



Central Pollution Control Board

(Ministry of Environment, Forest and Climate Change)

'Parivesh Bhawan', East Arjun Nagar,

Delhi – 110032

Procedure for Adequacy Assessment of Air Pollution Control Devices (APCDs) installed in Boiler /Thermic Fluid Heater/ Furnaces located in industries of Delhi - NCR

1. Purpose

This document outlines the procedure for conducting adequacy assessment of Air Pollution Control Devices (APCDs) in industrial units having Boiler /Thermic Fluid Heater/ Furnaces, located in Delhi-NCR to ensure that such APCDs are capable of achieving Particulate Matter (PM) emission norms of **50 mg/Nm³**, as mandated by the Commission for Air Quality Management (CAQM) vide direction no. 98 dated 20.02.2026.

2. Applicability

- All the industrial Units of Delhi NCR who claimed that they have adequate APCD to meet the revised CAQM standard of 50mg/Nm³.

3. Procedure for Adequacy Assessment

All applicable Industrial units must:

- Conduct adequacy assessment test of their installed APCD from an reputed Govt. institutes such as IITs, NITs MECON and Punjab State Council for Science & Technology or from Original Equipment Manufacturer's (OEMs) empanelled by National Productivity Council (NPC) on behalf of CPCB, including stack emission test report from a lab which is registered/established or recognized under the E(P)Act, 1986 or from a lab of SPCB/PCC/State Govt. or authorized by SPCB/PCC. {the list of NPC empanelled OEMs is available at NPC website [https://npcindia.gov.in/NPC/User/empanelment_oems] and APCD portal [<https://apcd.cpcb.gov.in/>]}.

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- The Unit shall select a reputed Govt. institutes or empanelled OEM for conducting the adequacy assessment of APCD and issue work order with the reputed Govt. /OEM specifying scope, costs, and timeline keeping in view the CAQM timelines for compliance of applicable norms i.e. **August 1, 2026** for large/medium; **October 1, 2026** for small/micro industries.
- The expert of the selected reputed Govt. institutes/OEM undertaking the adequacy assessment must have expertise in APCD performance evaluation.

- The expert of the selected reputed Govt. institutes/OEM shall ensure that adequacy assessment is carried out covering all the aspects/elements/parameters as mentioned in the attached adequacy assessment report format.
- Submit the adequacy assessment report to SPCB & CPCB including stack emission test report from a lab which is registered/established or recognized under the E(P)Act, 1986 or from a lab of SPCB/PCC/State Govt or authorized by SPCB/PCC.
- The above adequacy assessment report shall also be uploaded by the industry on APCD portal [<https://apcd.cpcb.gov.in/>].
- SPCB shall examine the report and approve the same and update/confirm the status in the portal. In case of inadequate APCD, the industry shall upload the purchase order in the APCD portal to retrofit/augment or install adequate APCD through NPC empanelled OEMs within the timeline.
- Separate adequacy is to be conducted for each set of APCD's installed in the industry.

Note: In case the APCD is inadequate, the Unit shall retrofit the current APCD or install new APCD to meet the revised PM norms of CAQM. For retro fitment /new installation, the industry shall approach OEMs of APCD empanelled by NPC. CAQM timeline for compliance of applicable norms are August 1, 2026 for large/medium; October 1, 2026 for small/micro.

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[Signature]

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Adequacy Assessment Report

A. Particulars of the industry:

Sr. No.	Particulars	Values
1.	Name & Address of the Industry	
2.	Name & contact details (Telephone and Email id) of Authorized person	
3.	Geo Co-ordinates	
4.	Sector	
5.	Scale of Operation	(Large/Medium/Small/Micro)
6.	Category	(Red/Orange/Green/Blue)
7.	Product and Production capacity	
8.	Emission source and Capacity (Boiler/Furnace/TFH/HAG)	
9.	Types of APCD system installed	

B. Documents related to APCD design, O&M and performance to be Collected from the Unit & Verified by Assessor:

S. No.	Documents	Status (Yes/No/NA)	Remarks
1.	APCD design, drawing & calculation sheet (design capacity, A/C ratio, SCA, etc.)		
2.	O&M logbook (last 06 months) for APCD & Boiler/Thermic Fluid Heater/Furnace including record of bag replacement / ESP rapping / scrubber nozzle cleaning etc.		
3.	Last stack monitoring report (manual) conducted by EPA recognized lab.		
4.	Last 30 days OCEMS data (PM) along with last OCEMS calibration certificates.		

C. Details of Emission Source (e.g. Boiler, Thermic Fluid Heater, Furnace, HAG):

Boiler / Thermic Fluid Heater/ HAG/Furnace	Details
1. Capacity of Boiler (TPH steam) / Thermic Fluid Heater (Lac Kcal per Hr)/ Furnace (TPH or TPD of melting).	
2. Type of Furnace (if applicable)	
3. Fuel used	
4. Quantity of Fuel (Tons per day)	
5. Operational hours per day.	

D. Fuel Details:

Parameter	Unit	Value	Remarks
Calorific Value (GCV)			
Ash content dry weight basis)	%		
Moisture content	%		
Volatile Matter	%		

E. Details of Emission and Adequacy Assessment of the APCD's (as applicable) shall be filled as given in Annexure-I.

F. Other salient findings and related recommendations:

Following are the observations and recommendations regarding adequacy and satisfactory operation of APCD and FES (if applicable):

Sr.No	Observations	Recommendations
1.		
2.		
3.		
4.		
5.		
6.		

7.		
8.		

G. Certification & Conclusion:

I/We certify that adequacy assessment has been carried out *under normal operating conditions* following the above prescribed procedure and using standard reference methods.

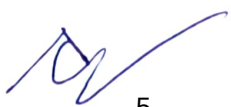
- The APCD system installed for the boiler/TFH/furnace/HAG is **adequate** to consistently meet the CAQM revised norm of **≤ 50 mg/Nm³ PM**.

OR

- The APCD system installed for the boiler/TFH/furnace/HAG is **not adequate** to consistently meet the CAQM revised norm of **50 mg/Nm³ PM** and require upgradation or new installation to meet the revised norms of CAQM.

The findings represent the actual operational status of the APCDs for the tested fuel and load conditions.

Name & Signature of Assessor	:	
Designation	:	
Name of Institute/Agency/OEM	:	
Date of Issue	:	

Annexure-I

(i) For ESP (As applicable)

Parameter	Unit	Value	Remark
Gas flow rate at inlet	m ³ /sec		
Gas Temperature at inlet	(deg C)		
Moisture content at inlet	% vol		
Particle density / specific gravity	gm/cm ³		
Inlet Dust Loading	(mg/Nm ³)		
Specific Collection Area (SCA)	m ² /(m ³ /s)		
Number of Gas Passages	-		
CE width/length	m		
CE height	m		
Collection Area	m ²		
Distance between charging and collecting electrodes	m		
Gas velocity through ESP	m/s		
Number of fields (in series)	-		
Effective Migration Velocity / Drift Velocity	(m/s)		
Addition of chemicals to reduce resistivity (If Yes, Details)	(Yes/No)		
Particulate removal efficiency	-		
PM concentration at outlet	mg/Nm ³		
Oxygen (O ₂) dry at outlet	%		
Moisture content at outlet	% vol		
Gas flow rate at outlet	m ³ /sec		
Gas Temperature at outlet	(deg C)		

Corona power /current density			
Rapping system	-		
Any pre cleaner system installed? (If yes, its efficiency?)	Yes/No		

Notes:

1. Boiler/ Furnace be assessed for **normal operating conditions** (preferably $\geq 80\%$ load).
2. Attach the **stack emission test report** from a lab which is registered/established or recognized under the E(P)Act, 1986 or from a lab of SPCB/PCC/State Govt or authorized by SPCB/PCC.

(ii) For Bag Filter (As applicable)

Parameter	Unit	Value	Remark
Gas flow rate at inlet	m ³ /min		
Gas Temperature at inlet	(deg C)		
Moisture content at inlet	% vol		
Particle density/ specific gravity	gm/cm ³		
Inlet Dust Loading	(mg/Nm ³)		
Fibre diameter	-		
Fabric Filter Material	-		
Total Cloth/ Filtration area	m ²		
Air-to-Cloth ratio	m/min		
Particulate removal efficiency	-		
PM concentration at outlet	mg/Nm ³		
Oxygen (O ₂) dry at outlet	%		
Moisture content at outlet	% vol		
Gas flow rate at outlet	m ³ /sec		
Gas Temperature at outlet	(deg C)		
Type of Dust cleaning system (Mechanical/ shaking/ Pulse Jet/ Reverse jet/etc.)	-		
Pressure drop (clean)	(mmWC)		



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Pressure drop (Normal operation)	(mmWC)		
Type of Dust removal mechanism (Rotary valve + sealing → no air ingress)	-		
Spark arrestor installed	Yes/No		
Any pre cleaner system installed? (If yes, its efficiency?)	Yes/No		

Notes:

1. Boiler/ Furnace be assessed for **normal operating conditions** (preferably $\geq 80\%$ load).
2. Attach the **stack emission test report** from a lab which is registered/established or recognized under the E(P)Act, 1986 or from a lab of SPCB/PCC/State Govt or authorized by SPCB/PCC.

(iii) For Scrubber (As applicable)

Parameter	Unit	Value	Adequacy Criteria/Remark
Gas flow rate at inlet	m ³ /min		
Gas Temperature at inlet	(deg C)		
Moisture content at inlet	% vol		
Particle density/ specific gravity	gm/cm ³		
Inlet Dust Loading	(mg/Nm ³)		
Type of Scrubber (Spray Chamber/Cyclonic/ Venturi /etc.)	-		
Design droplet size (dia)	mm		
Scrubber Residence Time	sec		
Liquid circulation-to-gas flow rate ratio	Ltr/m ³		
Mist eliminator present?	Yes/No		
Particulate Removal Efficiency	%		
PM concentration at outlet	mg/Nm ³		
Oxygen (O ₂) dry at outlet	%		
Moisture content at outlet	% vol		

Gas flow rate at outlet	m3/sec		
Gas Temperature at outlet	(deg C)		
Moisture content at outlet	% vol		
Pressure drop	mmWC		
Any pre cleaner system installed? (If yes, its efficiency?)	Yes/No		

Notes:

- 1. Boiler/ Furnace be assessed for **normal operating conditions** (preferably $\geq 80\%$ load).
- 2. Attach the **stack emission test report** from a lab which is registered/established or recognized under the E(P)Act, 1986 or from a lab of SPCB/PCC/State Govt or authorized by SPCB/PCC.

(iv) Adequacy assessment of Fume Extraction System (FES) installed in Furnaces

FES system installed	Yes/No
Capacity of FES, (at gas temperature_____)	_____(m3/hr)
Suction at null points is adequate	Yes/No
FES installed is adequate	Yes/No
Recommendation w.r.t. FES installation/retrofitment	