Verifying Mine Methane Capture Projects under the California Air Resources Board Compliance Offset Program

2014 U.S. Coal Mine Methane Conference
Pre Conference Workshop – California Air Resources Board (CARB) Mine Methane Capture (MMC) Protocol

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Overview

- Verification Timing
- ARB Verification Process Overview
- Important MMC Protocol Items
- Eligible Methane Sources
- Monitoring & Metering
- Successful Verifications
ARB Requirements

• Stay on top of ARB timing requirements – can be confusing
  • Offset Project Data Report (OPDR) must be submitted within 4 months of the end of the reporting period (RP)
    • Based on the RP noted on the Listing form (no matter if the RP ends up changing)
  • Verification cannot initiate until the RP is closed
  • Verifier must submit the Notice of Offset Verification Services (NOVS) at least 30 calendar days prior to the start of verification activities
  • OPDR must be submitted prior to the site visit occurring
  • Verifier must submit the verification report and statement to the OPR within 11 months of the end of the RP
## ARB Timing Requirements

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ARB Verification Timeline

• Thus far, verifications under ARB have taken longer than under voluntary programs – Why?
  • NOVS submittal – must be 30 calendar days before you can even start the verification
  • The time needed for verification activities (sampling, site visit, etc.) has been similar to voluntary programs, but Verification Report is much more detailed
    • Can last for two months to six months based on how well a project is organized and how many issues arise
  • Under voluntary programs, once the verification was completed, OPOs could expect a review by the program and credits in their account usually within 4 weeks
    • Now, this final step of OPR and ARB review is taking 2-4 months
Verification Process

- Pre-engagement with Offset Project Operator (OPO)
  - Agree on scope, cost, and preliminary schedule
  - Sign verification services agreement
  - Verification body submit NOVS and conflict of interest (COI) form to offset project registry (OPR) and ARB
- Opening meeting
  - Introductions, discuss verification components, finalize schedule
- Risk Assessment
  - Determine the emission sources by rank
  - Focus on emission sources that contribute the greatest percentage of total emission reductions
  - Determine other areas of risk (eligibility, quantification, regulatory compliance, etc.)
Verification Process

- **Site Visit - Specific requirements for site visit in ARB regulation**
  - Physically inspect all sources, sinks and reservoirs included in the project boundary
  - Review data and calculations
  - Review data handling process and procedures
  - Discuss other protocol requirements
  - Review OPDR submitted by OPO

- **Desktop Sampling**
  - Review of majority of data and Protocol required documents
  - Recalculate emission reductions and compare to offset project operator’s calculations

- **Issue Findings**
  - Provide a list of corrective actions, additional document requests and clarifications for the OPO to address
  - Non-material items cannot be ignored
Verification Process

• Draft Verification Report / Statement
  • Report describes the entire verification process and how the project has conformed to the applicable requirements
    • ~25-35 pages
  • Statement is a public document listing the total emission reductions and the verification body’s opinion

• Closing Meeting
  • Verification body and OPO review final report and statement
  • Provide feedback on recommendations for improvement

• Upload verification documents to the OPR
• Respond to any OPR and/or ARB comments
OPR and ARB Review

• OPR has 45 calendar days to review
  • If OPR denies credit issuance, OPO can appeal within 10 days of decision and provide additional information
  • OPR then has an additional 30 calendar days to make decision

• ARB then has 45 calendar days to review upon receiving “complete and accurate information”
  • If ARB denies credit issuance, OPO can appeal within 10 days of decision and provide additional information
  • ARB then has additional 30 calendar days to make decision
  • Key difference b/t OPR and ARB is the “complete and accurate information” – if ARB asks the verification company or OPO for more information, it resets the 45 day clock
Important MMC Protocol Items - 1

• Project Listing requirements (Section 7.1)
  • OPO/APD must submit 36 items listed in 7.1.(b)
  • Items worth noting...
    • (13) Documentation showing the Offset Project Operator’s legal authority to implement the offset project
      – Gas rights, coal lease, mine permit
    • (18) MSHA classification (C) active or abandoned (no intermittent)
      – Issue with “non producing” mines
    • (29) Describe any mine methane destruction occurring at the mine prior to the offset project commencement date
      – Non-qualifying devices
    • (34-36) Mine maps, lease boundaries, locations of shafts, wells, boreholes, location of equipment, etc.
Important MMC Protocol Items - 2

• Section 7.2 – OPDR
  • (7) and (8) Reporting Period and Start Date
  • All projects
    • Weighted average of methane for the RP, volume of mine gas sent to the destruction devices (qualifying and non-qualifying), site specific destruction efficiencies if used, quantities of electricity / heat / fossil fuels used to accomplish destruction of mine gas that are additional to the baseline
  • (13) VAM Projects
    • Hourly average flow rate of VAM and cooling air sent to destruction device, hours during which the destruction device was operational during the reporting period, volume of supplemental mine gas
  • (14) & (15) Active Underground and Surface Mines
    • Pre-mining surface wells mined through during the project
  • (16) Abandoned Mines
    • For multiple mines involved in an AMM Project, items marked with an asterisk in section 7.2b must be provided for each mine
Important MMC Protocol Items - 3

• **Regulatory Compliance**
  - The project is out of regulatory compliance if the project activities *were subject to enforcement action* by a regulatory oversight body during the Reporting Period.
  - An offset project is not eligible to receive ARB or registry offset credits for GHG reductions or GHG removal enhancements *for the entire Reporting Period* if the offset project is not in compliance with regulatory requirements directly applicable to the offset project during the Reporting Period.

• Compliance with Mine Safety & Health Administration
  - 80,000 citations issued at coal mines in 2012
  - Currently $70 million dollars in delinquent penalties
Important MMC Protocol Items - 4

• Monitoring Requirements (Section 6)
  • Similar to previous CAR and VCS Protocols

• Sec. 6.1
  • Operational activity monitored and documented hourly
  • Flow adjusted to Protocol standard temperature and pressures
  • Evidence of pre-mining well being mined through

• Sec. 6.2
  • All monitoring equipment inspected and cleaned quarterly with the “as found / as left” condition documented
  • Checked for calibration accuracy (before any corrective action is taken)
  • Calibrated according to manufacturer’s recommendations or every five years
  • Methane reference value for VAM methane analyzers must be 2%

• Sec. 6.3
  • Contains a list of documents that must be retained for the time required by the Regulation
Eligible Methane Sources

- Active LW Face
- Recently Sealed
- Abandoned mine
- Mining Plan
Eligible Methane Sources

- Borehole
- Gob Well
- CBM / Pre-drainage Well
- In-mine borehole
- Coal Lease Boundary
- Active LW Face
- Mining Plan
- Recently Sealed
- Abandoned mine
Metering Flow and Methane Concentrations

VAM Destruction

Garfield Mine (active underground)

Electricity

Enclosed Flare

Natural Gas Pipeline

Boiler / heater

Grand Mesa Mine (active surface)

Monument Mine (closed 1986)

Goldstar Mine (closed 1987)

Lizard Mine (closed 1970)
Metering Flow and Methane Concentrations

- VAM Destruction
- Electricity
- Enclosed Flare
- Natural Gas Pipeline
- Garfield Mine (active underground)
- Grand Mesa Mine (active surface)
- Borehole
- Lizard Mine (closed 1968)
- Monument Mine (closed 1986)
- Goldstar Mine (closed 1999)
Tips for Successful Verification

• Carefully read the Protocol and Regulation sections
  • Verifier will cite sections of the Protocol and Regulation
  • OPO will save time and money if these documents are understood prior to starting a project
• Gather all necessary documents and data *prior to verification*
  • The project must provide supporting documentation/data demonstrating how every section of the Protocol is met
  • Don’t wait to provide a document until the verifier asks
  • Organization will significantly speed up the verification process
  • Alternatively, disorganized projects will be significantly delayed
• Work with the OPR on any questions or confusion
  • The verifier *cannot assist* the OPO on how to fix problems
  • OPRs are great resource to answer questions and come up with solutions to issues that arise during project implementation and verification
• Reduce invalidation risk from eight years to three years by:
  • Increasing verifier rotation from six years to three years
  • Conducting double verifications
Questions?

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