

California Regulation for the
Mandatory Reporting of Greenhouse Gas Emissions

**Cement Plants
2012 GHG Reporting**

March 13, 2013

Presentation Slides Available

<http://www.arb.ca.gov/cc/reporting/ghg-rep/guidance/guidance-training.htm>

Outline

- Emissions Data
 - De Minimis
 - CEMS
 - Reporting Biogenic Emissions
 - GHG Monitoring Plan
- Product Data
 - Correctable Errors
 - Revisions to Material Misstatement Calculation
 - Guidance Document for Reporting Options

De Minimis Emissions

- Used to report small quantities of emissions
 - Upload to **NEW** Cal e-GGRT spreadsheet in Tool
- Verifier confirms estimate is reasonable and is <20,000 MT CO₂e and <3% of total emissions
- Sometimes for CH₄ and N₂O if CEMS is used
- May not be used for product data reporting

CEMS – Reporting CH₄ and N₂O

- All fuel amounts consumed must be reported, even if CEMS is used to report CO₂ emissions

CEMENT KILN SUMMARY (Cement kilns monitored by CEMS)

Name/ID	Status ¹	Delete
cems1	Complete	OPEN ✖

+ ADD a Cement Kiln Monitored by CEMS

CEMS MONITORING EMISSIONS DATA

CML Name/Identifier	CML Configuration	Monitored Unit(s)	Total CO ₂ emissions (metric tons)	Status	Delete
stack1	Single process/process unit exhausts to dedicated stack	cems1	400	Complete	✖

+ ADD a CEMS Monitoring Location

1. Add a monitoring location
2. Add a fuel to report CH₄ and N₂O and fuel consumed

ANNUAL CH₄ AND N₂O EMISSIONS USING EQUATION C-10

Fuel	CH ₄ Calculated Result (metric tons)	CO ₂ e of CH ₄ (metric tons)	N ₂ O Calculated Result (metric tons)	CO ₂ e of N ₂ O (metric tons)	Status	Delete
Tires	0.24	5.0	0.032	9.8	Complete	✖
Natural Gas (Weighted U.S. Average)	0.01	0.2	0.001	0.3	Complete	✖

+ ADD a Fuel

CEMS - Biogenic Sampling

- (1) If combusting biomass fuels, CEMS must be used with accurate and representative quarterly biogenic stack sampling (ASTM methods) to determine biogenic fraction
 - Relieves requirement for fuel measurement accuracy
- (2) Alternatively, quantities of biomass fuels combusted must be measured directly and accurately
 - Needed to subtract exempt fuels from total emissions when determining what emissions are “covered”
- If quarterly biogenic sampling is not representative and amount of exempt fuel is not accurately known, all emissions are covered (with a compliance obligation)
 - i.e. use (1) or (2); if you can't use either, all emissions are assumed to be fossil (covered emissions)

Correctable Errors Must be Fixed

- All correctable errors must be fixed
- For “covered emissions” or “covered product data” not fixing correctable errors triggers **adverse** verification statement (§95131(b)(9))
- For all other data, not correcting triggers a non-conformance and **may** trigger an **adverse** verification statement
- Any disagreement regarding what is “correctable” contact ARB immediately

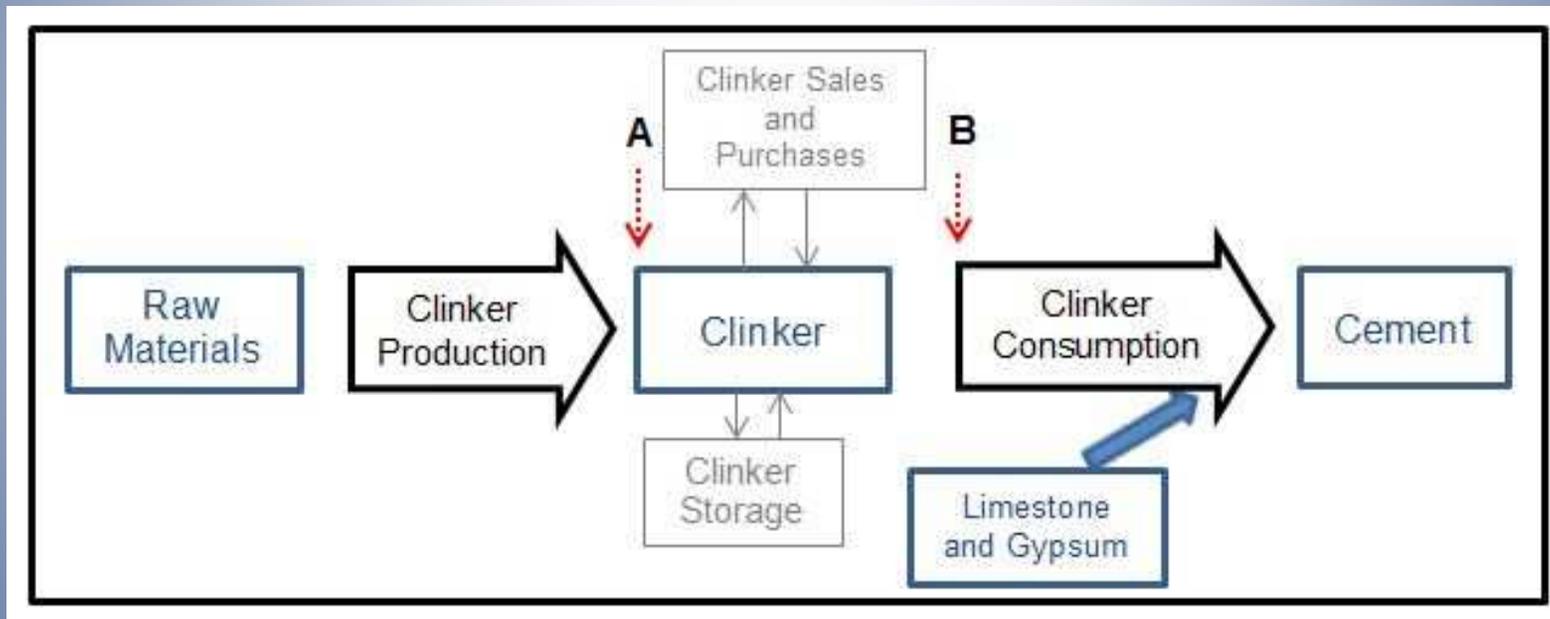
GHG Monitoring Plan

- Required by 95105(c) and includes written procedures, explanations, and equations specific to facility
- Provide plan to verification body early
 - Used to document that facility data systems and methods are complete and accurate
- Verifiers confirm that reporters have a clear understanding of the reported emission sources
 - Knowledge of data quality procedures is important
 - Use and update your plan (as needed) when explaining procedures to verifier
 - Simple drawings and schema are useful

Cement Product Data Reporting

Guidance for Product Data

- Covered product data includes clinker produced, clinker consumed, limestone and gypsum consumed for blending



- Measurement point A: Clinker produced
- Measurement point B: Clinker consumed

Accuracy of Covered Product Data

- Covered product data is sum of:
Clinker Produced + Clinker Consumed + Limestone
+ Gypsum Consumed for Blending
 - Because of smaller quantities used, limestone and gypsum likely do not have to be accurate for the total product data sum to still be $\pm 5\%$ accurate
 - However, any single product that is not accurate is a non-conformance
 - If total covered products are accurate, but a single product is not, this results in a **qualified positive** verification statement
 - Material misstatement is only triggered if overall sum is not within $\pm 5\%$ accuracy
 - Results in **adverse** product verification statement

Product Data Reporting Examples

- Following are two examples for reporting covered product data (next 2 slides)
- Annual data must be accurate
 - Monthly data can provide additional support on accuracy, but only annual data must be accurate
 - Verifiers will scrutinize entire process to determine conformance with regulation
 - During verification meetings, be prepared with all staff necessary to explain process

Product Data Reporting Examples

Example 1

- Directly measure products using accurate and calibrated truck scales, weigh feeders, and belt scales or other meters
 - Other inventory measurements using tank drop and pile surveys must still be accurate ($\pm 5\%$)
- Good option for cement plants if measurement equipment is robust and appropriate

Product Data Reporting Examples

Example 2

- Use cement sales and analysis data to back-calculate “covered products”
- Adjust for beginning and ending inventory to ensure only products that are produced are reported
 - Regulation intent was to report only amount produced during reporting year
 - If inventory adjustment is small, does not need to be highly accurate (most of the annual data is from truck scales, which are assumed to be accurate)
- Tie-in to financial data

Tips for Successful Verification

- Correctable Errors must be fixed
- “Covered Emissions” and “Covered Product Data” (totals) must meet accuracy requirements
- If verifier and reporter disagree on requirements, always contact ARB for assistance
- Maintain all ARB clarifications in GHG Monitoring Plan

Resources

Verification Guidance Materials

- Includes check-lists and other resources used by verifiers during verification
- Identifies key data needed for successful verification and compliance with the regulation
- To be posted here (in March):
<http://www.arb.ca.gov/cc/reporting/ghg-ver/ghg-ver.htm>

Key Reporting Dates

Date	Activity
February 1	Regulatory deadline: Due date for electric power entities to register specified facilities outside California
February 13	Public release of Cal e-GGRT
April 10	Regulatory deadline: Reporting deadline for facilities and suppliers of fuels and carbon dioxide, except when subject to abbreviated reporting
June 3	Regulatory deadline: Reporting deadline for electric power entities and those subject to abbreviated reporting
July 15	Regulatory deadline: Deadline for corrections to RPS Adjustment data required for electric power entity data reports
September 3	Regulatory deadline: Final verification statements due (emissions data and product data)

GHG Reporting Contacts

Subject Matter	Contact
GHG Mandatory Reporting (General)	Dave Edwards , Manager 916.323.4887
Reporting Requirements, Stationary Combustion, Other Sectors (cement, glass, pulp and paper, etc.)	Patrick Gaffney 916.322.7303
Reporting Tool Registration and General Questions	Karen Lutter 916.322.8620
Verification of Cement Plants	Chris Halm 916.323.4865
Greenhouse Gas Report Verification	Renee Lawver , Manager 916.322.7062
Chief – Greenhouse Gas Emission Inventory Branch	Richard Bode , Chief 916.323-8413