

South Coast Air Quality Management District

**SOx RECLAIM
WORKING GROUP MEETING**

July 2, 2008

1:00 p.m. - 3:00 p.m.

Conference Room CC-2

Milestones

- Request for Proposal
 - Received Second Set of Comments from WSPA
 - Received Approval from Stationary Source Committee (6/20/08)
- Testing Plan
 - Discuss with Refineries, Manufacturers & U.S. EPA
- Preliminary Draft Staff Report, Part I
 - Anticipate Second Set of Comments from WSPA
 - Close Comment Period

Request for Proposal Update

Module 1 – FCCU SOx Additives: Key Issues

- Complicated testing procedure
- Need for testing protocol
- Will three months testing be sufficient to provide sufficient data for evaluation?
- Testing may prolong beyond December 2008
- Is contract funding sufficient?
- Will contractor provide “confidence or tolerance” estimates on the analysis?

Request for Proposal Update

Module 1 – FCCU SOx Additives: Staff Response

- ✓ Develop a Template for Testing Protocol
- ✓ Plan for Multi-Phase Testing & Reporting
- ✓ Organize Parallel Data Analysis & Testing
- ✓ Provide Floating Deadlines for Contractor
- ✓ Require contractor to provide estimates of analysis uncertainty

Request for Proposal Update

Sub-Module C – H₂SO₄ Plants

- **Concern:** Contractor Will Not Provide Information On Cesium Promoted Catalysts
- **Staff Response:** Add Clarification Statement in Sub-Module C

Testing Program Staff's Initial Effort

- ✓ Initiate Discussion with 5 Refineries, 2 Additive Manufacturers & Confer with U.S. EPA
- ✓ Seven Questions To Refineries To Gather Ideas and Recommendations
- ✓ Develop Template Testing Protocol with Input From Refineries, Manufacturers, and U.S. EPA

Testing Program Refinery's Recommendations

- How Should Testing Be Conducted?
 - Short-Term Testing With Incremental Step Down From 25 PPMV
 - Step: Test/Stabilize ~ 4-5 weeks
 - Three Tiers If Possible
 - Steps Measured as PPMV or Percent Additional Additive
 - Goal: 10 PPMV or “Kick-Out Level”

Testing Program Refinery's Recommendations

Sample Program

- Short-Term Testing With 5 PPMV
Incremental Step Down From 25 PPMV
 - Protocol Development: 1 month
 - Testing @ 20 ppmv: 1 month
 - Testing @ 15 ppmv: 1 month
 - Testing @ 10 ppmv: 1.5 month
 - Prepare Reports: 1.5 months

Testing Program Refinery's Recommendations

- How Should Testing Be Conducted?
 - Ideally, Long-Term Testing With All Modes of FCCU Operation
- How Long Should The Proposed Testing Last?
 - 6 Months (1 Refinery)
 - 9-12 Months (3 Refineries)
 - Not Certain (1 Refinery)
 - No Response (1 Refinery)

Testing Program Refinery's Recommendations

- When Is The Best Time To Start Testing?
 - August (3 Refineries)
 - November (1 Refinery)
 - Undecided (1 Refinery)
 - No Response (1 Refinery)

Testing Program

Refinery's Recommendations

- What Data Should Be Collected/Recorded?
 - Emissions: SO_x with CEMS, NO_x with CEMS, PM_{2.5}, PM₁₀ and NH₃
 - Opacity with Continuous Opacity Monitoring
 - FCCU Operating Parameters
- Are There Any Issues or Concerns?
 - Violation for Rule 1105.1 & Opacity Increase
 - Availability and Timing of Permit Issuance
 - Overloading Sulfur Recovery Units

Testing Program

Potential Participation of Refineries

- Full Participation of 3 Refineries in August *
- Two Refineries with New ESPs
- One Refinery at End-Of-Run for Hydrotreaters, ESPs and Almost Max-Out Capacity for SRUs

* One refinery is awaiting for permit and will join in November. Two refineries are undecided at this moment.

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Testing Program

Staff's Proposal - Three-Step Protocol

- **Step 1 – July 2008**
 - Preparation
 - Verify 2005 & 2008 Levels
- **Step 2 – August – October 2008**
 - Conduct Short-Term Testing
- **Step 3 – In 2009 (Optional)**
 - Continue Long-Term Testing

Testing Program

Step 1 (July 2008)

- Internal Preparation at Each Refinery
- Submit 1-Year Data To AQMD To Verify 2005 Baseline, and 6-Month Data To Establish 2008 Levels
- Submit Particulate Test Results In 2005 – 2008
- Additive Manufacturers: Estimate Additive Addition Rates for Step 2 Based On 2008 Data
- Contractor: Determine Average 2005 & 2008 Levels (PPMV, Lbs/Mbarrels) for Each Refinery & Composite Average for All Six Refineries

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Testing Program

Step 2 (August – October 2008)

- Short-Term Testing In Three 1-Month Periods
- Use One Selected Type of Additives

Period 1 (August)	Transition Testing at A% addition rate	1 week 3 weeks
Period 2 (September)	Transition Testing at B% addition rate	1 week 3 weeks
Period 3 (October)	Transition Testing at C% addition rate	1 week 3 weeks

Testing Program

Step 2 (August – October 2008)

- Conduct At Least One Particulate/Ammonia Test
- Record Parameters Recommended By Additive Manufacturers and/or Required Under U.S. EPA Consent Decree
- Submit Results In Three Batches for Parallel Data Analysis
- If Available, Contractor's Progress Report May Include Results Up To Period 2 Testing

Testing Program

Step 2 (August – October 2008)

- Criteria To Short-Ending Step 2 Testing:
 - FCCU Undergoes Scheduled Shutdown
 - Addition of Additives Limits FCCU's Operation, Conversion Capability etc.
 - Violation of R1105.1
 - Achieve Less Than 5 PPMV SO_x

Testing Program

Step 3 (Optional, Up to 8 Months In 2009)

- Continue testing beyond short-term target
- Up To 8 Months
- Starting Date May Vary To Accommodate FCCU Scheduled Shutdown At 3 Refineries
- May Need To Amend Individual Protocol For AQMD Review

Tentative Schedule

- July 2008 – August 2008
 - Revise Preliminary Draft Staff Report, Part I
 - Selection for Contractors
- September 2008 – November 2008
 - Visit RECLAIM Facilities
 - Coordinate Contractors Works
 - Public Workshop & CEQA Scoping