



SOURCE TEST PROTOCOL OVERVIEW

The objective of this testing program is to satisfy the facility’s Idaho Permit testing requirements (specifically –opacity emissions) and federal requirements under 40 CFR 60 Subpart OOO – Standards of Performance for Non-Metallic Mineral Processing Plants with delegation of Authority to Idaho Department of Environmental Quality. It is recommended, but not required, that this source test protocol be submitted to the Idaho Department of Environmental Quality – Air Quality Division 30 days prior to the test. DEQ must be notified of the actual test dates and locations at least 7 days prior to testing in accordance with 40 CFR 60.675(g).

ROCK CRUSHER OPACITY TEST PROTOCOL

1. A rock crushing facility consists of equipment like crushers, screen decks, and conveyor belts along with associated transfer points. The number of transfer points changes based on location and plant configuration. For a typical operational set-up, mined aggregate is loaded into the primary crushers. The aggregate is crushed and transferred to screen decks for distribution to the secondary crushers. This process is repeated for the tertiary crushers. As the aggregate is crushed and sorted by screens, the aggregate is then transferred by conveyors to stockpiles. Based on the configuration of the plant, all or some of the crushers and screens from a permit may be used at one time. The facility may operate crushers and screen decks with different years of manufacture and different opacity limits as per 40 CFR 60 Subpart OOO. List the crushing equipment being tested and associated opacity limit in Equipment List on the follow pages.
2. The production rate data will be recorded for each of the products being produced during the emission test runs in tons/hour. Site operating conditions will best represent worst-case normal conditions for the generation of visible emissions. The worst-case normal conditions shall include but not be limited to, the type of material crushed, process procedures, and moisture conditions of the material. Copies of the production run records and operating conditions shall be submitted with the emission report.

3. Subpart OOO Emission Limits

Table 1. Subpart OOO of Part 60—Fugitive Emission Limits

For * * *	The owner or operator must meet the following fugitive emissions limit for grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility (as defined in §§60.670 and 60.671) * * *	The owner or operator must meet the following fugitive emissions limit for crushers at which a capture system is not used * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
Affected facilities (as defined in §§60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008	10 percent opacity	15 percent opacity	An initial performance test according to §60.11 of this part and §60.675 of this subpart.
Affected facilities (as defined in §§60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	7 percent opacity	12 percent opacity	An initial performance test according to §60.11 of this part and §60.675 of this subpart; and Periodic inspections of water sprays according to §60.674(b) and §60.676(b); and
			A repeat performance test according to §60.11 of this part and §60.675 of this subpart within 5 years from the previous performance test for fugitive emissions from affected facilities without water sprays. Affected facilities controlled by water carryover from upstream water sprays that are inspected according to the requirements in §§60.674(b) and 60.676(b) are exempt from this 5-year repeat testing requirement.

4. Test Methods

Testing is performed in accordance with Environmental Protection Agency (EPA) methods as described in Title 40 of the Code of Federal Regulation (CFR) Part 60, Subpart OOO (60.675 Testing Methods and Procedures). The specific methods employed are listed below.

METHOD 9 – “Visual Determination of the Opacity of Emissions from Stationary Sources”

Per CFR Part 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants, the duration of the Method 9 observations must be 30 minutes (five, 6-minute averages) when determining compliance with the fugitive emissions standard (40 CFR 60.675(c)(3)).

The following Method 9 additions are applicable in accordance with §60.675(c)(1):

- (i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
- (ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.
- (iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

5. Test Method Deviations

The following alternatives may be used in accordance §60.675(e):

- 1. If emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:
 - (i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.
 - (ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.
- 2. A single visible emission observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions are met:
 - (i) No more than three emission points may be read concurrently.
 - (ii) All three emission points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.
 - (iii) If an opacity reading for any one of the three emission points equals or exceeds the applicable standard, then the observer must stop taking readings for the other two points and continue reading just that single point.

6. Mail or Submit: Please mail or submit the completed Rock Crusher Opacity Source Test Protocol form.

Idaho Department of Environmental Quality
Attn: Air Quality Program
1410 North Hilton
Boise, ID 83706-1255

Or

Zach.Klotovich@deq.idaho.gov

7. Approval or Denial: DEQ standard practice is to issue a response to the protocol prior to the test. However, if DEQ has not issued a response prior to the test date, and the notification/protocol was submitted at least 7 days prior to the test date, the facility should proceed with the scheduled test.

GENERAL INFORMATION

Facility Name: :			
Owner or Responsible Official Name, Title:			
Phone:			
Email:			
Mailing Address:			
City:		State:	
Zip Code:		County:	
General Nature of Business & Products:			

Facility Test Contact(s), Title:			
Email:		Phone:	

Test Contractor (if applicable) :			
Contact, Title:		Phone:	
Email:			

Method 9 Certified Observer(s):			
Email:		Phone:	

The observer's certification must be included in the test report.

Plant Location:			
Nearest City:		Startup Date:	
County:			

Reason for Test:	<input type="checkbox"/> Initial test for a new equipment <input type="checkbox"/> Retest (Facility without water sprays) <input type="checkbox"/> Addition or replacement of equipment listed on an existing Permit
Test Date:	

The test report will be completed and submitted within 60 days of test completion, and not later than 180 days after initial startup, in accordance with 40 CFR 60.8(a)

Please list the air permit(s) related to the equipment to be tested.

AIR PERMITS

Permit No.	Facility ID	Permit Issuance Date

Comments:

Certification of Truth, Accuracy, and Completeness (by Responsible Official)

I hereby certify that based on information and belief formed after reasonable inquiry, the statements and information contained in this and any attached and/or referenced document(s) are true, accurate, and complete in accordance with IDAPA 58.01.01.123-124.

Responsible Official Signature

Responsible Official Title

Date

Print or Type Responsible Official Name

APPENDIX A

Equipment Diagram

Diagram shall at a minimum include the following:

1. Sketch and layout of equipment being observed for testing
2. Identification of equipment that corresponds to equipment list
3. Arrows showing the direction of the material flow
4. Transfer points into and out of equipment, labeled with identified observation points
5. Water application points. (if used)

APPENDIX B

VISIBLE EMISSION OBSERVATION FORM

Company Name			Observation Date		Start Time	End Time		
Location			Sec		Comments			
City	State	Zip	Min	0			15	30
Process Equipment			Operating Mode		1			
Control Equipment			Operating Mode				2	
Describe Emission Point					3			
							4	
Height of Emission Point		Height Relative to Observer		5		6		
Start		End						7
Distance to Emission Point		Direction to Emission Point		9		10		
Start		End						11
Vertical Angle to Observation Pt.		Direction to Observation Point		13		14		
Start		End						15
Describe Emissions			Start		17		18	
End								
Emission Color		If Water Droplet Plume (Circle)		21		22		
Start		End						23
Point In The Plume At Which Opacity Was Determined			Attached		25		26	
Start			Detached					
Describe Plume Background			N/A		29		30	
Start			End					
Background Color		Sky Condition		23		24		
Start		End						25
Wind Speed		Wind Direction		27		28		
Start		End						29
Ambient Temp		Wet Bulb Temp	RH Percent		21		22	
Start		End	End					

SOURCE LAYOUT SKETCH

EMISSION OBSERVATION POINT
X

OBSERVER'S POSITION

SUN LOCATION LINE
140°

STACK WITH PLUME

DRAW NORTH ARROW

SUN

WIND

Additional Information		Observer's Name (Print)	
		Observer's Signature	Date
Organization			
Certified by		Date	

APPENDIX C – Test Report Checklist

- Identification of DEQ Facility ID numbers, and permit registration numbers associated with the equipment
- Purpose of the test
- Date of test
- Description of plant location at time of test
- Identification of participants (Facility contacts, test contractors, etc.)
- Equipment diagram
 - a. Sketch and layout of equipment observed for testing
 - b. Identification of equipment that corresponds to equipment list
 - c. Arrows showing the direction of material flow
 - d. Transfer points into and out of equipment, labeled with identified observation points
 - e. Water application points (if used)
- Completed Method 9 observation forms for each visible emission observation point
- Documentation of current Method 9 opacity certification for the observer(s)
- Description of test method deviations (if any)
- Table of test result (average of 5, 6-minute observation averages), and applicable opacity limit, for each observation point
 - a. Refer to 40 CFR 60 Subpart OOO, Table 3
- Production monitoring data corresponding to the Method 9 observation times
 - a. Discussion of how production rate during test was representative of normal operation
- Certification by a responsible official
 - a. In accordance with IDAPA 58.01.01.123, the certification shall state that, “Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.”