

Proposed Rule 1430 Control of Emissions from Metal Grinding Operations at Metal Forging Facilities

Working Group Meeting #5
January 11, 2017



Comment Letters Received

- Since the November 30, 2016 initial draft of the proposed rule, the SCAQMD has received 7 comment letters
 - Press Forge (12/5/2016)
 - International Lubricants Manufacturers Association (12/9/2016 & 12/19/2016)
 - Solutions 4 Blast (12/10/2016)
 - Weber Metals (12/13/2016)
 - California Metals Coalition – (12/19/2016)
 - Valley Forge – (12/29/2016)

Stakeholder Meetings and Key Comments

- Teacher's Association of Paramount Schools – 12/1/2016
 - More stringent trigger for total enclosure with negative air (cluster of facilities near sensitive receptor)
 - Move SCAQMD/Paramount weekly calls to afternoon
- California Metals Coalition Meeting – 12/9/2016
 - Precedent of grinding requirements for other metalworking industries
 - Disproportional requirements for smaller grinding operations
 - Combustible nature of some metals and application of HEPA contrary to NFPA guidelines
 - Concerns of unintentional consequences of signage requirements (negative record for facility despite of unconfirmed complaints)

Additional Site Visits

- Staff visited Press Forge on 12/9/2016 and Mattco on 12/22/2016 to observe grinding operations
 - Both facilities had moved their grinding operations inside
 - Press Forge beginning construction of total enclosure with negative air (HEPA) consistent with their comment letter
- On 12/22/2016 staff visited Weber Metals to go over and observe issues and concerns expressed in comment letter





**Key Changes to
Initial Draft
Proposed Rule 1430**



Purpose (a)

- Clarified that in addition to reducing toxic and particulate matter (PM) emissions, PR 1430 would help reduce odors from metal grinding and cutting operations at metal forging facilities
- CMC commented that since PR 1430 has been proposed as a toxics rule, staff should release lab reports, not just results from air monitors and should be clear on what alloy(s) can potentially be converted to hexavalent chromium
- SCAQMD staff response:
 - PR 1430 will address all metal particulate and does not focus on a specific metal toxic air contaminant

Purpose (continued)

- SCAQMD staff response (continued):
 - The laboratory results include many metals as shown below
 - These results are posted quarterly on the SCAQMD's website
 - Staff summarized nickel and hexavalent chromium as two of the metal TACs of concern from Carlton Forge based on their toxicity and ambient concentration

Sample Date	Site	Mg	Si	P	S	Cl	Al	K	Ca	Ti	V	Cr	CrVI	Mn	Co	Ni	Cu	Zn	Fe	As	Mo	Sr	Se	Br	Cd	Sn	Sb	Ba	Pb	Zr
		ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³	ng/m ³
	MDL	28	15	4.6	26	4.7	17	2.8	8.8	6.5	5.2	3	0.004	4	2.9	2.4	2.9	2.3	7.6	3.7	5.7	4.6	6.8	4.4	11	13	15	32	7.2	11
01/01/2016	Site 2	190	1500	61	608	243	581	888	1180	86	ND	ND	0.05	14	ND	ND	43	68	906	ND	ND	19	ND	ND	ND	ND	ND	96	ND	ND
01/04/2016	Site 2	204	1730	47	401	255	674	339	742	129	ND	14	0.12	21	ND	9.0	25	61	1090	ND	14.0	10	ND	ND	ND	ND	58	ND	ND	
01/07/2016	Site 2	182	485	24	249	1980	317	136	278	148	ND	22	1.1	9	ND	9.0	27	23	433	ND	25.0	ND	ND	8.0	ND	ND	ND	ND	ND	
01/10/2016	Site 2	96	534	20	296	212	231	126	233	36	ND	ND	0.05	ND	ND	ND	13	25	350	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
01/13/2016	Site 2	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV	INV
01/16/2016	Site 2	217	1290	47	501	839	456	274	621	90	ND	8.0	0.04	19	ND	ND	33	58	983	ND	ND	9.0	ND	10	ND	ND	60	ND	ND	
01/19/2016	Site 2	134	1210	33	314	189	472	181	622	149	ND	26	1.3	23	ND	13.0	35	52	930	ND	20	9.0	ND	ND	ND	ND	ND	ND	ND	
01/22/2016	Site 2	314	2540	58	552	1060	1110	397	1270	212	ND	52	0.61	46	8.0	36	53	113	2100	ND	15	15	ND	12	ND	ND	103	ND	33	
01/25/2016	Site 2	252	2150	41	381	929	798	357	977	151	ND	16	0.24	27	ND	13	48	100	1530	ND	ND	14	ND	9.0	ND	ND	107	ND	22	
01/28/2016	Site 2	444	4290	72	520	789	1700	624	1790	289	ND	27	0.36	51	ND	11	80	119	2630	ND	ND	22	ND	9.0	ND	ND	165	ND	42	
01/31/2016	Site 2	327	546	24	366	5220	252	180	317	54	ND	13	0.85	ND	ND	15	ND	18	309	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	
Jan'16 Avg.		236	1628	43	419	1172	659	350	803	134	ND	18	0.47	21	0.8	11	36	64	1126	ND	7.4	10	ND	6.6	ND	ND	59	ND	10	



Purpose *(continued)*

- SCAQMD staff response *(continued)*:
 - Additional metal TACs can be of concern depending on the metal alloy ground or cut such as Arsenic, Lead, and Cadmium
 - Glass plate sampling taken at four forging facilities showed various levels of metal particulates
 - Each of the facilities had varying levels of toxic metal particulates: Arsenic, Cadmium, Lead, Nickel, Total Chromium
 - Proposed requirements will control total PM concurrently reducing toxic metal particulate

Purpose (continued)

Glass Plate Sampling at Metal Forging Facilities (2014)

Location Description		As	Ba	Ca	Cd	Co	Cr	Cu	Fe	K	Mn	Mo	Ni	Pb	Sb	Sn	Sr	Ti	V	Zn
Carlton Forge	Roof of grinding room	6.81	418	18,500	2.12	555	607	665	35,300	6,220	430	217	3,340	89.8	7.98	33.1	181	2,320	134	1,300
	West side of roof of saw bldg	6.98	491	19,300	2.37	761	815	815	33,500	7,260	449	287	4,500	130	9.71	31.9	205	2,390	130	1,330
	East side of roof of saw bldg	7.09	521	18,000	2.43	556	661	624	26,200	6,870	391	279	3,620	94.3	9.53	31.2	215	2,470	118	1,500
	Roof of Residence across street from facility	7.63	547	21,700	1.99	258	358	746	27,100	7,690	438	149	1,750	133	10.3	42.8	185	2,290	96.8	1,270
	Top of fence along perimeter of parking lot	8.29	583	20,700	1.51	146	234	271	28,200	8,810	470	89.8	1,020	99.6	14.3	30.7	207	2,120	82.1	1,140
Weber Metals	Site #1 Roof of Bldg O	16.3	513	34,400	1.66	17.1	98.4	450	28,000	12,000	467	37.3	172	91.2	9.24	20.4	229	2,730	302	1,720
	Site #2 Open area next to tracks	17.4	2,370	35,100	1.39	17.6	160	578	71,500	12,500	637	35.5	215	98.7	6.92	21.8	272	2,720	237	1,630
	Site #4 Top of Transformer at North perimeter of facility	10.5	453	29,500	1.89	18.7	310	731	42,300	7,200	454	163	862	100	10.9	74.3	241	8,710	568	2,110
	Site #5 Roof of Bldg P	9.62	521	28,600	1.53	20.9	224	632	36,100	9,160	606	67.2	508	99.8	8.54	35.1	204	12,500	736	1,790
	Site #6 Top of Patio adjacent to Bldg L	6.98	575	31,100	2.37	13.5	86.8	654	27,700	7,060	398	23.8	151	211	87.5	89.8	184	1,850	75.8	2,080
	Site #7 Roof of storage shed at Promise Hospital	18.3	495	14,300	3.14	48.9	1,990	997	161,000	6,690	1,130	995	5,810	89.3	12.1	77.6	167	10,200	683	864
Press Forge	Site #1 Roof of outside grinding station	6.61	59.3	5,780	4.67	1,340	5,070	722	194,000	1,710	1,190	1,640	18,200	15.3	0.08	6.1	63.3	7,150	774	154
	Site #2 Roof of larger outside grinding station	8.46	38.2	3,080	6.53	791	5,140	786	197,000	1,010	1,230	2,290	18,600	14.7	0.15	7.7	51.5	7,030	919	81.1
	Site #3 Adjacent to Forge Building	12.5	333	17,200	2.4	60.1	1,170	364	116,000	4,980	835	634	4,110	55.2	5.4	85	153	9,770	794	746
	Site #4 Adjacent to 2 nd Forge Building	9.65	481	20,600	2.6	36.2	224	247	39,100	8,570	532	125	757	618	9.3	503	183	2,840	136	1,170
	Site #5 North Perimeter of facility	9.73	527	20,300	3.26	31.3	181	437	32,700	7,910	473	55.1	430	414	10.3	18	179	2,510	109	1,150
	Site #6 Adjacent to Eng Building	11.2	344	19,900	2.64	34.1	711	292	79,400	5,650	707	380	2,730	81.3	6.9	62	164	6,220	440	894
	Site #7 Storage shed at Promise Hospital	13.9	430	20,400	3.66	83.2	1,260	468	105,000	7,070	838	769	4,340	70	8.6	112	184	9,510	643	769
Schlosser	Admin Bldg roof	38.4	591	25,062	3.4	329	574	641	44,791	7,607	1,133	667.8	2040	106.4	12.2	31	189	1,965	85.02	1,884
	Roof of container adjacent to bldg 4	15.3	450	27,871	4.35	1797	2785	635	59,792	6,288	1,170	1505.7	12434	90.78	5.33	20.2	181	2,716	142.9	1,861
	Southeast end of grinding room	20.5	444	25,233	2.65	1072	774	503	36,556	6,027	1,084	527.36	7277	107.1	9.97	21.5	213	2,073	99.48	1,751
	Southeast end of grinding room adjacent to emission contr	12.2	248	14,636	4.46	8657	6983	371	27,754	3,531	546	2195.6	58462	48.88	3.81	9.37	148	2,661	149.4	1,035
	On top of modular between bldgs 2 and 3	11.2	243	19,163	3.74	4540	3742	483	34,852	3,631	599	1758.1	31059	46.04	2.3	10	124	1,988	148.3	1,477



Applicability (b)

- Added that grinding activities conducted to maintain or repair equipment at the facility are not applicable to the requirements of PR 1430

Definitions (c)

- Changed the term “ENCLOSURE” to “BUILDING”
 - Alleviate any confusion with other types of enclosures
 - Same definition as before except that it specifies “four” walls, and adds that it is a structure that is not free of breaks, cracks, gaps, or deterioration
- Changed the term “CUTTING TORCH” to “TORCH CUTTING”
 - Same definition

Definitions *(continued)*

- Modified definition of “METAL CUTTING” to clarify that it is used to “abrasively” cut starting ingot, log, or billet stock to length in preparation for the forging process
 - Added the term “abrasively” to exclude band saw cutting operations and other cutting operations where shavings or chips are generated
- Added definition for “SMALL HAND GRINDING” to allow for different requirements for these operations
 - Generally defined as metal grinding activity exclusively preparing, cutting, grinding, polishing, or finishing forging parts with a total surface area of less than 25 square inches
- Staff is considering adding a definition for “BILLET” to improve clarity in the proposed rule, seeking input on definition



Definitions *(continued)*

- Added definition for “SCHOOL”
 - Includes any public or private school, including juvenile detention facilities with classrooms, used for purposes of the education of more than 12 children at the school, including kindergarten and grades 1 through 12, inclusive, but does not include any private school in which education is primarily conducted in private homes
 - Includes any building or structure, playground, athletic field, or other area of school property, but does not include unimproved school property
 - Definition consistent with other toxic SCAQMD rules



Total Enclosures (d)

- Clarified that requirements are for both metal grinding and “metal cutting” operations
- Replacement of all references of “enclosure” to “building” to improve clarity
- Received comment that grinding operations should be stopped immediately if inspection reveals a leak in the total enclosure
- SCAQMD staff response
 - Staff will add a provision that if the opening results in fugitive metal dust, the facility would be required to stop metal grinding or cutting operations until the opening in the enclosure no longer results in fugitive metal dust
 - Facility can continue operating if temporary measures are implemented such that the opening does not result in fugitive metal dust
 - Proposed rule requires that the opening be fixed within 72 hours and allows for additional time if request is submitted to the EO before the 72-hour limit is expired

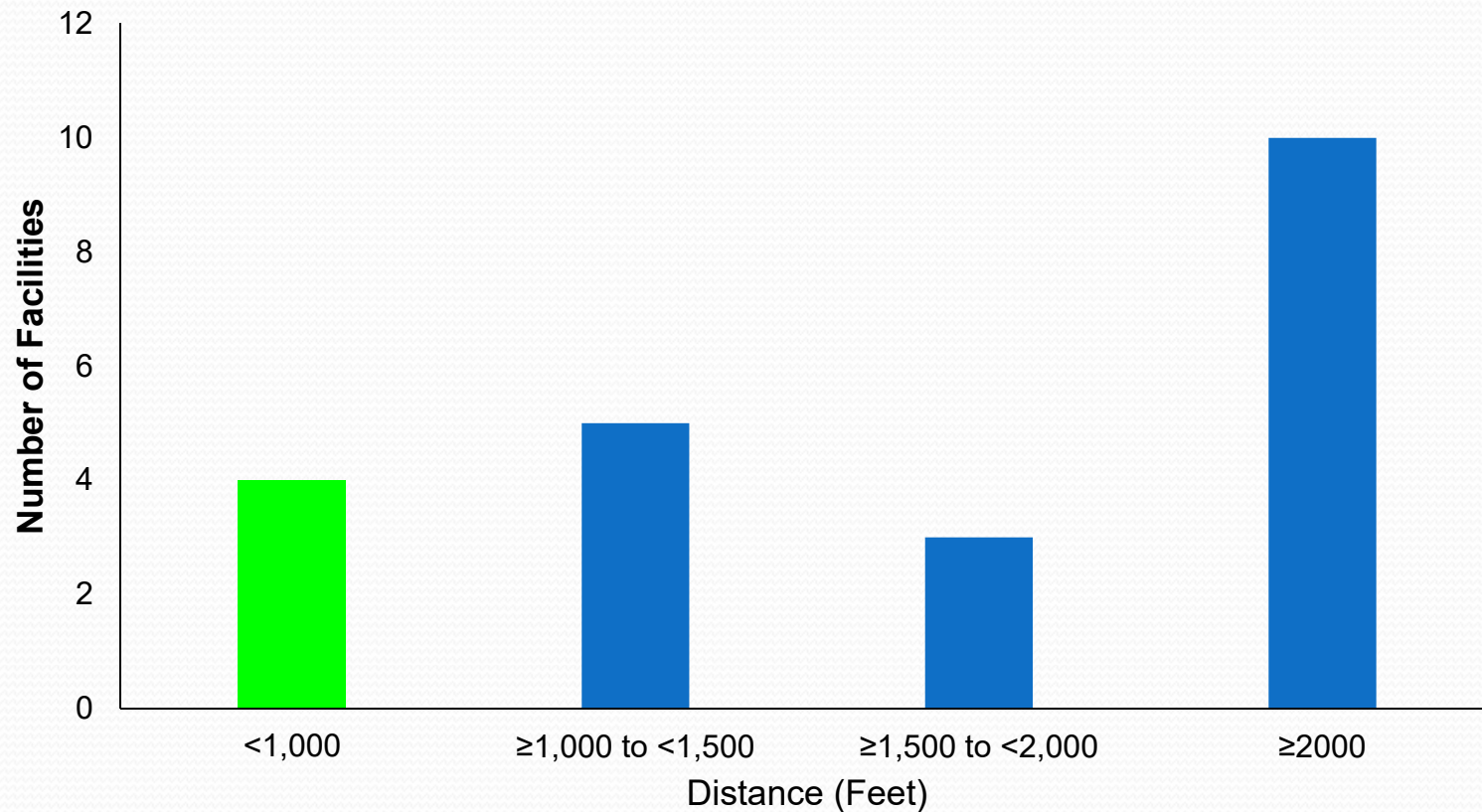
Trigger for Total Enclosures with Negative Air

- In addition to conducting grinding operations within a total enclosure, facilities must have a total enclosure with negative air if the facility is within:
 - 1,000 feet with of a school; or
 - 300 feet of a sensitive receptor
- Modified trigger for facilities required to install a total enclosure with negative air

Trigger for Total Enclosures with Negative Air *(continued)*

- Staff revised this provision based on comments from the Teacher's Association of Paramount and other stakeholders to be more health protective for school children
- Distance shall be measured from the fence line of the facility to the property line of the applicable school or sensitive receptor
- 1,000 feet is based on CARB's *Air Quality and Land Use Handbook* which references 1,000 feet as a precautionary measure

Facility Distances to Schools



4 Unique Facilities that are 1,000 feet from a school

Compliance Dates for Total Enclosures and Installation of Emission Controls

- Received comments that constructing a total enclosure with negative air within a year may not be feasible due to reasons beyond the facility's control (i.e., receiving permits and city approvals)
- Modified installation date for ventilation and emission control requirements
 - No later than 6 months after a Permit to Construct for the equipment is issued by the Executive Officer
 - Also applies to installation requirements for *Emission Control Devices* under subdivision (e)

Point Source Emission Requirements (e)

- Initially proposed a PM emission standard of 0.01 gr/dscf
- Staff is proposing a lower PM emission standard of 0.002 gr/dscf
 - Emission rate is consistent with required pollution controls, (i.e., HEPA at the outlet)
 - Emission rate is currently achieved in practice by Carlton Forge Works

Final Stage for Emission Control Device - HEPA

- Received comment that NFPA Standard 484 does not allow HEPA filtration on dust collectors that are used for the collection of combustible metals dusts if the dust collector is inside a building:
 - Added provision that HEPA filter installation shall be designed in a manner that does not conflict with requirements or guidelines set by NFPA regarding safety
 - Based on site visits, most baghouses were observed to be outside of a building

Provision for Small Hand Grinding

- Received comments regarding provisions for smaller grinding operations and that requirements should match various grinding operations
- Added a definition for small hand grinding operations to make a distinction between small hand grinding and other metal grinding operations
- Small hand grinding operations exclusively grinding parts having less than a total surface area of 25 square inches (i.e., surface area of 5 x 5 inches)

Provision for Small Hand Grinding *(continued)*

- Requirements for small hand grinding operations:
 - Ventilation to emission controls not required for small hand grinding
 - Same enclosure and housekeeping provisions for other grinding operations
- Based on staff observations, these operations do not generate significant particulate matter emissions

Housekeeping – Compressed Air Cleaning Operations

- Revised provision that compressed air cleaning operations or dry sweeping shall not be conducted within 30 feet of any metal cutting or metal grinding operation, *unless the compressed air cleaning or dry sweeping is conducted under an emission control device*
 - Received comments that use of compressed air or dry sweeping should be allowed if under an emission control device

Maintenance and Repair Activity Requirements (g)

- Received comments regarding temporary enclosure for maintenance and repair activities
- Clarification – PR 1430 does not require a temporary enclosure when conducting maintenance and repair activities
 - Requires specific housekeeping and other provisions when maintenance and repair of pollution controls are conducted
 - No rule change needed – provided additional clarification in the preliminary draft staff report

Source Test Requirements (h)

- Allowing PM source test once every 24 months instead of every 12 months if result of previous source test was less than 50% of the PM standard
- Comments on source testing provisions
 - Weber Metals commented that source testing requirements should focus on operations with higher emissions and on pollutants of concern
 - CMC commented that requiring hexavalent chromium source tests pre-determines that grinding operations generate hexavalent chromium



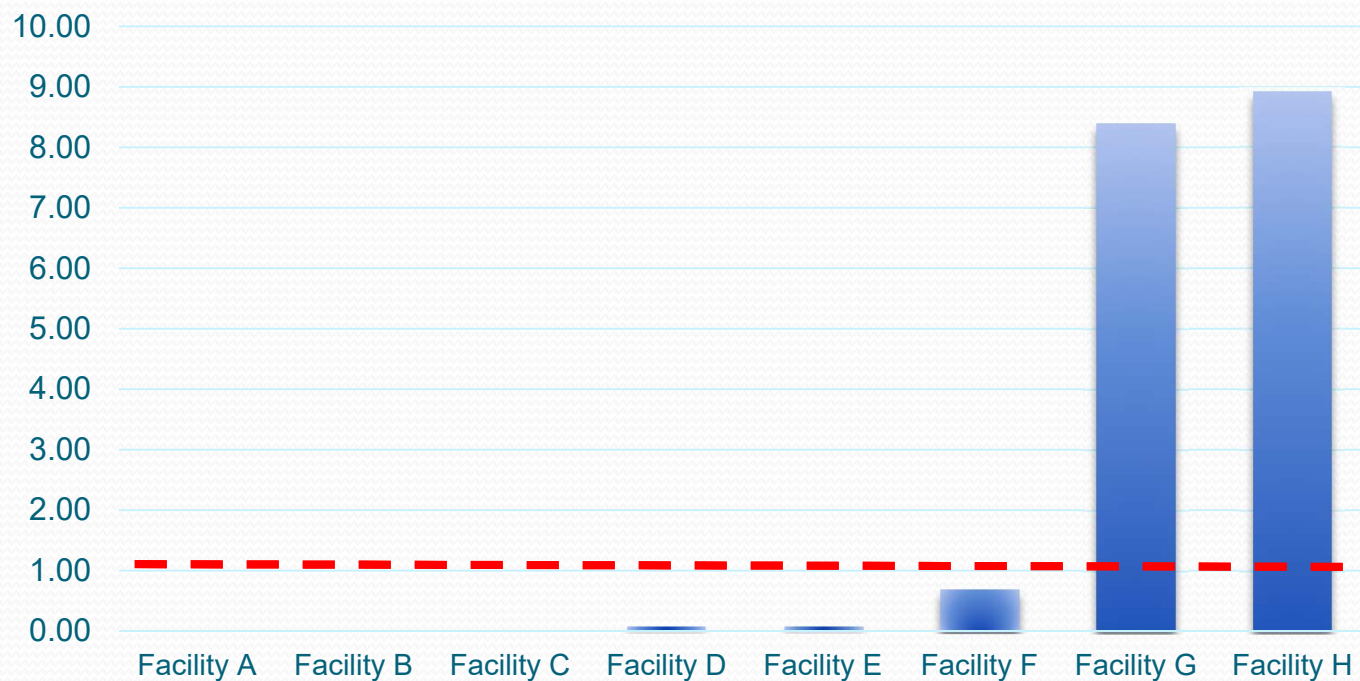
Source Test Requirements *(continued)*

- SCAQMD staff response:
 - Multi-metals source testing is needed to better quantify emissions for AB2588
 - Incorporating a provision that will allow a facility to forego hexavalent chromium source testing if annual baghouse catch samples are below 1% total chromium

Source Test Requirements *(continued)*

- SCAQMD analyzed baghouse catches from 6 metal forging facilities
- Most showed less than 1% or below the detection limit for total chromium

% Chromium in Baghouse Catch





Source Test Requirements *(continued)*

- Upon staff review, removed two testing methods that are not applicable
 - CARB Method 17
 - SCAQMD Method 205.1

Recordkeeping (j)

- Received comment that monthly records indicating the weight of metal processed by the facility should be removed or made confidential
- SCAQMD staff Response:
 - Seeking additional input on this provision
 - Owner or operator can designate records as “confidential”

Signage (k)

- Received comment that signage requirements may generate more records of unconfirmed odor complaints
- SCAQMD staff response
 - SCAQMD Rules 403, 410 and 461 include provisions for signs that include the facility and SCAQMD's contact information
 - Wording of sign can be changed from "To Report Odors..." to "To Report Air Quality Issues..."

Subdivision (m) – Rule 219 Exemption

- Newly added subdivision for clarification
- Beginning date of adoption, any equipment required under PR 1430 shall no longer be exempt from the requirement of a written permit pursuant to SCAQMD Rule 219



Preliminary Cost Analysis

- SCAQMD staff is conducting a Socioeconomic Impact Assessment for PR 1430
- Preliminary data shows the following approximated facility costs for compliance:
 - Capital Cost: \$2,400 - \$2.6M
 - Average Capital Cost: \$485,000
 - Annual Operating Cost: \$2,500 - \$630,000
 - Annual Average Operating Cost: \$219,000
- Average capital cost – key categories
 - Baghouse: \$358,000
 - Total enclosures: \$63,000
 - Housekeeping Equipment: \$2,800
- Average annual operating cost – key categories
 - Baghouse Maintenance: \$36,000
 - Electricity: \$132,000



CEQA Analysis

- SCAQMD staff has prepared a Draft Environmental Assessment for PR 1430
- Analysis concluded no significant adverse impacts for any environmental topic area
- Comments regarding the document will be accepted during a 30-day public review and comment period beginning January 11, 2017 and ending at 5:00 p.m. on Friday, February 10, 2017

Schedule

- Public Workshop
January 19, 2017
2:00 PM
SCAQMD Headquarters
Auditorium
- Public Consultation Meeting
January 25, 2017
5:30 PM
Paramount Community Center
14400 Paramount Blvd
Paramount
- Stationary Source Committee – January 20, 2017
- Set Hearing – February 3, 2017
- Board Hearing – March 3, 2017

Contact Information

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