



PC MACT Integration

October 2, 2014

Implementation Guide

- Process definitions
- Clinker production determination
- Daily calibration policy
- Calculation of hourly, daily and 30-day rolls
- Mercury and HCl “above span” rules
- Mercury CEMS QA discrepancies
- PM CMPS considerations
- D/F limits

Process Definition

- Startup – time from when a shutdown kiln starts the ID fan and begins combusting fuel in the main burner. Startup ends when feed is being continuously introduced into the kiln for at least 120 minutes or when the feed rate exceeds 60% of the kiln design limit rate.
- Shutdown – begins when feed to the kiln is halted and ends when the kiln stops rotating

Clinker Production

- Necessary for Mercury and possibly PM limits
- Options are:
 - Measure directly or
 - Measure kiln feed rate and apply a kiln specific feed-to-clinker ratio based on reconciled clinker production

Daily Calibration Policy

- Generally follow Part 60 Appendix F
 - OOC: 4 * PS immediately or 2 * PS for 5 days
 - Applies to all CEMS
- PM CMPS and stack flow have no defined OOC
- Opacity should now use Procedure 3

Hourly Validation / Average Creation

- Hourly averages:
 - Follow 63.8 in general provisions
 - Arithmetic average of all valid on-line readings
 - Considered SU/SD hour if at least one minute is in SU/SD
 - Hourly calculated averages derived from raw hourly averages
 - 63.1348(b)(1)(ii) changes when monitoring is required (i.e. downtime)

Averages, Cont.

- Operating Day - any 24-hour period in which the kiln operates for any time.
- 30-Day rolling average
 - Built from hours within last 30-KOD excluding hours of SU/Sd
 - Hg rolls follow Eq-10 rather than average of hours
 - Alkali bypass and coal mills have special weighting requirements

Mercury “Above Span”

- Required when readings are above certified span:
 - 2 consecutive valid hours
 - Inject concentration within 50 – 150% of reading
 - If check is > 20% of target need to normalise
 - Normalization is both +/- and applies to hourly data that is > span
 - Normalize data 24 hours before or after above span calibration

HCl “Above Span”

- Similar to Mercury except that:
 - Target must be within 50 – 100% of concentration
 - If hour is invalid during the above span calibration then we need to substitute
 - Required when 2 hours with 24-hr period not 2 consecutive

Ongoing Hg QA

- Follow Procedure 5
- Daily and RATA are clearly defined
- Weekly system integrity check
 - Required but no OOC defined
 - Single run vs. Three run
 - Proc 5 defined as % of span while everyone else is % of reference

Ongoing Hg QA, Cont.

- Quarterly Gas Audit (QGA)
 - Required quarterly except when RATA is done
 - Elemental audit followed by oxidized
 - Zero, Low and Mid gases
 - Calculations need to follow PS12A but...
 - P/F defined in PS12A is % of span while
 - P/F defined in Proc 5 is % of reference
 - Exceedingly long test and petition to get out

PM CPMS

- PM CEMS vs. PM CPMS
- PM CMPS have no defined ongoing QA and must simply follow site specific monitoring plan
- Analog mA vs. digital scale vs. other (i.e. backscatter)
- Limit is a SSOL weighted by mill on/off conditions
- Be sure to apply recommended best practices

D/F Compliance

- Usual 180-min rolling average using separate mill on/off limits
- However... 63.1346 contains additional operating limits for kilns
 - Separate D/F criteria allowing for 10% increase in limits when in SU/SD
 - Now require a 180 min weighted rolling limit
- Sorbent injection – monitor injection rate
- Carbon injection – monitor carrier gas or pressure drop

Questions ?

