

California Global Warming Solutions Act of 2006

California Mandatory GHG Emissions Reporting and Verification Webinar

1st half: GHG Emissions Reporting and Data Updates
2nd half: GHG Emissions Verification

California Air Resources Board
September 10, 2009
<http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep.htm>

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GHG Reporting - Overview

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

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Public Release of Reported GHG Emissions Data

- 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

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Public Release of Reported GHG Emissions Data (2)

- 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

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Public Facility Report: Page 1

The California GHG Emissions Reporting Tool
Facility Emissions Public Report
(Public) 06/24/2009 09:35:41

Facility Information: Reports Test Facility
Verification Ready

Facility Name	Reports Test Facility
ARS ID	44322
Primary Sector	General Stationary Combustion
Secondary Sectors	Co-generation Facility, Electricity Generation
NACE Code	33221 - Iron and Steel Pipe and Tube Manufacturing from Purchased Steel
Facility Description	Sample Description
Address	100 Physical Address L862 Chattanooga, California 94735 United States
Geographic Location	41.7053, -122.0000
All Basin	NORTH COAST
District	NORTH COAST_UNIFIED AQMD
County	Del Norte
Facility Contact	Reports A Team
Contact Email	reporting@ejgpa.com
Contact Phone	424-675-3700
Reporting Year	2008
Reporting Period	6/10/2008 - 12/31/2008

Overall Reporting Status: Verification Ready

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Public Facility Report: Pages 2 & 3

The California GHG Emissions Reporting Tool
Facility Emissions Public Report
(Public) 06/24/2009 09:35:41

TOTAL EMISSIONS: Reports Test Facility
Verification Ready

* All Emission Values are Displayed in Metric Tons
The reported values table includes emissions values reported for associated units. CO2 Emission values not included in the CO2 Eq. sum.

Total Emissions Reporting Status: Verification Ready

Reported Emission Data	CO2 Eq.	CO2	CH4	N2O	CO2 Emission	HCFCs	PFCs
Stationary Combustion	10,816,071	10,800,907,400	204,800	22,710	10,802	N/A	N/A
Process	210,365	3,669,000	20,000	997,000	0.000	N/A	N/A
Stationary Combustion and Process	11,026,436	14,470,000	N/A	N/A	10,802	N/A	N/A
Flares and Destruction (Wet/Dry)	3,310	0.004	10.000	10.000	0.000	N/A	N/A
Wastewater	10,414	0.000	2,499,897	10,400	0.000	0.000	0.000
TOTAL REPORTED EMISSIONS	11,040,165	18,869,411,404	2,514,810	1,534,600	10,802	0.000	0.000

Supplemental Emissions	CO2 Eq.	CO2	CH4	N2O	CO2 Emission	HCFCs	PFCs
Stationary Combustion	496	480,428	0.000	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	580,428	N/A	N/A	0.000	N/A	N/A
Flares and Destruction (Wet/Dry)	10,550	0.002	50.000	50.000	0.000	N/A	N/A
Wastewater	0.000	0.000	60,200	0.000	0.000	0.000	0.000
TOTAL SUPPLEMENTAL EMISSIONS	10,646	1,080,430	110,425	50,008	0.000	0.000	0.000

Optional Emissions	CO2 Eq.	CO2	CH4	N2O	CO2 Emission	HCFCs	PFCs
Stationary Combustion	0	0.000	0.000	0.000	0.000	N/A	N/A
Process	0	0.000	0.000	0.000	0.000	N/A	N/A
Stationary Combustion and Process	0	0.000	0.000	0.000	0.000	N/A	N/A
Flares and Destruction (Wet/Dry)	0	0.000	0.000	0.000	0.000	N/A	N/A
Wastewater	0	0.000	0.000	0.000	0.000	N/A	N/A
Optional Emissions	3,944	21,120	12,000	12,000	0.000	0.000	0.000
Portable Equipment	341	10,000	0.000	1.000	0.000	N/A	N/A
TOTAL OPTIONAL EMISSIONS	4,285	31,120	12,000	13,000	0.000	0.000	0.000

Modifying Certified Data

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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"

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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

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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

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Modifying Certified Data

- 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

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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
- Previous detailed slide-shows here:
 - <http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-tool.htm> (see right of web page for slides)

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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

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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
- 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

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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

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Unlocking “Verification Ready” Data Submissions for Editing

- Contact the ARB
 - 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

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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

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Reporting and Data Update Questions?



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Verification

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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

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Verification - What is it?

- *Independent audit* of the emissions data report relative to a *standard (regulatory requirement)*
- Independent
 - 3rd 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*)

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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

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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 ≥ 10 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 <10MW or burning biomass or geothermal facilities
- Note: Full verification also required following an adverse verification opinion, or upon change in verifier*

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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

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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

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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

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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

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Steps for Choosing a Verification Body

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

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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

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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)

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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

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Verification Bodies Tab

Selecting a Verification Body

The screenshot shows the 'Verification Bodies Tab' interface. At the top, there are navigation tabs: 'Facility Details', 'Facilities', 'Consent/Location', 'Permits', 'Assessment Data', 'Verification Bodies', and 'Reporting Activity'. The 'Verification Bodies' tab is active. Below the navigation, there are sections for 'Add Verification Body' and 'Select Verification Body for Facility'. The 'Select Verification Body for Facility' section includes a search box and a list of verification bodies with checkboxes. A 'Select' button is located at the bottom of the list.

Confirming Verification Body Selection

The screenshot shows the 'Confirm Facility - Verification Body Relationship' page. The page title is 'Confirm Facility - Verification Body Relationship'. Below the title, there is a confirmation message: 'Confirm the entity-verification body relationship by clicking the Select button. Warning: Changing this relationship will put the verification body back access to your organization's data.' The page displays the facility name 'ABC Facility' and the selected verification body 'Trust Indus'. A 'Select' button is visible at the bottom of the page.

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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

95131⁴⁰

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



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

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Key Steps for Verifiers

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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

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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

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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

95131(b)(1-3)⁴⁵

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

95131(b)(4)⁴⁶

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

95131(b)(4)⁴⁷

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

95131(b)(9)⁴⁸

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 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

95104(d)⁴⁹

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

95131(c)(2)⁵⁰

Verification Opinion

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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

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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?

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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 $\pm 5\%$ of reported emissions
 - ARB encourages all errors to be corrected to have the most accurate reported data

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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



95102(a) (113) and (135); 95131(e)(1) ⁵⁵

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

95102(a)(167) ⁵⁶

Preparing for Verification

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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

95104(b) and (c) ⁵⁸

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

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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

95131 ⁶⁰

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

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Reporting Staff Contacts

General Email for Reporting Questions
ghgreport@arb.ca.gov
GHG Mandatory Reporting Website
<http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep.htm>

General Reporting & GSCs, Patrick Gaffney

pgaffney@arb.ca.gov (916) 322-7303

Cogeneration, Renée Lawver

rlawver@arb.ca.gov (916) 323-0296

Cement, Michael Gabor

mgabor@arb.ca.gov (916) 324-1847

Refineries & Hydrogen Plants, Byard Mosher

bmosher@arb.ca.gov (916) 323-1185

Electric Power Sector, Pamela Burmich

pburmich@arb.ca.gov (916) 323-8475



Verification Staff Contacts

General Email for Verification Questions
ghgverify@arb.ca.gov
GHG Verification Website
<http://www.arb.ca.gov/cc/reporting/ghg-ver/ghg-ver.htm>

Suzanne Hambleton

916.323.2308 or shamblet@arb.ca.gov

Chris Halm

916.323.4865 or chalm@arb.ca.gov

Joelle Hulbert

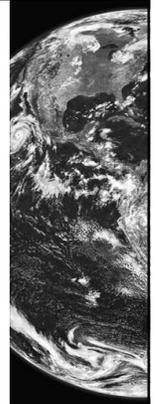
916.322.6349 or jhulbert@arb.ca.gov

Greg Mayeur

916.327.1095 or gmayeur@arb.ca.gov

Erik Winegar

916.324.0594 or ewinegar@arb.ca.gov



Reporting and Verification Manager Contacts

Richard Bode – Chief
Emissions Inventory Branch
rbode@arb.ca.gov
(916) 323-8413

Doug Thompson – Manager
Climate Change Reporting Section
dthompson@arb.ca.gov
(916) 322-7062

Rajinder Sahota – Manager
GHG Verification and Protocols Section
rsahota@arb.ca.gov
(916) 323-8503



Questions?



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