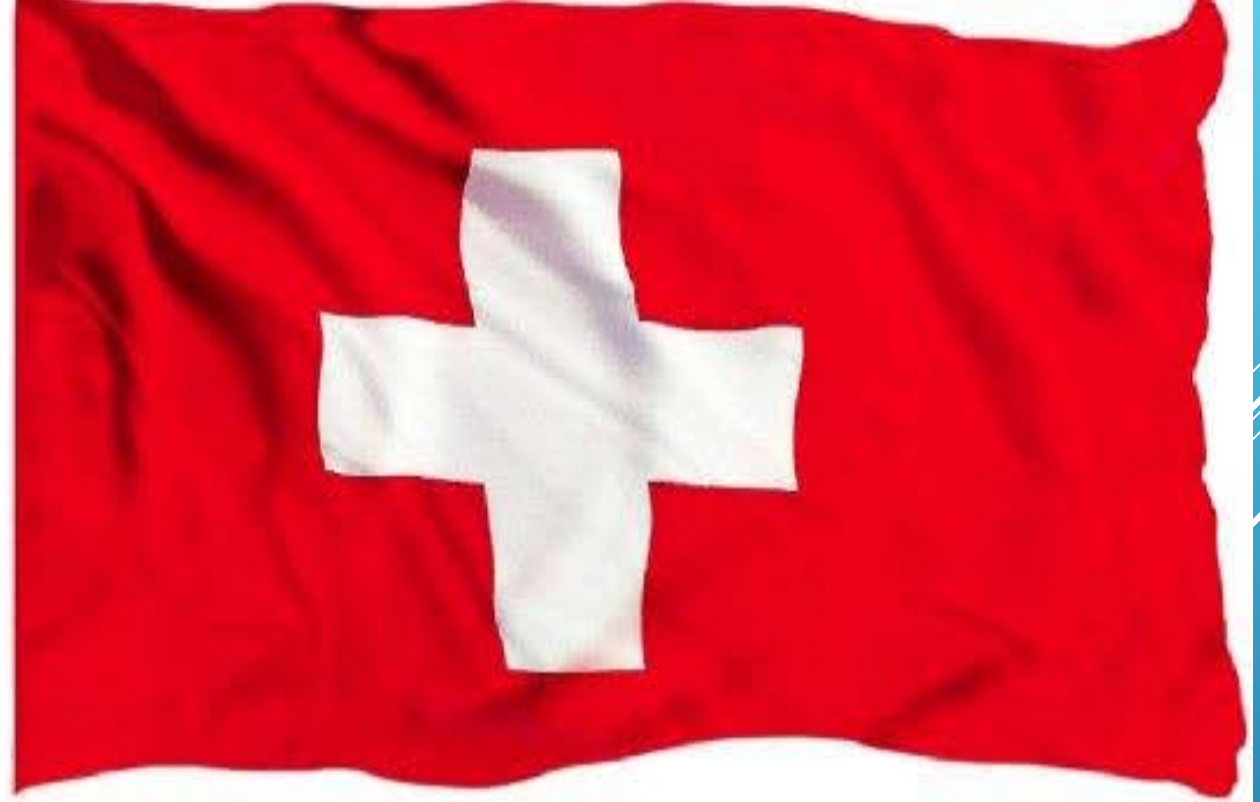
- ▶ CORIOLIS PETITON REQUIREMENT
  - ▶ MMI-Transfer Standard Method (TSM)  
(Petition)
- 

# ENDRESS & HAUSER PROMASS METERS



**ENDRESS & HAUSER**

**VS**

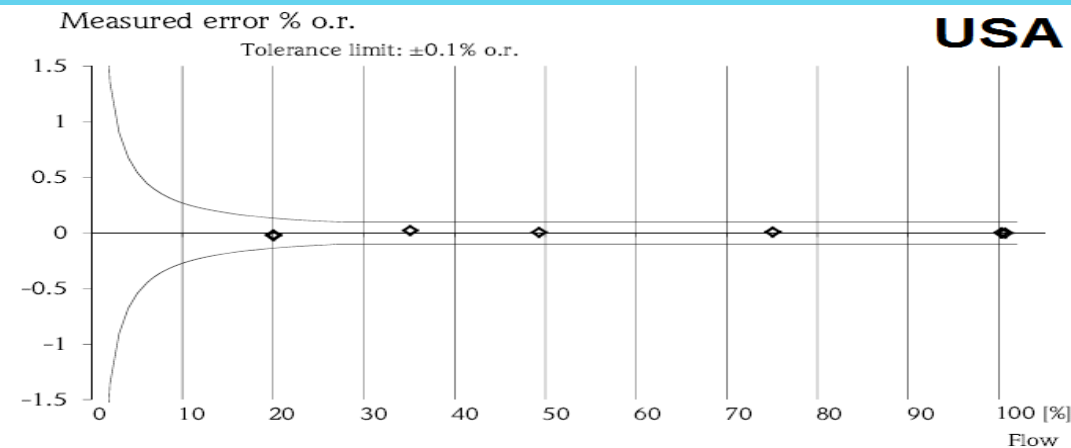


**ENDRESS & HAUSER**

Flow [%]	Flow [ton/h]	Duration [s]	m target [ton]	m meas. [ton]	$\Delta$ o.r.* [%]	Outp.** [mA]
20.0	26.048	30.3	0.21926	0.21921	-0.024	7.21
20.1	26.067	30.3	0.21931	0.21928	-0.017	7.21
35.1	45.632	30.3	0.38410	0.38419	0.023	9.62
49.3	64.098	30.3	0.53953	0.53956	0.006	11.89
75.1	97.634	30.3	0.82181	0.82188	0.009	16.02
100.3	130.434	30.3	1.0980	1.0980	0.002	20.05
100.7	130.941	30.3	1.1022	1.1022	0.001	20.12
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

\*o.r.: of reading

\*\*Calculated value (4 - 20 mA)



For detailed data concerning output specifications of the unit under test, see Technical Information (TI), chapter Performance characteristics.

Calibration **traceable to NIST**, has been completed on the instruments used in the equipment calibration process (see attached listing).

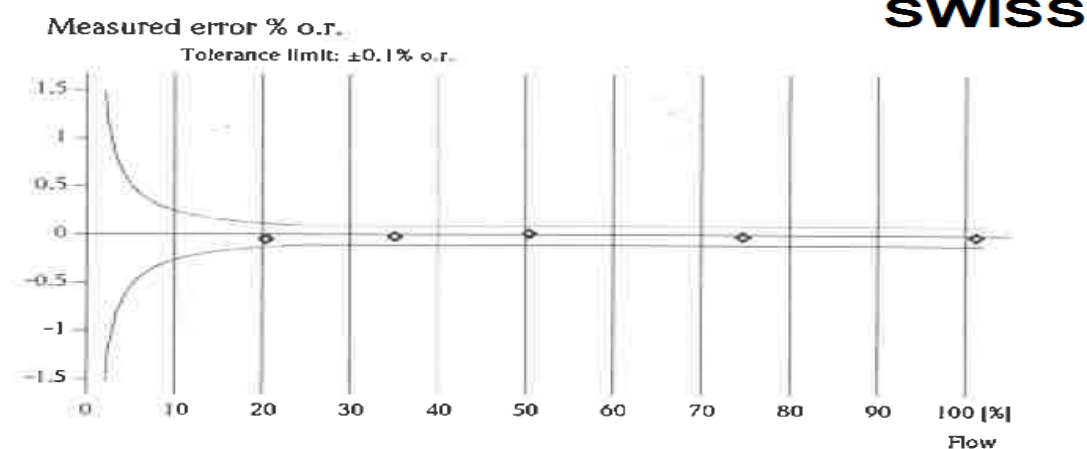
The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approx. 95%. The expanded uncertainty of measurement includes uncertainty components of the reference, the calibration method, the environment and of the device under test. A typical value is used for the uncertainty component of the device

**VS**

Flow [%]	Flow [t/h]	Duration [s]	m target [t]	m meas. [t]	$\Delta$ o.r.* [%]	Outp.** [mA]
20.1	26.104	60.2	0.43646	0.43629	-0.04	7.21
34.9	45.312	35.2	0.44294	0.44287	-0.01	9.58
50.2	65.305	30.2	0.54770	0.54779	0.02	12.04
74.6	96.936	30.2	0.81333	0.81324	-0.01	15.93
101.1	131.435	30.2	1.1027	1.1026	-0.01	20.18
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

\*o.r.: of reading

\*\*Calculated value (4 - 20 mA)



For detailed data concerning output specifications of the unit under test, see Technical Information (TI), chapter Performance characteristics.

**Traceability to the national standard** for all test instruments used for the calibration is guaranteed.

Endress+Hauser Flowtec operates **ISO/IEC 17025** accredited calibration facilities in Reinach (CH), Cernay (FR), Greenwood (USA), Aurangabad (IN) and Suzhou (CN).

# #4: CONJUNCTIONS & REGULATORY FUNCTION



CONJUNCTION  
JUNCTION

WHAT'S YOUR  
FUNCTION?



# HOSTILITY TOWARD PADEP

**TABLE II**

**Specifications for Sulfur Dioxide and Nitrogen Oxides Monitors**

	<u>PARAMETER</u>	<u>SPECIFICATION</u>
Perform.	Relative accuracy-in terms of standard either (% of reference method) .....	++ 20.0 maximum*
NO!!!!	or (% of lowest standard) .....	10.0 maximum*
	or (units of standard in ppm) .....	5.0 maximum*+
	or (units of standard in lbs/mm Btu) .....	0.02 maximum*+
	or (units of standard in % reduction) .....	2.0 maximum*+
	or (units of standard in lbs/hr) .....	5.0 maximum*+
YES	Linearity (% of actual concentration) .....	5.0 maximum++ 1*
	or (abs ppm) .....	5.0 maximum*+,++ 1*
	or (units of standard in ppm) .....	5.0 maximum*+
	or (units of standard in lbs/mm Btu) .....	0.02 maximum*+
	or (units of standard in % reduction) .....	2.0 maximum*+
YES	Linearity (% of actual concentration) .....	5.0 maximum++
	or (abs ppm) .....	5.0 maximum*+,++
	or (units of standard in ppm) .....	5.0 maximum*+
	or (units of standard in lbs/mm Btu) .....	0.02 maximum*+
	or (units of standard in % reduction) .....	2.0 maximum*+
2	Zero calibration error (% of lowest monitored emission standard equivalent for range as determined during Phase I) .....	+++ 5.0 maximum
	YES or (ppm) .....	2.0 maximum
	YES or .....	as specified in applicable Federal regulations if more stringent in terms of units of measure

# #5: PADEP OPERATIONAL TEST PERIOD (OTP)

<u>PARAMETER</u>	<u>SPECIFICATION</u>
Operational test period (hours without corrective maintenance).....	168 minimum

- ▶ When does PADEP want the OTP performed?



- ▶ It seems that PADEP prefers to see the OTP overlap with the 7-Day Calibration Error Test.

# #6: UNIT TRIPS DURING RATA

## Question 8.9

**Topic:** RATA Procedure

**Question:** Suppose that during the RATA we determine that there is a problem after three or four runs. May we continue the test without counting the three or four runs in the total runs for certification?

**Answer:** It depends on the nature of the problem. If the reason for discontinuing a RATA is unrelated to the performance of the CEMS being tested (e.g., problems with the reference method or with the affected unit(s)), any valid test runs that were completed prior to the occurrence of the problem may

Part 75 Emissions Monitoring Policy Manual – 2013  
8-5

## Section 8: Relative Accuracy

either be used as part of the official RATA or the runs may be disregarded and the RATA re-started. However, if a RATA is aborted due to a problem with the CEMS, the test is considered invalid and must be repeated. In such cases, none of the runs in the aborted test may be used as part of the official RATA and the aborted test may *not* be disregarded (since it affects data validation), but must be reported in the electronic quarterly report.

**References:** § 75.20(b)(3); Appendix A, Section 6.5.9; Appendix B, Section 2.3.2

**History:** First published in November 1993, Update #2; revised in October 1999 Revised Manual

# #7: 7-DAY CALIBRATION ERROR TEST

## UNIT OPERATING DAY

- “The calibration error tests **should** be approximately 24 hours apart, (unless the 7-day test is performed over nonconsecutive days).” – 40 CFR Part 75 Appendix A 6.3.1
- “*Should*” is used to indicate that a provision of this method is not mandatory, but is highly recommended as good practice. – 40 CFR Part 60 Test Method 2F
- The 24 hour separation is a recommendation not a requirement.
- EPA requires that the calibrations be performed while the unit is combusting fuel (but not necessarily generating electricity) once each day for 7 consecutive operating days
- *Unit operating day* means a calendar day in which a unit combusts any fuel. – §72.2
- Key point: Prioritize passing online calibrations each operating day.

# #8: 7-DAY CALIBRATION ERROR TEST WHEN THE UNIT TRIPS

- A day on which the unit combusts any fuel is a “Unit operating day” (§72.2).
- The 7-day test has to be done on 7 consecutive operating days. If an on-line calibration is missed on one of the 7 days because the unit trips at **any** time, the test must be re-started.
- Previous EPA guidance said that if the unit trips before calibration, then is brought up on a subsequent day and passes calibration without adjustments, the 7 day test would not need to be restarted. EPA states that since previous guidance was given in “good faith,” systems certified with the prior understanding do not go back and revisit the tests.



## #9: ALTERNATIVE CYCLE RESPONSE TIME: DOES ORDER MATTER?



- The Part 75 Policy Manual, Question 12.10, allows sites to perform an alternative cycle response time test in lieu of a full cycle time test to quality assure data after certain maintenance events.
- The test must be performed **exactly** in the order described in the Part 75 Policy Manual, Question 12.10, Addendum: Alternative Diagnostic Tests.

# #10: ROUNDING WHEN THE NUMBER DISCARDED IS FIVE FOLLOWED ONLY BY ZEROS

## Part 60

When the first digit discarded is exactly five, followed only by zeros, the last digit retained should be rounded upward if it's an odd number, but no adjustment made if it is an even number.

Example:

3.2500 rounds to 3.2

3.3500 rounds to 3.4

VS.

## Part 75

Use the standard arithmetic rounding convention where numbers five through nine round to the next highest number in the previous decimal position to the left.

Example:

3.2500 rounds to 3.3

3.3500 rounds to 3.4

# QUESTIONS?

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