	Section A: Industry Information	
A1.	****Start Time**	|___|___|hrs|___|___|mins
A2.	****Date***(DD/MM/YYYY)*	|___|___|**/**|___|___|**/ 20**|___|___|
A3.	****Industry ID**	**GJS_** ___|___|___|
	Display Prefilled Industry Information	
	Industry Name	
	Industry Address	
	Cluster	
	Pincode	|__ __ __ __ __ __|
	GPCB ID	
A4.	**Is this information correct?**	☐ Yes ☐ No → ***Re-enter prefilled industry information***
A5.	**GPS Coordinates** *(Record to 10m accuracy)*	
A6.	**Size** *(as recorded on the environmental consent)*	1. ☐ Small-scale 2. ☐ Medium-scale 3. ☐ Large-scale

	Section B1: Backcheck Survey Information: General Module			
B1.	**Surveyor Names**		**Surveyor Codes**	___|___|
				___|___|
B2.	**Supervisor name**		**Supervisor Code**	___|___|
B3.	**Environmental Lab**	*Name of Lab*		
		Name of Employee		
		Lab team Code	___|___|___|	
B4.	**Energy Consultant**	*Name of Consultant*		
		Name of Employee		
		Consultant team code	___|___|___|	
B5.	**Industry respondents** *(Please enter the name and contact details of any industry employees that answered questions)*	**Name**	**Designation**	**Contact Number**

Section C: Industry Description

C9.	**Number of shifts in the Plant** *(Please fill using 24-hour time)*	Timing: 1. [ ][ ]:[ ][ ] to [ ][ ]:[ ][ ] 2. [ ][ ]:[ ][ ] to [ ][ ]:[ ][ ] 3. [ ][ ]:[ ][ ] to [ ][ ]:[ ][ ] 4. [ ][ ]:[ ][ ] to [ ][ ]:[ ][ ] 5. [ ][ ]:[ ][ ] to [ ][ ]:[ ][ ]
C14.	**Months during which industry was not in production, over the last financial year** *(Select all that apply)*	☐ April 2017 ☐ May 2017 ☐ June 2017 ☐ July 2017 ☐ August 2017 ☐ September 2017 ☐ October 2017 ☐ November 2017 ☐ December 2017 ☐ January 2018 ☐ February 2018 ☐ March 2018 ☐ None
C16.	**Gross sales revenue (i.e. turnover) in financial year 2017-2018**	☐ Lakh ☐ Crore ☐ Other

C20.	**Annual electricity consumption for this industry for financial year 2016-2017**	**Metered Demand** *(kWh)*	**Total Bill** *(Rs.)*

Section D: Industry Fuel Consumption

D1.	**Fuels burnt by this industry in the last 12 months** *(Select all that apply)* *Interviewer Note: probe for fuel burned in all fuel-consuming machinery, including boilers, thermos-packs, thermic fluid heaters, furnaces, kilns, DG sets, and other components*	**1.** ☐ Coal (Indian);Specify Grade _____ **2.** ☐ Coal (Imported);Specify Country _____ **3.** ☐ Coke **4.** ☐ Lignite **5.** ☐ Pet Coke **6.** ☐ Other Solid Fuel *(specify)*: _____ **7.** ☐ Wood **8.** ☐ Bagasse **9.** ☐ Rice Husk **10.** ☐ Other Biomass *(specify)*: _____ **11.** ☐ Crude Oil **12.** ☐ LDO (Light Diesel Oil) **13.** ☐ Fuel Oil (Residual Fuel Oil) **14.** ☐ Furnace Oil **15.** ☐ Diesel (Diesel/High Speed Diesel) **16.** ☐ LSHS (Low Sulphur Heavy Stock) **17.** ☐ Other Liquid Fuel *(specify)*: _____ **18.** ☐ Natural Gas **19.** ☐ Gaseous Fuels *(specify)*: _____

Fuel Module (To be completed for each fuel checked in D1)

D2.1	**Which of the following fuel-consuming machinery uses this fuel?** **(select all that apply)**	**1.** ☐ Boiler **2.** ☐ Thermo-Pack/Thermic Fluid Heater **3.** ☐ Furnace/Kiln **4.** ☐ DG Sets **5.** ☐ Others; _____

D4.2

Annual fuel consumption and purchase for the last financial year
(note in comments any unusual events that might account for fluctuation, such as months closed)

Year	Consumption	Unit of Measurement *(same units as D4.1)*	Total Cost	Unit of Measurement
2017-2018		**1.** ☐ Tonnes **2.** ☐ Litres **3.** ☐ Cubic Feet **4.** ☐ SCM **5.** ☐ Others	.....	☐ Lakh ☐ Crore ☐ **Other**

	Section B2: Backcheck Survey Information: Technical Module			
B4.	**Industry respondents** *(Please enter the name and contact details of any industry employees that answered questions)*	**Name**	**Designation**	**Contact Number**

Section E & F: Technical Details					
E1.	**Total Number of Stacks in the Industry**	|_____|	E2.	**Number of PM consent Stacks in the Industry, *excluding* the DG set stacks.**	|_____|

	Stack Module *(repeat this module to be filled for each PM Consent Stack, so loop this module E2 number of times)*					
	Instruction: to be completed for each PM Consent Stack					
E3.1	**Stack Name** *(industry given)*		E3.2	**Stack Height** *(meters)*	|____|	☐ **Meters** ☐ **Feet**
E3.3	**Stack Diameter** *(inches or millimeters)*	_____ ☐ Inches ☐ Millimeters ☐ Feet ☐ Meters	E3.4	**Number of sampling ports**	|_____|	
E3.7	**Is there a Continuous Emissions Monitoring System installed in the stack?**	☐ Yes → ***N3 = "J"*** 2. ☐ No → ***skip N3***				
E3.8	**Number of parallel chains**	|_____|				
N3	**CEMS Attachment:**	***(nothing for respondent to fill for this variable, should automatically display the answer based on answer to E3.7)*** ☐ "J" ☐ n/a				

	Parallel Chain Module: Fill out for every parallel chain in the stack *(to be repeated "E3.8" number of times)*	
F1.1	**What is the emission source?**	**1.** ☐ Boiler → ***N1 = "G1"***

		2. ☐ Thermo-Pack/Thermic Fluid Heater → ***N1 = "G2"*** **3.** ☐ Furnace/Kiln → ***N1 = "G3"***
N1	**Emission Source Section:**	***(this question should automatically display the answer based on answer to F1.1)*** ☐ "G1" ☐ "G2" ☐ "G3"
F1.2	**How many components in the parallel chain?**	|_____|
F1.3	**What is the 1st (or nth) component in the parallel chain?**	**1.** ☐ Gravity Settling Process → ***N2.1 = "H1"*** **2.** ☐ Air pre-heater → ***skip N2.1*** **3.** ☐ Water pre-heater/economizer → ***skip N2.1*** **4.** ☐ Cyclone → ***N2.1 = "H2"*** **5.** ☐ Scrubber → ***N2.1 = "H3"*** **6.** ☐ Bag Filter → ***N2.1 = "H4"*** **7.** ☐ ESP → ***N2.1 = "H5"*** **8.** ☐ ID Fan → ***N2.1 = "I"***
F1.4	**Is this component common to the previous parallel chain?**	□ Yes □ No
N2.1	**Attachment Section:**	***(this question should automatically display the answer based on answer to F1.3)*** ☐ "H1" ☐ "H2" ☐ "H3" ☐ "H4" ☐ "H5" ☐ "I"
F1.5	**What is the 2nd component in the parallel chain?**	**1.** ☐ Gravity Settling Process → ***N2.2 = "H1"*** **2.** ☐ Air pre-heater → ***skip N2.2*** **3.** ☐ Water pre-heater/economizer → ***skip N2.2*** **4.** ☐ Cyclone → ***N2.2 = "H2"*** **5.** ☐ Scrubber → ***N2.2 = "H3"*** **6.** ☐ Bag Filter → ***N2.2 = "H4"*** **7.** ☐ ESP → ***N2.2 = "H5"*** **8.** ☐ ID Fan → ***N2.1 = "I"***
F1.6	**Is this component common to the previous parallel chain?**	☐ Yes ☐ No

N2.2	**Attachment Section:**	***(nothing for respondent to fill for this variable, should automatically display the answer based on answer to F1.5)*** ☐ "H1" ☐ "H2" ☐ "H3" ☐ "H4" ☐ "H5" ☐ "I"

F2.	**Take a picture of your Parallel Chain sketch.**	***(Allow respondent to take a picture.)***

Section G1: Boilers			
G1.1	**How many boilers do you have?** *(operational and non-operational)*	1. ☐ 0 ***→ Skip this section, randomly display ONE of Section G2 or G3.*** 2. ☐ 1 3. ☐ 2 4. ☐ |_____|	
	Boiler Module: Fill out for every boiler *(to be repeated "G1.1" number of times)*		
G1.9	**Type of Boiler**	1. ☐ **Fire Tube** 2. ☐ Water Tube 3. ☐ Packaged Boiler 4. ☐ Others *(specify)*: _____	
G1.10	**Steam Generating Capacity**	|_____|	☐ kg/hr ☐ TPH ☐ Other
G1.21	**Designed Steam Pressure**		☐ KPa ☐ BAR ☐ kg/cm^2 ☐ Other
G1.24	**Rated (designed) efficiency of boiler**	|_____|	%
G1.25	**Year boiler was installed**	|__ __ __ __|	Year
G1.27	**Annual Operating cost of the Boiler** *(Include: Power Consumption , Labor cost and other daily costs -- **do NOT include fuel costs**)*		☐ Rupees ☐ Lakh ☐ Other
G1.28	**Annual Maintenance cost of the boiler***(Include: Equipment Repair, Cleaning)*		☐ Rupees ☐ Lakh ☐ **Other**

Section G2: Thermopacks/Thermic Fluid Heaters			
G2.1	**How many thermopacks do you have?** *(operational and non-operational)*	1. ☐ 0 ***→ Skip this section, randomly display ONE of Section G1 or G3.*** 2. ☐ 1 3. ☐ 2 1. ☐ |_____|	
Thermopack Module: Fill out for every Thermopack *(to be repeated "G2.1" number of times)*			
G2.10.2	**Fuel Processing Method**	1. ☐ None 2. ☐ Grinding 3. ☐ Pulverization 4. ☐ Others *(specify)*: _____	
G2.11	**Type of Fuel Firing**	1. ☐ Manual 2. ☐ Automatic FBC 3. ☐ Bubbling Bed 4. ☐ Other *(specify)*: _____	
		(numeric values only)	**Unit of Measurement**
G2.12	**Thermopack Capacity**		☐ mKcal/hr ☐ Kcal/hr ☐ Other
G2.20	**Rated (designed) efficiency of Thermopack** *(check with manufacturer)*	|__|__|	%
G2.21	**Year this Thermopack was installed**	|__ __ __ __|	Year
G2.23	**Annual Operating cost of the Thermopack** *(Include: Power Consumption , Labor cost and other daily costs -- **do NOT include fuel costs**)*		☐ Rupees ☐ Lakh ☐ Other
G2.24	**Annual Maintenance cost of the boiler***(Include: Equipment Repair, Cleaning***)**		☐ Rupees ☐ Lakh ☐ Other

Section G3: Furnaces/ Kilns			
G3.1	**How many furnaces do you have?** *(operational and non-operational)*	1. ☐ 0 ***→ Skip this section, randomly display ONE of Section G1 or G2.*** 2. ☐ 1 3. ☐ 2 ☐ |_____|	
Furnace Module: Fill out for every furnace *(to be repeated "G3.1" number of times)*			
		(numeric values only)	**Unit of Measurement**
G3.8	**Capacity of Furnace/Kiln**		Tons/melt
G3.10	**Rated efficiency of Furnace**		%
G3.13	**Annual Operating cost of the Furnace** *(Do NOT include fuel costs)*		☐ Rupees ☐ Lakh ☐ **Other**
G3.14	**Annual Maintenance cost of the Furnace**		☐ Rupees ☐ Lakh ☐ **Other**
G3.15	**Number of days this furnace operates**		1. ☐ Days/ year 2. ☐ Days/ Month

Section H: Parallel Chain Components		
H.1	Which Parallel Chain Component do you want to back-check?	1. ☐ Gravity Settling Process → ***Skip to H1*** 2. ☐ Cyclone → ***Skip to H2*** 3. ☐ Scrubber → ***Skip to H3*** 4. ☐ Bag Filter → ***Skip to H4*** 5. ☐ ESP → ***Skip to H5***
Section H1: Gravity Settling Chamber		
H1.1	How many GSCs do you have? *(operational and non-operational)*	1. ☐ 0 ***→ Skip this section, randomly display ONE of Section H2, H3, H4, or H5.*** 2. ☐ 1 3. ☐ 2 4. ☐ |_____|
GSC Module: Fill out for every GSC *(to be repeated "H1.1" number of times)*		
H1.7	**Rated Efficiency of the APCD**	|__|__| %
H1.8	**Year of equipment purchase**	|__ __ __ __|
H1.9	**Cost of Installation and Commissioning**	☐ Rupees ☐ Lakh ☐ Other
H1.10	**Annual power consumption costs and labor costs of this Gravity Settling Chamber**	☐ Rupees ☐ Lakh ☐ **Other**
H1.11	**Annual Maintenance cost of this Gravity Settling Chamber***(Include: Equipment Repair, Cleaning)*	☐ Rupees ☐ Lakh ☐ **Other**
H1.15	**Method of Dust Removal from Gravity Settling Chamber**	1. ☐ Manual 2. ☐ Continuous 3. ☐ Other *(specify)*: _____

Section H2: Cyclone

H2.1	How many cyclones do you have? *(operational and non-operational)*	1. ☐ 0 ***→ Skip this section, randomly display ONE of Section H1, H3, H4, or H5.*** 2. ☐ 1 3. ☐ 2 4. ☐ |_____|

Cyclone Module: Fill out for every Cyclone *(to be repeated "H2.1" number of times)*

H2.5	**Details of Cyclones** *(Report the no. of **cones** and their dimensions in this question)*	**Number** *(in Nos.)*	**Height** *(in Meter)*	**Diameter** *(in Meter)*
H2.8	**Rated (designed) Efficiency of the APCD**	|__|__| %		
H2.9	**Year of equipment purchase**	|__ __ __ __|		
H2.10	**Cost of Installation and Commissioning**			☐Rupees ☐ Lakh ☐ **Other**
H2.11	**Annual power consumption costs and labor costs of the Cyclone**			☐ Rupees ☐ Lakh ☐ **Other**
H2.12	**Annual Maintenance cost of the Cyclone** *(Include: Equipment Repair, Cleaning)*			☐ Rupees ☐ Lakh ☐ **Other**
H2.18	**Average Quantity of Dust Collected per day**			kg/day

Section H3: Scrubber			
H3.1	How many scrubbers do you have? *(operational and non-operational)*	1. ☐ 0 ***→ Skip this section, randomly display ONE of Section H1, H2, H4, or H5.*** 2. ☐ 1 3. ☐ 2 4. ☐ |_____|	
Scrubber Module: Fill out for every Scrubber *(to be repeated "H3.1" number of times)*			
H3.5	Type of Design	1. ☐ Ventury 2. ☐ Tower	
H3.6	Water Circulation Pump capacity		1. ☐ KW 2. ☐ kL/hr **3. ☐ Cubic meter/sec** **4. ☐ Other**
H3.9	Installation before ID Fan?	1. ☐ Yes 2. ☐ No	
H3.13	**Type of Scrubber** *(tick* more than one if necessary)	1. ☐ Simple 2. ☐ Spray 3. ☐ Packed Bed 4. ☐ Impingement	5. ☐ Venturi 6. ☐ Dry 7. ☐ Other *(specify)*: _____
H3.14	**Rated Efficiency of the Scrubber**	|__|__| %	
H3.15	**Year of purchase of this scrubber**	|_____|	
H3.16	**Cost of Installation and Commissioning**		☐ Rupees ☐ Lakh ☐ **Other**
H3.17	**Annual power consumption costs and labour costs of this Scrubber**		☐ Rupees ☐ Lakh ☐ **Other**
H3.18	**Annual Maintenance Cost of this Scrubber***(Include: Equipment Repair, Repainting, Cleaning Cost)*		☐ Rupees ☐ Lakh ☐ **Other**
H3.22	**Is "demister" installed?**	1. ☐ Yes 2. ☐ No	

Section H4: Bag Filter

H4.1	**How many bag filters do you have?** *(operational and non-operational)*	1. ☐ 0 ***→ Skip this section, randomly display ONE of Section H1, H2, H3, or H5.*** 2. ☐ 1 3. ☐ 2 4. ☐ |_____|			
Bag Filter Module: Fill out for every Bag Filter *(to be repeated "H4.1" number of times)*					
H4.5	**Type of Bag filter**	1. ☐ Reverse air type Fabric Filter 2. ☐ Pulse Jet Bag filter 3. ☐ Shaker type Bag filter 4. ☐ Other *(specify)*: _____			
H4.7	**Details of Bags** *(Report the no. of bags and their dimensions in this question)*	**Number** *(in Nos.)*	**Length** *(in Meter)*	**Height** *(in Meter)*	**Diameter** *(in Meter)*
H4.15	**Rated Efficiency of this Bag Filter**	|__|__| %			
H4.16	**Year of equipment purchase**	|_____|			
H4.17	**Cost of Installation and Commissioning**				☐ Rupees ☐ Lakh ☐ **Other**
H4.18	**Annual power consumption costs and labour costs of this bag filter**				☐ Rupees ☐ Lakh ☐ **Other**
H4.19	**Annual maintenance cost of this APCD** *(INCLUDE compressor and bag replacement costs, equipment repair)*				☐ Rupees ☐ Lakh ☐ **Other**
H4.23	**Total no. of Filter Bags fitted inside bag house**				Nos

Section H5: ESP

H5.1	How many ESPs do you have? *(operational and non-operational)*	1. ☐ 0 ***→ Skip this section, randomly display ONE of Section H1, H2, H3, or H4.*** 2. ☐ 1 3. ☐ 2 4. ☐ |_____|	
ESP Module: Fill out for every ESP *(to be repeated "H5.1" number of times)*			
H5.5	**Type of ESP** *(Tick more than one option if necessary)*	1. ☐ Plate & Wire 2. ☐ Tabular ESP 3. ☐ Wet ESP 4. ☐ Two Stage Precipitator	5. ☐ Hot Stage Precipitator 6. ☐ Cold Stage Precipitator 7. ☐ Dry stage precipitator 8. ☐ Other *(specify)*: _____
H5.6	**Details of ESP** *(Report the no. of fields, electrode plates and their dimensions in this question)*	**Number of Fields** *(in Nos.)*	**Number of Electrode Plates** *(in Nos.)* / **Total Collection Area** *(in meter square)*
H5.9	Flue Gas Capacity		☐ **Cubic meter/min** ☐ **Cubic meter/hr** ☐ **Other**
H5.11	Installation before ID Fan?	1. ☐ Yes 2. ☐ No	
H5.14	**Rated Efficiency of ESP**	|__|__| %	
H5.15	**Year of equipment purchase**	|_____|	
H5.16	**Cost of Installation and Commissioning**		☐ Rupees ☐ Lakh ☐ **Other**
H5.17	**Annual power consumption costs and labor costs of this ESP**		☐ Rupees ☐ Lakh ☐ **Other**
H5.18	**Annual Maintenance cost of this ESP***(Include: Equipment Repair)*		☐ Rupees ☐ Lakh ☐ **Other**

Section J: Continuous Emissions Monitoring System			
J1	**How many CEMS devices do you have?** *(operational and non-operational)*	1. ☐ 0 ***→ Skip this section, go to Section L*** 2. ☐ 1 3. ☐ 2 4. ☐ |_____|	
CEMS Module: Fill out for every CEMS device *(to be repeated "J1" number of times)*			
J4	**Measurement Principle of the PM CEMS?**	1. ☐ DC Triboelectric 2. ☐ AC Triboelectric 3. ☐ Electrodynamic 4. ☐ Single Pass Opacity 5. ☐ Double Pass Opacity 6. ☐ Dual Beam Opacity 7. ☐ Dynamic Opacity 8. ☐ Forward Light Scattering 9. ☐ Backward Light Scattering 10. ☐ Light Scattering (Extractive) for Wet Gas 11. ☐ Others *(specify):* _____	
J7	**What was the installation cost for this PM CEMS?**		☐ Rupees ☐ Lakh
J8	**Annual Operating and Maintenance cost of this PM CEMS Device (Include power, internet labor and maintenance costs)**		☐ Rupees ☐ Lakh
J9	**Annual Maintenance Contract (AMC) Signed**	1. ☐ Yes 2. ☐ No***→ Skip J8***	
J10	**Cost of Annual maintenance contract (AMC)**		Rupees

	Section L: Survey Notes	
L1.	****End Time**	|___|___|hrs|___|___|mins
L2.	**How many people were present at the time of the interview?**	|___|___|
L3.	**Are you satisfied with the answers given by the respondent(s)?**	☐ Yes ☐ No
L4.	**Do you have any other comments?**	|_____|
L5.	****Survey Status Code**	1. ☐ SS01 - Complete 2. ☐ SS02 – Partially Complete 3. ☐ SS03 – Respondent Unavailable 4. ☐ SS04 – Industry temporarily closed 5. ☐ SS05 – Industry permanently closed 6. ☐ SS06 – Industry not found 7. ☐ SS07 – Did not consent 8. ☐ SS08 – Refused to complete survey