



PROPOSED RULE 1147.1 WORKING GROUP MEETING #2

DECEMBER 3, 2020

SOUTH COAST AQMD

MEETING ID: 971 6506 4075

PASSCODE: 175594

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Agenda

- Highlights from Working Group #1
- Information Gathered Since Last Working Group
- Virtual Site Visits
- Applicability Considerations
- Next Steps

Previous Working Group Meeting Recap

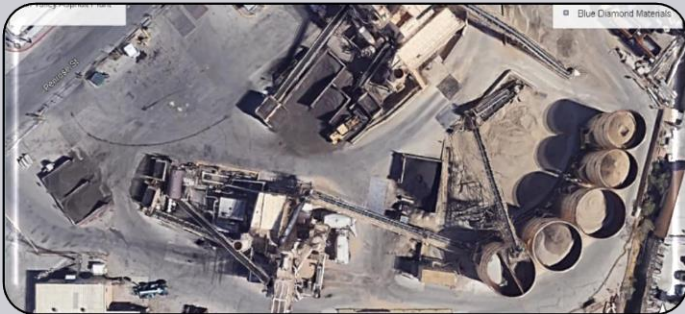
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- Discussed the criteria for inclusion in PR 1147.1
 - Type of facilities
 - Applicable equipment within the facility
 - Discussed the BARCT and rule development process
 - Discussed virtual site visits in lieu of a physical visit due to COVID-19

Virtual Site Visits

- COVID-19
Pandemic changed ability to conduct face-to-face site visits
- Facility operators were willing to provide such virtual site visits in real time



Virtual Site Visits



Sully-Miller
(Sun Valley)
7/22/2020



All American
Asphalt
(Westminster)
8/18/2020



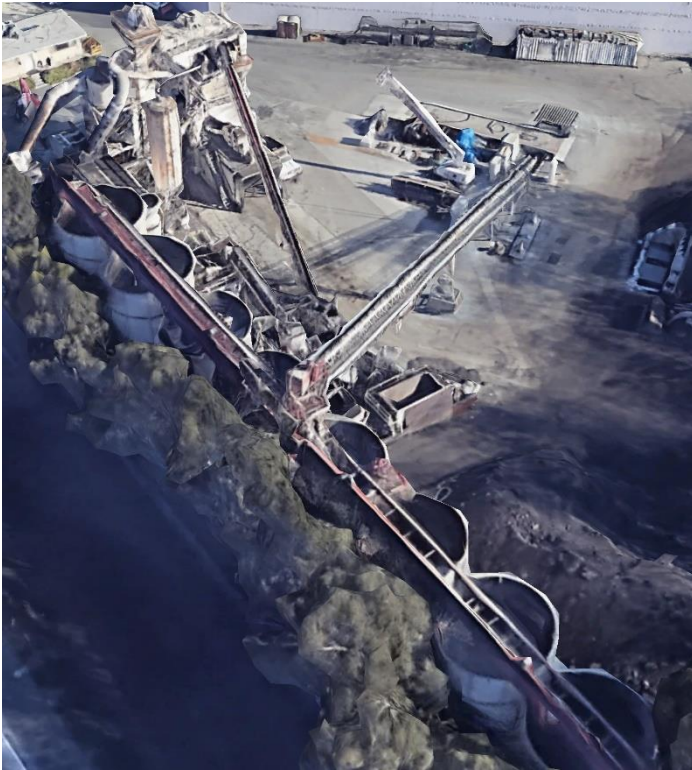
3M Company
(Corona)
9/11/2020

Sully-Miller (Sun Valley)

- The visit began at a rotary dryer that removes moisture from aggregate and is heated by the originally installed burner
- The same type of aggregate dryer is used in another area of the site
- According to facility representative, asphalt is transported hot within 45 minutes of the site
- The facility representative indicated air flow would likely be increased and would require larger air handling for a burner replacement
- Two of the originally installed burners are still working at the site



All American Asphalt (Westminster)



- The operator provided a virtual site visit tour using a videographer and a cell phone while narrating
- Identified offloading of recycled asphalt pavement and then continued the tour pointing out the various equipment and processes
- Information provided to staff during the tour included:
 - Burner types and sizes
 - Burner flame temperatures, and
 - NOx emission monitoring systems at Corona Plant

3M Company (Corona)



- This aggregate facility produces roofing granules of various colors and sizes
- Step 1 involves drying, crushing, and screening quarry rocks
- Step 2 involves adding a ceramic color coating prior to consolidation into various colors of decorative roofing stone
- This location is the only west coast distributor of cool granules which reduces heat through reflection
- Three other plants are in the mid-west and east coast

Virtual Site Visits (cont.)



Fontana Paper Mill
(Fontana)
9/17/2020



Los Angeles City
Asphalt
Manufacturing
(Los Angeles)
10/8/2020



Lapeyre Industrial
Sands
(San Juan
Capistrano)
11/5/2020

Fontana Paper Mill (Fontana)



- Facility produces tarpaper from recycled paper for roofing industry
- Dryer is not used with aggregate material
- Limestone is added to asphalt as a coating for the paper
- Although facility incorporates the use of sand and limestone, it is not applicable to aggregate facilities

City of Los Angeles Asphalt Manufacturing



- In 2019, City of Los Angeles re-commissioned its previous asphalt plant with new equipment, including an ultra-low NOx burner
- Source test data validates burner emission concentrations less than 25 ppmv
- Goal was to incorporate 50% Recycled Asphalt Pavement (RAP)
- Plant handles between 200 – 700,000 tons of Hot Mix Asphalt

Lapeyre Industrial Sands



- Two fluidized bed dryers used to produce industrial sands
- Dryers are refractory brick lined for thermal protection
- Dryer temperatures are kept below 1200 degrees Fahrenheit
- Only one of the fluidized bed dryers operates at a time and one is strictly back-up

Applicability Considerations

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- Staff identified 33 facilities related to the aggregate industry representing 92 pieces of equipment
 - Since NOx BARCT emission limits have been recently revised for boilers and heaters regulated under Rules 1146 and 1146.1, these units would not be included under Proposed Rule 1147.1
 - Staff focused on the remaining equipment which are currently regulated under Rule 1147 – NOx Reductions from Miscellaneous Sources

RULE 1147 – NOX REDUCTIONS FROM MISCELLANEOUS SOURCES

- Rule 1147 establishes NOx emission limits for a variety of external combustion sources
- There are seven equipment categories at aggregate facilities that are regulated under Rule 1147 facilities:
 - Afterburners
 - Furnaces
 - Kilns
 - Mixers
 - Ovens
 - Dryers
 - Asphalt Manufacturing

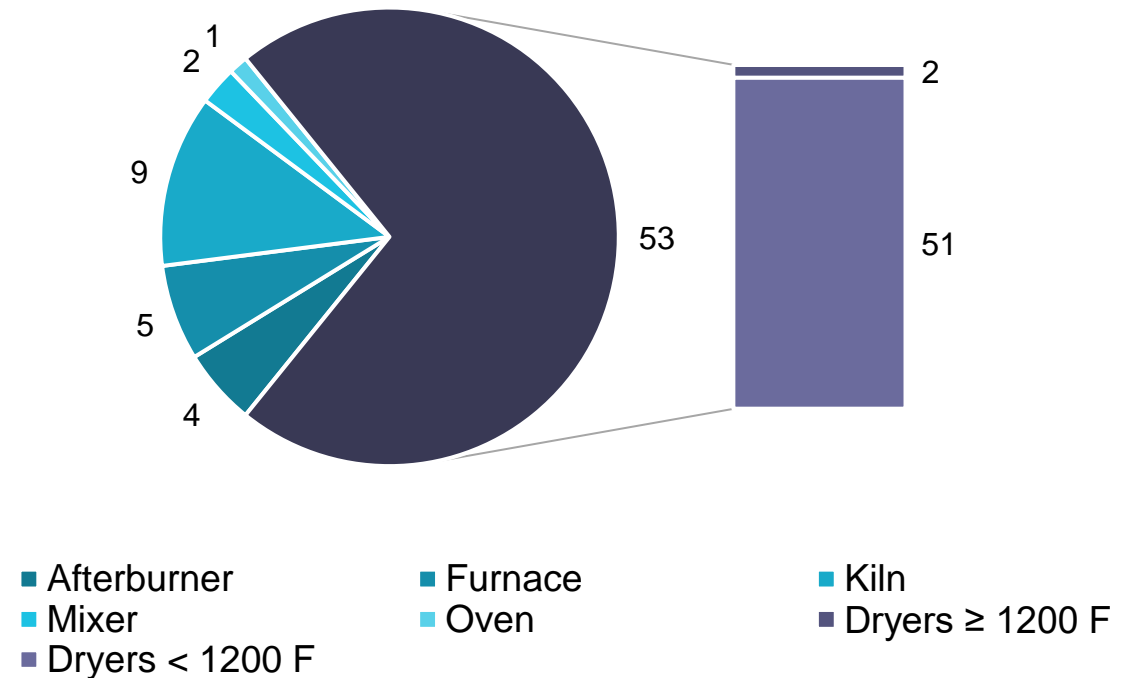
ASPHALT MANUFACTURING OPERATIONS UNDER RULE 1147

- Rule 1147 did not define equipment that is covered under “asphalt manufacturing operations”
- Based on an evaluation of equipment at aggregate facilities, the only equipment category covered under “asphalt manufacturing operations” is dryers operated under 1,200 °F
 - Current NOx emission limit for asphalt manufacturing operations (dryers < 1,200 °F) is 40 ppm
- Rule 1147 includes a separate category for dryers that establishes different NOx limits that are < 1,200 °F and ≥ 1,200 °F
 - Aggregate facilities with dryers < 1,200 °F are addressed under “asphalt manufacturing operations”
 - Aggregate facilities with dryers ≥ 1,200 °F are addressed under the dryer category and are required to meet a NOx emission limit of 60 ppm

SUMMARY OF RULE 1147 EQUIPMENT AT AGGREGATE FACILITIES

Equipment Type	Number of Units
Afterburner	4
Furnace	5
Kiln	9
Mixer	2
Oven	1
Dryers	
Dryers ≥ 1,200 °F	2
Dryers < 1,200 °F (Asphalt Manufacturing Operations)	51
Total	74

Number of Rule 1147 Units at Aggregate Facilities



PROPOSED AMENDED RULE 1147

- Staff has initiated rule development to amend Rule 1147 to update the NOx BARCT emission limits
 - Most equipment at aggregate facilities are being addressed in Proposed Amended Rule 1147 with the exception of “Asphalt Manufacturing Operations”
- Since the only equipment category under “Asphalt Manufacturing Operations” is dryers < 1,200 °F, staff is recommending to:
 - Complete the BARCT analysis for Asphalt Manufacturing Operations under the Proposed Amended Rule 1147
 - Keep Asphalt Manufacturing Operations under Rule 1147
 - No longer pursue a separate rulemaking for equipment at aggregate facilities

Equipment Type	Number of Units	Applicable Rule
Afterburner	4	Rule 1147
Furnace	5	Rule 1147
Kiln	9	Rule 1147
Mixer	2	Rule 1147
Oven	1	Rule 1147
Dryers		Rule 1147
Dryers ≥ 1,200 °F	2	Rule 1147
Dryers < 1,200 °F (Asphalt Manufacturing)	51	Rule 1147.1

Next Steps

Hold one more Proposed Rule 1147.1 Working Group Meeting to discuss BARCT Analysis

Transition rulemaking into Proposed Amended Rule 1147

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