

California Global Warming Solutions Act of 2006

# **California Mandatory GHG Emissions Reporting and Verification Webinar**

**1<sup>st</sup> half: GHG Emissions Reporting and Data Updates**

**2<sup>nd</sup> half: GHG Emissions Verification**

**California Air Resources Board**

September 10, 2009

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

# GHG Reporting - Overview

- Public Release of GHG Emissions Data
- Completing Reporting
- Modifying Certified Data

# Public Release of Reported GHG Emissions Data

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- Reported GHG summary emissions data will be released to the public September 16th
- Emissions summary will be provided at the facility and power entity level via web
  - Summary spreadsheet of all facilities/entities
  - Public can run “public report” function by facility/entity
- Facilities or entities that claimed confidential data will be contacted if access to non-emissions data is requested

# Public Release of Reported GHG Emissions Data (2)

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- Check accuracy of data
- Ensure completeness of data
- Certify data submissions
- Only facility name information will be provided for incomplete facilities or entities until reporting complete

# Public Facility Report: Page 1

## The California GHG Emissions Reporting Tool



### Facility Emissions Public Report

(Public)

08/24/2009 09:35:41

#### Facility Information: Reports Test Facility

Facility Name	Reports Test Facility
ARB ID	444222
Primary Sector	General Stationary Combustion
Secondary Sectors	Cogeneration Facility, Electricity Generation
NAICS Code	33121 - Iron and Steel Pipe and Tube Manufacturing from Purchased Steel
Facility Description	Sample Description
Address	100 Physical Address Line 2 Charlottesville, California 66785 United States
Geographic Location	41.70853, -122.00000
Air Basin	NORTH COAST
District	NORTH COAST UNIFIED AQMD
County	Del Norte
Facility Contact	Reports A Tester
Contact Email	reportstester@yuiop.com
Contact Phone	434-979-3700
Reporting Year	2008
Reporting Period	01/01/2008 - 12/31/2008

**Overall Reporting Status:**

**Verification Ready**

# Public Facility Report: Pages 2 & 3

## The California GHG Emissions Reporting Tool

### Facility Emissions Public Report

(Public)

08/24/2009 09:35:42



California Environmental Protection Agency

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#### TOTAL EMISSIONS: Reports Test Facility

\* All Emission Values are Displayed in Metric Tons

CO2 Biomass values not included in the CO2 Eq. sum.

The summed values table includes emissions values reported for associated units.

Total Emissions Reporting Status:

**Verification Ready**

Summed Emissions Data	CO2 Eq.	CO2	CH4	N2O	CO2 Biomass	HFCs	SF6
Stationary Combustion	10,818,571	10,806,907.400	204.935	23.740	10.000	N/A	N/A
Process	319,389	9,899.000	20.000	997.000	0.000	N/A	N/A
Stationary Combustion and Process	11,137,960	10,816,806.400	N/A	N/A	10.000	N/A	N/A
Flares and Destruction (Refinery)	3,310	0.004	10.000	10.000	0.000	N/A	N/A
Fugitive	93,717	0.000	2,499.997	3.928	0.000	0.000	0.000
<b>TOTAL SUMMED EMISSIONS</b>	<b>11,218,594</b>	<b>10,840,413.404</b>	<b>2,734.932</b>	<b>1,034.668</b>	<b>10.000</b>	<b>0.000</b>	<b>0.000</b>

Supplemental Emissions	CO2 Eq.	CO2	CH4	N2O	CO2 Biomass	HFCs	SF6
Stationary Combustion	496	492.628	0.050	0.008	0.000	N/A	N/A
Process	100	100.000	0.000	0.000	0.000	N/A	N/A
Stationary Combustion and Process	596	592.628	N/A	N/A	0.000	N/A	N/A
Flares and Destruction (Refinery)	16,550	0.002	50.000	50.000	0.000	N/A	N/A
Fugitive	1,316	0.000	62.375	0.020	0.000	0.000	0.000
<b>TOTAL SUPPLEMENTAL EMISSIONS</b>	<b>18,962</b>	<b>1,092.630</b>	<b>112.425</b>	<b>50.027</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

Optional Emissions	CO2 Eq.	CO2	CH4	N2O	CO2 Biomass
Stationary Combustion	0	0.000	0.000	0.000	0.000
Process	0	0.000	0.000	0.000	0.000
Stationary Combustion and Process	0	0.000	0.000	0.000	0.000
Flares and Destruction (Refinery)	0	0.000	0.000	0.000	0.000
Fugitive	0	0.000	0.000	0.000	0.000
Optional (Mobile)	3,994	21.720	12.000	12.000	0.000
Portable Equipment	341	10.000	1.000	1.000	0.000
<b>TOTAL OPTIONAL EMISSIONS</b>	<b>4,335</b>	<b>31.720</b>	<b>13.000</b>	<b>13.000</b>	<b>0.000</b>

#### The California GHG Emissions Reporting Tool

#### Facility Emissions Public Report

(Public)

08/24/2009 09:35:42

De minimis Emissions	Value (metric tons)
Total Summed CO2 eq.	11,218,594
Total De minimis Emissions	1,000
Percent of Total	0.009%
3% Threshold	336,558
Value Threshold	20,000

#### VERIFICATION INFORMATION: Reports Test Facility

Verification Body Name	Sample Verification Body Name
Verification Body Address	4569 South Street Sacramento, CA 95812 United States
Verification Finding	No Finding

# Public Entity Report: Pages 1 & 2

## The California GHG Emissions Reporting Tool

### Power Entity Emissions Public Report

(Public) 08/19/2009 14:48:36

#### Power Entity Information: Reports Test Entity

Power Entity Name: Reports Test Entity  
 ARB ID: 8888  
 Entity Address: 123 South Street  
 Beverly Hills, California 90210  
 United States  
 Entity Website: reports\_test\_entity.com  
 Primary Entity Type: Multijurisdictional Retail Provider  
 Secondary Entity Type: Asset Owning/Controlling Supplier  
 NAICS Code: 2211 - Electric Power Generation, Transmission and Distribution  
 Description: Reports Test Entity Description  
 Contact Person: Amy Adams  
 Contact Email: amy@adams.com  
 Contact Phone: 1234567  
 Reporting Year: 2008  
 Reporting Period: 01/01/2008 - 12/31/2008

**Overall Reporting Status: Verification Ready**



## The California GHG Emissions Reporting Tool

### Power Entity Emissions Public Report

(Public) 08/19/2009 14:48:36

#### TOTAL EMISSIONS: Reports Test Entity

**Total Emissions Reporting Status: Verification Ready**

\* All Emission Values are Displayed in Metric Tons

Category	CO2eq	SO2
<b>Summed</b>		
Fugitive	47,800	2,000
<b>Supplemental</b>		
Fugitive	262,900	11,000
<b>Optional</b>		
Fugitive	286,800	12,000

#### TOTAL POWER TRANSACTIONS: Reports Test Entity

**Power Transactions Reporting Status: Verification Ready**

##### Summary

Wholesale Power Transactions	Transaction Value (MWh)
Imported to CA	0
Imported to CA (FPOD)	0
Imported to CA (not FPOD)	0
Imported to CA (Renewables Only)	0
Imported to CA from Specified Sources	0
Imported to CA from Unspecified Sources	0
Exported from CA	0
Purchased/Taken from CA	136
Purchased/Taken not from CA	136
Purchased/Taken from CA (Renewables Only)	0
Purchased/Taken not from CA (Renewables Only)	0
Purchased/Taken from Specified Sources	90
Purchased/Taken from Unspecified Sources	182
Purchased/Taken Designated to Native Load	88
AOCS Purchased	800
Total Purchased/Taken	1,072



# Public Entity Report: Page 3

## The California GHG Emissions Reporting Tool

### Power Entity Emissions Public Report

(Public) 08/19/2009 14:48:36

Sold to CA	36
Sold to CA (FPOD)	14
Sold to CA (not FPOD)	22
Sold not to CA	21
Sold to CA (Renewables Only)	0
Sold not to CA (Renewables Only)	0
Sold from Specified Sources	16
Sold from Unspecified Sources	41
AOCs Sold	800
Total Sold	857

#### Power Wheeled Data Transaction Value (MWh)

Wheeled through CA	10
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#### Retail Sales Data Transaction Value (MWh)

California Total Sales	10
Electrification Sales Subset (Optional)	5
Renewable Energy Program Sales (Optional)	5
Service Territory Total Sales	20

#### VERIFICATION INFORMATION: Reports Test Entity

Verification Body Name	Sample Verification Body Name
Verification Body Address	4569 South Street Sacramento, CA 95812 United States
Verification Finding	No Finding



# Confidential Information

- Non-emissions information may be considered a trade secret
- Reporting tool provides the opportunity to make that claim
  - Checkbox under the “Entity Details” or “Facility Details” tab
- You should have checked the “Preferred Confidential” box if you believe release of non-emissions data is confidential business information

# Completing Reporting

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- The deadline was June 1<sup>st</sup>
- Most facilities and entities have completed reporting
- If you need help completing a report, contact us at
  - [ghgreport@arb.ca.gov](mailto:ghgreport@arb.ca.gov)
  - <http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-contacts.htm>
- Certify submissions to complete reporting

# Deadlines for Reporting

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- 2009: Must report 2008 emissions in 2009
  - Reports were due June 1, 2009
  - Verification is optional, reporting is mandatory
- 2010: Must report 2009 emissions in 2010
  - Emissions data report must meet full requirements of the regulation
  - Monitoring equipment and procedures should have been in place by January 1, 2009
  - Reports due April 1 or June 1, depending on sector
  - Verification is required

# Help Documents

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- Stepwise Reporting Tool Guidance

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

- Guidance Documents for questions about calculating GHG emissions

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

- Reporting Requirements Summary Slides

- <http://www.arb.ca.gov/cc/ccei/meetings/meetings.htm>

- Regulation and Staff Report

(includes Regulation and other materials):

- <http://www.arb.ca.gov/regact/2007/GHG2007/GHG2007.htm>

# Modifying Certified Data

# Certify Your Data

- If you have not completed reporting, finish and certify your data as soon as possible
- Still-uncertified reports are in violation of the regulatory reporting deadline
- Instructions for certification are here:
  - <http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-tool.htm> See:
  - “Completing Mandatory GHG Reporting”
  - “Certifying Your Report for Submittal”

# Add Physical Address Info

- Please add “Physical Address” to facility data under the “Addresses” tab
  - Add physical address even if it is identical to the mailing address
- Add County, Air District, Air Basin data under the “Geographic Location” tab
- New QA checks require these entries

# GHG Reports & Export Functions

## ■ Printed Reports Function Within Tool

- Access via “Report” link in blue bar on top of page
- Provides emissions summaries and detailed report output
- Helpful for reviewing data
- Output to pdf, Excel, or csv file
- Do not submit output to ARB – Certified data in the tool is your submittal

## ■ Export Data Function Within Tool

- Export data in grids to Excel
- Helpful if many records are entered

# Modifying Certified Data

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- Strongly recommend making updates by December 1, 2009
- Steps for Updating Data
  - Unlock data (may require ARB assistance)
  - Make revisions
  - Recertify data
- For data set to “Revisions Requested” status
  - Data is still locked; manager needs to unlock it
  - Add physical address and air district information first, if needed
  - Make revisions and recertify

# Overview

## Unlocking Data for Editing

- Overview instructions provided for reference
- Detailed Step-By-Step instructions are here:
  - [http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg\\_cert\\_unlock\\_del.doc](http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg_cert_unlock_del.doc)
- Previous detailed slide-shows here:
  - <http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-tool.htm> (see right of web page for slides)

# Unlocking Data Not In “Verification Ready” Status

- A Facility Manager can unlock data if it is not “Verification Ready”
- To check the submission status, go to your Facility Information tab and click on “Facility and Unit Submissions” tab
- Check the Submission Status
- Contact ARB for help unlocking “Verification Ready” data

# Unlocking Submissions (Part 1)

- Ensure that you have entered facility physical address info and county/air basin/air district info for the facility
  - Newly added QA checks require this data to be entered prior to unlocking data
  - Enter physical address even if is identical to mailing address
  - Instructions are here: [http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg\\_cert\\_unlock\\_del.doc](http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg_cert_unlock_del.doc)
- On the top blue bar, hover over “Annual Reporting”
  - Select “Certify or Unlock Annual Data”
- Click on the Submission you want to unlock
  - Click Continue at bottom of page

# Unlocking Submissions (Part 2)

## ■ View QA Checks

- Click Continue at bottom of page

## ■ See Submission Data

- Scroll to bottom of screen

## ■ Select status of “Unverified Preliminary Data”

- Enter your login password
- Click on Submit to complete unlocking
- When you return to your facility page the status display is updated

## ■ Step-By-Step instructions are here:

- [http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg\\_cert\\_unlock\\_del.doc](http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg_cert_unlock_del.doc)

# Unlocking “Verification Ready” Data Submissions for Editing

- Contact the ARB
  - [ghgreport@arb.ca.gov](mailto:ghgreport@arb.ca.gov)
  - <http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-contacts.htm>
- Staff will set the status to “Revisions Requested”
  - This sets the status for all facility submissions
- Facility manager sets status to “Unverified Preliminary Data”
  - See previous two slides

# Deleting Data and Submissions

- Functionality has been added to the tool to make deletion of data and submissions easier
- Only delete information incorrectly added during initial setup
- Can delete unused fuels, submissions, or generating units
- Submissions must have status of Unverified Preliminary Data before they can be deleted
  - See previous slides for changing status
- Detailed instructions here:
  - [http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg\\_cert\\_unlock\\_del.doc](http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg_cert_unlock_del.doc)

# Reporting and Data Update Questions?



# Verification

# GHG Verification - Overview

- What is it and Who is Involved?
- Timing and Options for Verification
- Steps for Choosing a Verification Body

## Questions

- Key Steps for Verifiers
- Verification Opinion
- Preparing for Verification

## Questions

# Verification - What is it?

- *Independent audit* of the emissions data report relative to a *standard* (regulatory requirement)
- Independent
  - 3<sup>rd</sup> party, truly independent
  - Conducted by ARB-accredited verifiers
- Audit
  - Objective assessment of the report
  - Is there reasonable assurance the emissions data report is accurate and conforms to the standard?
- Standard
  - ARB mandatory GHG reporting regulation  
(sections 95100 to 95133, title 17, CCR)

# Who is Involved

- Facility / Operator / Reporter
  - Contracts with verification body for verification services
- Verification Body (VB)
  - Chosen by reporter
- Verification Team
  - Chosen by VB
  - must include Lead Verifier and Independent Reviewer
  - Sector Specialist required for refineries, cement plants, and electricity transactions at power entities
  - may include Verifier, Subcontractor and (non-accredited) Technical Expert

# Verification Timing

- Verification optional in 2009 (for 2008 data)
- All facilities subject to verification in 2010 (for 2009 data)
- Annual verification required for:
  - refineries, hydrogen plants, electricity generators or cogens  $\geq 10\text{MW}$  and burning fossil fuels, retail providers, marketers, and oil & gas sector
- Verification required every 3 years for:
  - General stationary combustion facilities, cement plants, power generation  $<10\text{MW}$  or burning biomass or geothermal facilities

*Note: Full verification also required following an adverse verification opinion, or upon change in verifier*

# Verification Options in 2009 (for 2008 emissions data)

1. Verification optional in 2009  
(skip verification of 2008 data in 2009)
2. Informal verification - verification opinion not reported to ARB
3. Full verification of 2008 data in 2009

# Option #1

1. Verification optional in 2009  
(skip verification of 2008 data in 2009)
  - However, reporters do not need to wait until next reporting deadline to contract with a verifier
  - Consider hiring a verifier now to review 2009 data that is required to be verified in 2010
    - Site visit for 2009 report can commence anytime before verification opinion

# Option #2

## 2. Informal verification - verification opinion not reported to ARB

- Hire a consultant, or hire a verifier
  - Consultant can help you fix problem, but can't be your verifier
  - Verifier must remain independent and not act in a consulting capacity (verifier must change in 2010 if consulting is provided)
  - Verifier required to disclose relationship in 2010
- Some type of verification in 2009 may prevent problems in 2010
  - Verifier could find data problems that you could fix before:
    - Submitting your 2009 emissions data report to ARB
    - Collecting 2010 data

# Option #3

3. Full verification of 2008 data in 2009
  - Full verification required again in 2010
  - Need to decide soon to meet December 1, 2009 deadline
  - Positive verification opinion still possible in 2009 using 'best available' methods
  - Report must follow all regulatory requirements in 2010

# Steps for Choosing a Verification Body

(Verification Body = ARB-accredited private company or air district)

# Considerations when choosing a VB

- Reporter chooses an ARB-accredited verification body (VB)
- Verification team competency for facility
  - Reputation and experience in reporter's industry
- Contractual issues
  - Lowest price may not represent highest quality
    - Consider quality, rather than just cost
    - Request estimated work-hours (as well as cost) in proposals
    - If verifier cuts corners, verifier may lose accreditation and reporter would have to re-verify
  - Scope of work may need to expand if issues are identified
    - Contingency fees may be necessary

# Reporting Tool Access

- All verification bodies (VB) identified within the reporting tool and on verification web page <http://www.arb.ca.gov/cc/reporting/ghg-ver/ghg-ver.htm>
- Only lead verifier for a VB will have account
  - Read-only rights for reporter's data reports
  - Verifier may NOT change your data for you
- Lead verifier will submit verification opinion for reporter within the tool
- Reporter must associate with an ARB-accredited verification body within tool (see next 3 slides)

# Associating with a Verification Body Within Tool

- Associating with a Verification Body within the tool is nearly the same as adding a facility contact
- Step 1: Login to the tool, access your facility, and click on the “Verification Bodies” Tab
- Step 2: Click on the “Add Verification Body” button
- Step 3: Choose your verification body from the list and click on “Select”, and then confirm choice by clicking “Select” again

# Verification Bodies Tab

## Selecting a Verification Body

Verification Body Name	Verification Body Number	Begin Date
<input type="radio"/> <a href="#">Trusty Verifiers</a>	CARB-237	11/19/2008

Use the radio button to select a specific Verification Body. Then use the buttons below the grid to perform a specific action for the selected verification body.

[Add Verification Body](#) [End Relationship](#) [Show History](#)

Use these buttons to Add, End Relationship or Show Current/Historical Verification Relationships.

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 Logged in as Facility Manager (source)



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### Select Verification Body for Facility

Facility Name: ABC Facility  
 ARB ID: 123456

Use the filter criteria to refine your search.

[Search Existing Records ▶](#)

Use this page to associate a verification body to your facility. On the following page, you will be asked to confirm the facility-verification body relationship.

**Creating this relationship will grant the selected verification body read-access to your organization's data.**

Use the Search Existing Records block to refine your search.

#### Select Verification Body for Facility

	Verification Body Name	Verification Body Number
<input type="radio"/>	AAA Verification Co.	CARB-248
<input type="radio"/>	Hurst Associates	CARB-249
<input type="radio"/>	O' Dougherty Hicks and Fang	CARB-250
<input type="radio"/>	Olsen Forte LLC	CARB-251
<input type="radio"/>	Trusty Verifiers	CARB-252
<input type="radio"/>	...	CARB-253

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# Confirming Verification Body Selection



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## Confirm Facility - Verification Body Relationship

Confirm the entity-verification body relationship by clicking the Select button.

**Warning: Creating this relationship will grant the verification body read-access to your organization's data.**

Facility Name	ABC Facility
ARB ID	123456

Verifying Organization

Verification Body Name	Trusty Verifiers
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[Back](#) [Select](#) ← Click Select to confirm and continue.

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# Conflict of Interest (COI) Considerations

- VB reports potential for COI to ARB in standard form
  - VERIFIER MAY NOT HAVE PROVIDED SPECIFIED CONSULTING SERVICES TO OPERATOR IN LAST 3 YEARS
  - Conflict evaluated between facility (not corporation) and VB
  - If not reported, and then discovered, reporter would have to reverify and verifier may lose accreditation
- VB monitors emerging conflicts for 1 year after verification
  - Must notify ARB of potential conflicts as soon as they are known
  - If verifier provides consulting within 1 year, data must be reverified by a new VB
- VB rotation required after 6 years

# Questions about Verification Timing, Options, and Choosing a Verification Body



Submit your written questions via the  
webinar,  
or raise your 'electronic' hand

# Key Steps for Verifiers

# Overview of Verifier Activities

## ■ Contract Review

- Evaluates Conflict of Interest (COI)
- Submits Notice of Verification Services (NOVS) and COI form to ARB

## ■ Planning

- Develops verification plan
- Develops sampling plan

## ■ Core Verification Activities

- Conducts site visit
- Performs data checks
- Unlocks data report for modifications by reporter, if necessary

## ■ Finalization

- Requests independent technical review by other lead verifier
- Provides detailed verification report to reporter
- Provides verification opinion to reporter and ARB via Reporting Tool

# Key Verifier Tasks

- Check that all required emissions sources are reported
- Verify sector reporting requirements
  - Refineries subject to section 95113, General Stationary Combustion (GSC) facility subject to 95115, etc.
- Evaluate Materiality
  - Is the total reported facility emissions within 5% of the “true” value?
- Evaluate conformance
  - Fuel meter “fit-for-purpose” and meets 5% accuracy requirement
  - Correct emissions factors/equations used for calculations
  - Fuel sampling protocols

# Verification Plan



- Developed by verifier to serve as a roadmap for conducting the verification activities
- Shared with reporter and updated by verifier as needed
- Based on an initial review of the emissions data report, emission sources, etc.
- Includes:
  - Dates of proposed meetings, interviews & site visits
  - Types of proposed document & data reviews
  - Expected date for completion of verification

# Site Visit - what is it?

- Site visits required of every facility at least every 3 years
- May take a half-day to several days, depending on:
  - Complexity of facility
  - Organization of data and data collection procedures
- Verification team will likely have 2 verifiers for site visit
  - Complex sites may have a larger team of verifiers

# Site Visit - what to expect

## ■ Initial interview

- Verifier ensures reporter understands verification process and what will occur during site visit (schedule and expectations)

## ■ While on site, verifiers are required to:

- Ensure all specified emission sources have been reported during “walk-around”, review of process diagrams, etc.
- Understand and evaluate the data management systems used to track, quantify, and report GHG emissions
- Collect any other relevant information to the verification process (fuel meter installation & accuracy, etc.)

## ■ On-site exit interview

- Wrap-up loose ends, next steps, answer remaining questions
- Verifier may have identified issues that need to be addressed

# Verifier will Perform Data Checks



- Sources selected for data checks based on risk assessment conducted in the Sampling Plan
  - Ensures appropriate methodologies and emission factors used
  - Involves recalculating emissions to compare with reported data
- Verifiers use professional judgment regarding the quantity of data to check
- Data check documentation in final verification report

# Data Modifications/Updates

- Data changes before verification opinion
  - Very common informal back-and-forth between reporter and verifier
  - Verifier required to make reporter aware of data problems, but may not tell reporter exactly how to fix them
  - Verifier unlocks data, reporter makes changes, uploads new data, verification continues
  - If no verifier that year, email [ghgreport@arb.ca.gov](mailto:ghgreport@arb.ca.gov) to explain the need to unlock data for revision
- Data changes after positive verification opinion
  - If a mistake in GHG calculation is discovered after an opinion has been given, the reporter should make corrections and resubmit data
  - Requires re-verification

# Verification Report



- Describes the verification activities and outcomes
  - Sent to reporter
  - Available to ARB upon request
- Detailed verification report includes
  - Verification plan
  - Summary of data checks
  - Issues Log
    - Helps verifier track potential data problems and corrective actions
  - Qualifying comments and findings
    - Useful for the reporter to improve weaknesses in their GHG inventory program

# Verification Opinion

# Verification Opinion Based on Conformance and Materiality

- Verifier ensures that an operator's emission data report:
  1. Conforms to requirements of the regulation
  2. Is free of material misstatement (accurate within  $\pm 5\%$ )
- Failure to meet *either* of these criteria will result in an adverse verification opinion
- Opinion based on evidence in verification report

# Conformance

- Verifiers must evaluate whether the emissions data report conforms to the requirements of the regulation
- Relates to issues such as:
  - Emission factors
  - Calculation methods
  - Fuel meter accuracy
  - Data capture requirements
- For example,
  - Did you use the proper procedures, methods and emission factors to calculate GHG emissions?
  - Are fuel meters used to calculate GHGs accurate within 5%?
  - Have all required emission sources been reported?

# Materiality

- Based on the data checks by the verifier, and omissions and mistakes that haven't been fixed by the reporter
- When you add up all of the uncorrected omissions and mistakes in your calculations, do they represent more than 5% of the ***total*** reported emissions?
  - Not evaluated on individual sources
    - Misstatements in individual sources are allowed as long as the sum of all errors is within +/-5% of reported emissions
  - ARB encourages all errors to be corrected to have the most accurate reported data

# Verification Opinion

## ■ Positive opinion

- Emissions report conforms to regulation
- No material misstatement in emissions data



## ■ Adverse opinion

### ■ Either

- Non-conformance and material misstatement
- Non-conformance and no material misstatement
- Conformance and material misstatement



# Verification Opinion (2)

- Verifiers are ***not*** paid to render a positive opinion
  - their job is to impartially assess materiality and conformance
- Many issues affecting materiality and conformance can be corrected to avoid an adverse opinion
  - Verifier must give reporter at least 10 days to correct issues before issuing an adverse opinion
- Sometimes an adverse opinion cannot be avoided
  - Examples include fuel meter that is not accurate within 5%, or >20% missing data for a source
- ARB arbitrates and has final say if there is a dispute between reporter and verifier over an adverse verification opinion

# Preparing for Verification

# What is the Verifier Looking For



- Documented GHG inventory program
  - What and where is the data, who collects it and how...
- Description of internal audit (QA/QC) processes
  - Month-by-month data comparisons, spot checks, team review...
- Clear documentation of data and methods used in emissions calculations

# Information/Data Requests from Verifier

- Verifier will likely request:
  - Data spreadsheets
  - Process diagram of all emissions sources and fuel meters
  - Data management system
    - Description & access to system with guidance on use
  - Instrument maintenance and calibration records (fuel meters)
  - Fuel purchase and metering data
  - Documentation of training for employees involved with fuel sampling methods
  - Internal QA/QC procedures
  - Change log describing all changes to methods/procedures for compiling GHG data
    - Required in regulation and very important to verifier

# Access to Information

- Operators are required to make available to the verifier:
  - all information/documentation used to develop the emissions data report, and
  - needed to verify conformance with the regulatory requirements
- Verifiers will develop sampling plans to identify what data they will request
- Verifiers will need access to appropriate staff while they are conducting site visits

# Next Steps

## ■ Reporters

- Decide which verification option is best for your facility
- Review list of verification bodies in reporting tool / web page  
<http://www.arb.ca.gov/cc/reporting/ghg-ver/ghg-ver.htm>

## ■ Verification Bodies

- Organize verification teams and respond to proposals

## ■ ARB Staff

- Accredite verifiers and VBs
- Work with reporters to complete their emissions reporting
- Review Conflict of Interest submittals
- Audit emissions data reports and verification reports
- Audit verifier performance to ensure verification services are conducted properly and fairly
- ARB staff enforces regulation and investigates non-conformances

# Reporting Staff Contacts

General Email for Reporting Questions

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GHG Mandatory Reporting Website

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

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# Questions?

