

INSTRUCTION FOR FILLING UP THE FORM-Sa₁ (Detail of production and Energy Consumption)

Sr No	Details	Note	Frequency of record	Primary Documents from where the information can be sourced and to be kept ready for verification by Accredited Energy Auditor	Secondary Documents from where the information can be sourced and to be kept ready for verification by Accredited Energy Auditor
It is mandatory to fill data in all fields of the excel sheet - General Information, Form Sa1, Annex CPP, Annex Addl Eqp List-Env, Annex Project Activities List					
Please fill the data as per colour coding provided at the bottom of Form Sa1					
A	Production and capacity utilization details				
A1	Refinery Process				
i	Please provide total annual Production Capacity of Hydrate Alumina in tonnes	Capacity of all Precipitator Tank	Annual	1) OEM Document of Section-wise process line 2) Environmental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Environmental Consent
ii	Please provide total annual Production Capacity of Calcined Alumina in tonnes	Capacity of Calciner	Annual	1) OEM Document of Section-wise Process line 2) Environmental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Environmental Consent
iii	Please provide total annual Hydrate Alumina Production (including the exported hydrate alumina) in Tonnes	Production of Hydrate Alumina from all Precipitator Tank	Continuous, Hourly, Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1)Hydrate Alumina stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
iv	Please provide total annual Calcined Alumina Production of all calciner (including the exported calcined alumina) in Tonnes	Production of Calcined Alumina from all Calciner	Continuous, Hourly, Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1)Calcined Alumina stock 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
v	Formula protected (Annual production of Hydrate Alumina/ Annual production capacity of Hydrate Alumina)				
vi	Formula protected (Annual production of calcined Alumina/annual production capacity of Calcined Alumina)				
A2	Smelter Process				
i	Please provide total annual Production Capacity of Molten Aluminium in tonnes	Capacity of all Potline	Annual	1) OEM Document of potline 2) Environmental Consent to establish/operate document	1) Potline wise capacity document from OEM 2) Capacity calculation document submitted for Environmental Consent
ii	Please provide total annual Production Capacity of cast House in tonnes	Capacity of cast House	Annual	1) OEM Document of Section-wise Process line 2) Environmental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Environmental Consent
iii	Please provide total annual Molten Aluminium Production in Tonnes	Production of Molten Aluminium from all Potline	Continuous, Hourly, Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) Laddle weighing system 2) Weight of Molten Aluminium
iv	Please provide total annual cast house Production in Tonnes	production of Casted product from Cast House	Continuous, Hourly, Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) Cast House Products stock register 2) Weigh Bridge
v	Formula protected (Annual production of Molten Aluminium/ Annual production capacity of Molten Aluminium)				
vi	Formula protected (Annual production of Cast House/annual production capacity of Cast House)				
A3	Process wise production and performance detail				
A3.1	Refinery Process				
a	Hydrate Alumina				
i	Please provide the Hydrate Alumina, exported outside plant boundary or sold to any other entity in Tonnes.		Monthly, Yearly	1) Inventory Report 2) Excise Document (ER1)3) Stores Entry 4) SAP Entry in MM/PP/SD module	1) Weigh Bridge 2) Stock Register
ii	Please provide the Hydrate Alumina, imported from outside plant boundary or import from any other entity in Tonnes.		Monthly, Yearly	1) Inventory Report 2) Excise Document (ER1)3) Stores Entry 4) SAP Entry in MM/PP/SD module	1) Weigh Bridge 2) Stock Register
iii	Please provide opening stock of hydrate alumina in tonnes	Record Opening and Closing stock on daily basis	Daily, Monthly, Yearly	1) Inventory Report 2) Excise Document (ER1)3) Stores Entry 4) SAP Entry in MM/PP/SD module	

iv	Please provide closing stock of hydrate alumina in tonnes	Record Opening and Closing stock on daily basis	Daily, Monthly, Yearly	1) Inventory Report 2) Excise Document (ER1)3) Stores Entry 4) SAP Entry in MM/PP/SD module	
v	Please provide thermal SEC of hydrate alumina (total thermal energy consumed for production of hydrate alumina in kcal /total hydrate alumina production in tonne)	The energy consumed upto making hydrate Alumina needs to be divided by total hydrate production	Daily, Monthly, Yearly	1) DPR 2) MPR 3) Stocks register 4) Log Book 4) Annual Report 6) Fuel test Certificate (Internal and External) 7) Excise Record	1)Operator Shift Register 2) Weighfeeder Reading for fuel feeding 3) Weigher Reading
vi	Please provide electrical SEC of hydrate alumina (total electrical energy consumed for production of hydrate alumina in kWh/total hydrate alumina production in tonne)		Daily, Monthly, Yearly	1) DPR 2) MPR 3) Stocks register 4) Log Book 4) Annual Report 6)Daily Power Report 7) Monthly Power Report 8) Excise Record	1)Operator Shift Register 2) Weighfeeder Reading for fuel feeding 3) Weigher Reading 4) Energy Meter Reading 5) Energy Management System
vii	Please provide total annual running Hours of plant for producing Hydrate Alumina		Daily, Monthly, Yearly	1) DPR 2) MPR 3) DCS/CCR Trend	1) houer Meter Reading
b	Digestion Process Parameter				
i	Please provide Type of Digestion Technology used in plant			1) OEM document	1) Name Plate Details
ii	Please provide Number of Digestion Units within the plant			1) CCR/DCS SCADA Screen Shots	
iii	Please provide total annual Production Capacity of Digestion Units in tonne			1) OEM document	1) Name Plate Details
iv	Please provide Digestion Specific Steam Consumption (total steam consumed in tonne/total alumina production in tonne)		Daily, Monthly, Yearly	1) DPR 2) MPR 3) CCR/DCS SCADA Trends 4) Log Book 5)Stock Register 6) Stores Receipt	1) Steam flow Meter 2) Shift Register
v	Please provide Digestion Specific Power Consumption (total power consumed kWh/total alumina production in tonne)		Daily, Monthly, Yearly	1) DPR 2) MPR 3) CCR/DCS SCADA Trends 4) Log Book 5)Stock Register 6) Stores Receipt 7) Daily Power Report 8) Monthly Power Report	1) Energy Meter 2) Energy Management System
vi	Please provide Temperature of Low Temperature Digestion Units in oC		Daily, Monthly, Yearly	1) SCADA Screen Shots 2) OEM Document 3) Log Book	1) RTDs 2) Temperature Meters
vii	Please provide Pressure of Low Temperature Digestion Units in kg/cm ²		Daily, Monthly, Yearly	1) SCADA Screen Shots 2) OEM Document 3) Log Book	1) RTDs 2) Pressure Meters
viii	Please provide the temperature of High Temperature Digestion Units in oC		Daily, Monthly, Yearly	1) SCADA Screen Shots 2) OEM Document 3) Log Book	1) RTDs 2) Temperature Meters
ix	Please provide pressure of High Temperature Digestion Units in kg/cm ²		Daily, Monthly, Yearly	1) SCADA Screen Shots 2) OEM Document 3) Log Book	1) RTDs 2) Pressure Meters
x	Please provide LP Steam Temperature in oC		Daily, Monthly, Yearly	1) SCADA Screen Shots 2) OEM Document 3) Log Book	1) RTDs 2) Temperature Meters
xi	Please provide LP steam Pressure in kg/cm ²		Daily, Monthly, Yearly	1) SCADA Screen Shots 2) OEM Document 3) Log Book	1) RTDs 2) Pressure Meters
xii	Please provide LP Steam Enthalpy in kcal/kg		Daily, Monthly, Yearly	1) Steam Table 2) Steam Chart	
xiii	Please provide LP Steam Consumption in Tonne		Daily, Monthly, Yearly	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends	1) Steam flow Meter 2) Shift Register
xiv	Please provide MP Steam Temperature in oC		Daily, Monthly, Yearly	1) SCADA Screen Shots 2) OEM Document 3) Log Book	1) RTDs 2) Temperature Meters
xv	Please provide MP steam Pressure in kg/cm ²		Daily, Monthly, Yearly	1) SCADA Screen Shots 2) OEM Document 3) Log Book	1) RTDs 2) Pressure Meters
xvi	Please provide MP Steam Enthalpy in kcal/kg		Daily, Monthly, Yearly	1) Steam Table 2) Steam Chart	
xvii	Please provide MP Steam Consumption in Tonne		Daily, Monthly, Yearly	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends	1) Steam flow Meter 2) Shift Register
xviii	Please provide HP Steam Temperature in oC		Daily, Monthly, Yearly	1) SCADA Screen Shots 2) OEM Document 3) Log Book	1) RTDs 2) Temperature Meters
xix	Please provide HP steam Pressure in kg/cm ²		Daily, Monthly, Yearly	1) SCADA Screen Shots 2) OEM Document 3) Log Book	1) RTDs 2) Pressure Meters
xx	Please provide HP Steam Enthalpy in kcal/kg		Daily, Monthly, Yearly	1) Steam Table 2) Steam Chart	
xxi	Please provide HP Steam Consumption in Tonne		Daily, Monthly, Yearly	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends	1) Steam flow Meter 2) Shift Register

xxii	Please provide Specific Steam Consumption for Evaporation (total steam consumed in tonne/total alumina production in tonne)		Daily, Monthly, Yearly	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends	1) Steam flow Meter 2) Shift Register
xxiii	Please provide Specific Power Consumption for Evaporation (total power consumed in kWh/total alumina production in tonne)		Daily, Monthly, Yearly	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Daily Power Report	1) Energy Meter 2) Shift Register 3) Energy Management System
xxiv	Formula protected Weighted average of Enthalpy				
c	Calcined Alumina				
i	Please provide Opening stock of Calcined alumina in tonne for Integrated Process Only	Record Opening and Closing stock on daily basis	Daily, Monthly	1) Inventory Report 2) Excise Document (ER1)3) Stores Entry 4) SAP Entry in MM/PP/SD module	1) Field Inventory
ii	Please provide Closing stock of Calcined alumina in tonne for Integrated Process only	Record Opening and Closing stock on daily basis	Daily, Monthly	1) Inventory Report 2) Excise Document (ER1)3) Stores Entry 4) SAP Entry in MM/PP/SD module	1) Field Inventory
iii	Please provide type of Calciner Technology used within plant			1) OEM document	1) Name Plate Details
iv	Please provide calcination Temperature in °C			1) SCADA Screen Shots 2) OEM Document 3) Log Book	1) RTDs 2) Temperature Meters
v	Please provide Specific Power Consumption for calciner (total electrical consumed in kWh/total alumina production in tonne)	Required per ton of product for calciner section	Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Daily Power Report	1) Energy Meter 2) Shift Register 3) Energy Management System
vi	Please provide specific Thermal Consumption for calciner (total thermal energy consumed in kcal/total alumina production in tonne)	Required per ton of product for calciner section	Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends	1) Shift Register 2) Field Inventory
vii	Please provide total annual running Hours of all calciners		Daily, Monthly, Annually	1) DPR 2) MPR 3) DCS/CCR Trend	1) houer Meter Reading
viii	Please provide total calcined Alumina exported (only for Intergated Process) in tonne		Daily, Monthly, Annually	1) Inventory Report 2) Excise Document (ER1)3) Stores Entry 4) SAP Entry in MM/PP/SD module	1) Weigh Bridge 2) Stock Register
ix	Please provide total calcined Alumina Imported (only for Intergated Process) in tonne		Daily, Monthly, Annually	1) Inventory Report 2) Excise Document (ER1)3) Stores Entry 4) SAP Entry in MM/PP/SD module	1) Weigh Bridge 2) Stock Register
x	Please provide Specific Thermal Energy Consumption of Calcined Alumina (total Thermal energy consumed in kcal/total calcined alumina production in tonne)	Required per ton of product up to making Calcined Alumina	Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption
xi	Please provide Specific Electrical Energy Consumption of Calcined Alumina (total electrical energy consumed in kWh/total calcined alumina production in tonne)	Required per ton of product up to making Calcined Alumina	Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Daily Power Report	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
d/e/f	Special Hydrate Course/Microfined/Milled				
i	Please provide total annual production capacity of Special hydrate Course/Microfined/Milled in tonne		Daily, Monthly, Annually	1) OEM Document of Section-wise Process line 2) Enviromental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Enviromental Consent
ii	Please provide total annual production of special hydrate Course/Microfined/Milled in tonne		Daily, Monthly, Annually	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1)Hydrate Alumina stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
iii	Please provide Thermal Specific Energy Consumption of special hydrate Course/Microfined/Milled (total thermal energy consumed in kcal/total special grade hydrate alumina production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
iv	Please provide Electrical Specific Energy Consumption of spcial hydrate Course/Microfined/Milled (total electrical energy consumed in kwh/total special grade hydrate alumina production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
g/h/i	Special Alumina Course/Microfined/Milled				
i	Please provide total annual production capacity of Special Alumina Course/Microfined/Milled in tonne		Daily, Monthly, Annually	1) OEM Document of Section-wise Process line 2) Enviromental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Enviromental Consent

ii	Please provide total annual production of special Alumina Course/Microfined/Milled in tonne		Daily, Monthly, Annually	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
iii	please provide Thermal Specific Energy Consumption of special Alumina Course/Microfined/Milled (total thermal energy consumed in kcal/total special alumina production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
iv	Please provide Electrical Specific Energy Consumption of special Alumina Course/Microfined/Milled (total electrical energy consumed in kwh/total special alumina production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
j	Carbon Black Production				
i	Please provide total annual production capacity of carbon black in tonne		Daily, Monthly, Annually	1) OEM Document of Section-wise Process line 2) Enviromental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Enviromental Consent
ii	Please provide total annual production of carbon black in tonne		Daily, Monthly, Annually	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
iii	please provide Thermal Specific Energy Consumption of carbon black (total thermal energy consumed in kcal/total carbon black production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
iv	Please provide Electrical Specific Energy Consumption of carbon black (total electrica energy consumed in kwh/total carbon black production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
k	Carbon Paste Production				
i	Please provide total annual production capacity of carbon paste in tonne		Daily, Monthly, Annually	1) OEM Document of Section-wise Process line 2) Enviromental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Enviromental Consent
ii	Please provide total annual production of carbon paste in tonne		Daily, Monthly, Annually	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
iii	please provide Thermal Specific Energy Consumption of carbon paste (total thermal energy consumed in kcal/total carbon paste production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
iv	Please provide Electrical Specific Energy Consumption of carbon paste (total electrica energy consumed in kwh/total carbon paste production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
l	Zeolite Production				
i	Please provide total annual production capacity of zeolite in tonne		Daily, Monthly, Annually	1) OEM Document of Section-wise Process line 2) Enviromental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Enviromental Consent
ii	Please provide total annual production of zeolite in tonne		Daily, Monthly, Annually	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
iii	please provide Thermal Specific Energy Consumption of zeolite (total thermal energy consumed in kcal/total zeolite production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge

iv	Please provide Electrical Specific Energy Consumption of zeolite (total electrica energy consumed in kwh/total zeolite production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
m	Other Production -1				
i	Please Provide name of product produced				
ii	Please provide total annual production capacity of Product -1 in tonne		Daily, Monthly, Annually	1) OEM Document of Section-wise Process line 2) Enviromental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Enviromental Consent
iii	Please provide total annual production of Product -1 in tonne		Daily, Monthly, Annually	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
iv	Please provide Thermal Specific Energy Consumption of Product -1 (total thermal energy consumed in kcal/total Product -1 production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
v	Please provide Electrical Specific Energy Consumption of Product -1 (total electrica energy consumed in kwh/total Product -1 production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
n	Major Product (Calciner/Major product) section start/stop				
i	Please provide Equivalent major Production during Cold Start per annum in Tonnes		Continuous, Hourly, Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1)Major Product stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
ii	Please provide Calciner Operating Thermal SEC (Up to section product) in kcal/kg equivalent major product	SEC shall be provided up to calcination	Continuous, Hourly, Daily, Monthly	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
iii	Please provide Calciner Operating Electrical SEC (Up to section product) kWh/t equivalent major product		Continuous, Hourly, Daily, Monthly	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
iv	Please provide the annual run hours of Calciner in Hours	External Factor: Market Demand, Grid Failure (Where CPP is not Sync with Grid), Raw material unavailability,	Continuous, Hourly, Daily, Monthly	1) Log sheet 2) DPR 3) MPR 4) Refer Sr. No: P 5) SCADA Trends	1)Shift operator's Log Register 2) Breakdown report
v	Please provide annual hours stoppage in Calciner (Hot to Cold stop) due to external factor	Natural Disaster, Rioting or Social unrest, Major change in government policy hampering plant's process system, Any	Continuous, Hourly, Daily, Monthly	1) Log sheet 2) DPR 3) MPR 4) Refer Sr. No: P 5) SCADA Trends	1) Shift operator's Log Register 2) Breakdown report
vi	Please provide total nos of Calciner Hot to Cold stop due to external factor annually	unforeseen circumstances not controlled by plant management	Continuous, Hourly, Daily, Monthly	1) Log sheet 2) DPR 3) MPR 4) Refer Sr. No: P 5) SCADA Trends	1) Shift operator's Log Register 2) Breakdown report
vii	Please provide the Electrical Energy Consumption during Calciner Hot to Cold stop due to external factor annually		Continuous, Hourly, Daily, Monthly	1) Energy Meter Reading for Section 2) Kiln Log sheet 3) DPR 4) MPR 6) CCR SCADA Trends	1) Shift operator's Log Register 2) Breakdown report 3) Energy Management System
viii	Please provide the annual hours for startup in Calciner Cold to Hot start due to external factors		Continuous, Hourly, Daily, Monthly	1) Log sheet 2) DPR 3) MPR 4) Refer Sr. No: P 5) SCADA Trends	1) Shift operator's Log Register 2) Breakdown report
ix	Please provide total nos of Calciner Cold to Hot start due to external factors annually		Continuous, Hourly, Daily, Monthly	1) Log sheet 2) DPR 3) MPR 4) Refer Sr. No: P 5) SCADA Trends	1) Shift operator's Log Register 2) Breakdown report

x	Please provide the Electrical Energy Consumption in Lakh kWh during Calciner Cold to Hot start due to external factors taking production into account	The energy of the production during the cold to hot start needs to be subtracted. The same is to be done by multiplying the existing SEC up to Calciner with the production made during the period from the Energy consumed per startup due to external factor	Continuous, Hourly, Daily, Monthly	1) Energy Meter Reading for Section 2) Kiln Log sheet 3) DPR 4) MPR 6) CCR SCADA Trends	1) Shift operator's Log Register 2) Breakdown report 3) Energy Management System
xi	Please provide the Thermal Energy Consumption in Million kcal during Calciner Cold to Hot start due to external factors taking production into account	The energy of the production during the cold to hot start needs to be subtracted. The same is to be done by multiplying the existing SEC up to Calciner with the production made during the period from the Energy consumed per startup due to external factor	Continuous, Hourly, Daily, Monthly	1) DPR 2) MPR 3) CCR SCADA Trends 4) Stores Fuel Register	1) Shift operator's Log Register 2) Breakdown report
xii	Please provide the annual hours for startup in Calciner Cold to Hot start due to internal factors		Continuous, Hourly, Daily, Monthly	1) Log sheet 2) Shift operator's Log Register 3) DPR 4) MPR 5) Refer Sr. No: P 6) CCR Trends	1) Shift operator's Log Register 2) Breakdown report
A3.2 Smelter Process					
a Molten Aluminum Production					
i	Please provide thermal SEC per tonne of molten Aluminium Production (total thermal Energy consumption in kcal/total molten aluminium production in tonne)		Continuous, Hourly, Daily, Monthly	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
ii	Please provide Electrical SEC per tonne of molten Aluminium production (total electrical energy consumption in kwh/total molten aluminium production in tonne)		Continuous, Hourly, Daily, Monthly	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
iii	Please provide total Calcined Alumina Consumed within plant in tonne			1) Stores Receipt 2) Section Stock and Transfer register 3) DPR 4) MPR	
iv	Please provide total annual running Hours of plant			1) Log sheet 2) Shift operator's Log Register 3) DPR 4) MPR 5) CCR Trends	1) Shift operator's Log Register 2) Breakdown report
b Smelter Process Operating Parameters					
b.1/b.2/b.3/ b.4/b.5/b.6/ b.7/b.8/b.9/ b.10					
Line 1/Line 2/Line 3/Line 4/Line 5/Line 6/Line 7/Line 8/Line 9/Line 10					
i	Please provide rated capacity of molten aluminium production in tonnes (Potline wise)		Yearly	1) OEM Document 2) Design Basis Report	1) Name Plate Rating
ii	Please provide total Molten Aluminium Production in tonnes (Potline wise)		Continuous, Hourly, Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) Major Product stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
iii	Please provide Smelting Technology used within the plant			1) OEM document	1) Name Plate Details
iv	Please provide No of Operating Pots (NOP) Operation to be based on operating pots weighted with the time (Potline wise)		Continuous, Hourly, Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) SCDA Screen Shot	1) Shift Register
v	Please provide No of Pots/Potline (NOPP)		Yearly	1) OEM Document 2) Design Basis Report	1) Name Plate Rating
vi	Please provide Dead pot voltage (DPV) in volts			1) Log Sheet 2) Shift Register 3) SCADA Screen Shots	
vii	Please provide Design Pot Voltage (DnPV) in volts			1) OEM Document 2) Design Basis Report	1) Name Plate Rating

viii	Please provide Design Bus Bar Voltage Drop (DnBV) in volts			1) OEM Document 2) Design Basis Report	1) Name Plate Rating
ix	Please provide Design Current Efficiency of Pots (CE) in %			1) OEM Document 2) Design Basis Report	1) Name Plate Rating
x	Please provide DC Current Design in Kilo Amps			1) OEM Document 2) Design Basis Report	1) Name Plate Rating
xi	Please provide DC Current Actual in Kilo Amps			1) Log Sheet 2) Shift Register 3) SCADA Screen Shots	
xii	Please provide Anode Effect in number of anode/Pot/Cell/day			1) Log Sheet 2) Shift Register 3) SCADA Screen Shots 4) Calculation sheet	
xiii	Please provide Design DC Specific Power Consumption of pots in kWh/Tonne			1) OEM Document 2) Design Basis Report	1) Name Plate Rating
xiv	Please provide Actual DC Specific Power Consumption of pots in kWh/Tonne			1) Log Sheet 2) Shift Register 3) SCADA Screen Shots	
xv	Please provide Alumina Consumption Factor in Tonnes of alumina consumed/ Tonnes of Molten Aluminium produced			1) Log Sheet 2) Shift Register 3) SCADA Screen Shots	
xvi	Please provide Carbon Consumption Factor in Tonnes of Carbon consumed/Tonnes of Molten Aluminium produced			1) Log Sheet 2) Shift Register 3) SCADA Screen Shots 4) Calculation sheet	
c	Carbon Anodes Production				
(i)	Please provide total annual Production Capacity of carbon anodes in tonnes			1) OEM Document 2) Design Basis Report	1) Name Plate Rating
(ii)	Please provide total annual production of actual carbon anodes in tonnes			1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1)Major Product stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
(iii)	Formula protected (Annual production of carbon anodes/ Annual production capacity of carbon anodes)				
(iv)	Please provide Electrical SEC of carbon anode production (total electrical energy consumed for carbon anode production in kWh / total carbon anode production in tonne)			1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
(v)	Please provide Thermal SEC of carbon anode production (total thermal energy consumed for carbon anode production in kcal / total carbon anode production in tonne)			1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
(vi)	Please provide Opening stock of carbon anode in tonne	Record Opening and Closing stock on daily basis	Daily, Monthly	1) Inventory Report 2) Excise Document (ER1)3) Stores Entry 4) SAP Entry in MM/PP/SD module	
(vii)	Please provide Closing stock of carbon anode in tonne	Record Opening and Closing stock on daily basis	Daily, Monthly	1) Inventory Report 2) Excise Document (ER1)3) Stores Entry 4) SAP Entry in MM/PP/SD module	
viii	Please provide annual total Imported Anode in tonne			1) Inventory Report 2) Excise Document (ER1)3) Stores Entry 4) SAP Entry in MM/PP/SD module	
ix	Please provide annual total Exported Anode in tonne			1) Inventory Report 2) Excise Document (ER1)3) Stores Entry 4) SAP Entry in MM/PP/SD module	
d	Cast House Production				
d.1	Billets				
(i)	Please provide total annual Production Capacity of billets in tonnes		Daily, Monthly, Annually	1) OEM Document of Section-wise Process line 2) Enviromental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Enviromental Consent
(ii)	Please provide total annual production of billets in tonnes		Daily, Monthly, Annually	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) Stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
(iii)	Please provide total Thermal SEC of Billets (total annual thermal energy consumed in kcal/total annual billets production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge

(iv)	Please provide total Electrical SEC of Billetes (total annual electrical energy consumed in kWh/total annual billets production in tonnes)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
d.2	Ingot				
(i)	Please provide total annual Production Capacity of Ingots in tonnes		Daily, Monthly, Annually	1) OEM Document of Section-wise Process line 2) Environmental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Environmental Consent
(ii)	Please provide total annual production of Ingots in tonnes		Daily, Monthly, Annually	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) Stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
(iii)	Please provide total Thermal SEC of Ingots (total annual thermal energy consumed in kcal/total annual ingots production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
(iv)	Please provide total Electrical SEC of Ingots (total annual electrical energy consumed in kwh/total annual ingots production in tonnes)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
d.3	Bars				
(i)	Please provide total annual Production Capacity of bars in tonnes		Daily, Monthly, Annually	1) OEM Document of Section-wise Process line 2) Environmental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Environmental Consent
(ii)	Please provide total annual production of bars in tonnes		Daily, Monthly, Annually	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) Stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
(iii)	Please provide total Thermal SEC of bars (total annual thermal energy consumed in kcal/total annual bars production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
(iv)	Please provide total Electrical SEC of bars (total annual electrical energy consumed in kwh/total annual bars production in tonnes)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
d.4	Primary Foundry Alloys				
(i)	Please provide total annual Production Capacity of Primary Foundry alloys in tonnes		Daily, Monthly, Annually	1) OEM Document of Section-wise Process line 2) Environmental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Environmental Consent
(ii)	Please provide total annual production of primary foundry alloys in tonnes		Daily, Monthly, Annually	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) Stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
(iii)	Please provide total Thermal SEC of primary foundry alloys (total annual thermal energy consumed in kcal/total annual primary foundry alloys production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
(iv)	Please provide total Electrical SEC of primary foundry alloys (total annual electrical energy consumed in kWh/total annual primary foundry alloys production in tonnes)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
d.5	Wire Rod				
(i)	Please provide total annual Production Capacity of Wire Rods in tonnes		Daily, Monthly, Annually	1) OEM Document of Section-wise Process line 2) Environmental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Environmental Consent

(ii)	Please provide total annual production of wire Rods in tonnes		Daily, Monthly, Annually	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) Stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
(iii)	Please provide total Thermal SEC of wire rods (total annual thermal energy consumed in kcal/total annual wire rods production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
(iv)	Please provide total Electrical SEC of wire rods (total annual electrical energy consumed in kwh/total annual wire rods production in tonnes)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
d.6	Strips				
(i)	Please provide total annual Production Capacity of Strips in tonnes		Daily, Monthly, Annually	1) OEM Document of Section-wise Process line 2) Enviromental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Enviromental Consent
(ii)	Please provide total annual production of strips in tonnes		Daily, Monthly, Annually	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) Stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
(iii)	Please provide total Thermal SEC of strips (total annual thermal energy consumed in kcal/total annual strips production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
(iv)	Please provide total Electrical SEC of strips (total annual electrical energy consumed in kwh/total annual strips production in tonnes)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
d.7	Others , if Any				
(i)	Please Provide name of product produced				
(ii)	Please provide total annual Production Capacity of Other product in tonnes		Daily, Monthly, Annually	1) OEM Document of Section-wise Process line 2) Enviromental Consent to establish/operate document	1) Equipment/Section wise capacity document from OEM 2) Capacity calculation document submitted for Enviromental Consent
(iii)	Please provide total annual production of others in tonnes		Daily, Monthly, Annually	1) Log Sheet 2) CCR SCADA Report/ Trends 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Excise record (ER1) 7) Annual Report	1) Stock Level 2) Weighhfeeders 3) Belt Weigher 4) Solid flow meter 5) Load cells
(iv)	Please provide total Thermal SEC of others (total annual thermal energy consumed in kcal /total annual other production in tonne)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Fuel Stock Register 8) Stores Finished Product Stock Register	1) Shift Register 2) Field Inventory 3) Section wise Thermal Energy Consumption 4) Solid flow Meter 5) Liquid Flow Meter 6) Steam Flow Meter 7) Weigh Bridge
(v)	Please provide total Electrical SEC of others (total annual electrical energy consumed in kWh/total annual other production in tonnes)		Daily, Monthly, Annually	1) Log book 2) DPR 3) MPR 4) SCADA Screen Shots 4) SCADA Trends 5) Excise Document 6) Energy Totaliser 7) Daily Power Report 8) Monthly Power Report 9) Stores Finished Product Stock Register	1) Energy Meter 2) Shift Register 3) Energy Management System 4) Section wise Power consumption
d.8	Scrap				
(i)	Please provide the annual amount of scrap purchased in Tonnes				
(ii)	Please provide the annual amount of scrap generated in Tonnes				
(iii)	Please provide the annual amount of scrap utilized in cast House in Tonnes				
(iv)	Please provide the annual percentage of scrap used in %				
E	Boiler Details				
E.1	For Steam Generation (Process Boiler)				
e1.1/e1.2/ e1.3/e1.4/ e1.5	Boiler 1/ Boiler 2/ Boiler 3/ Boiler 4/Boiler 5				

(i)	Please specify type of boiler		Annual	1) OEM Document	
(ii)	Please specify Rated Capacity of boiler		Continuous, Hourly, Daily, Monthly	1) OEM document on Boiler Capacity 2) Predicted performance Data (PPD) for Boiler 3) Environmental Consent to Operate	1) Capacity calculation submitted for Environmental Consent
(iii)	Please provide the total amount of Steam Generation form this boiler in Tonnes per year		Continuous, Hourly, Daily, Monthly	1) Log Sheet 2) DCS/ SCADA Trend 3) DGR 4)MGR 5) SAP Entry in PP/PM Module	1) Steam Flow Meter 2) Process steam Consumption report 3) Log Book
(iv)	Please provide the total annual running hours of boiler		Continuous, Hourly, Daily, Monthly	1) Log Sheet 2) DCS/ SCADA Trend 3) DGR 4)MGR 5) SAP Entry in PP/PM Module	1) Hour Meter 2) Log book
(v)	Please provide the total amount of Coal Consumption in Tonne		Continuous, Hourly, Daily, Monthly	1) Log Sheet 2) DCS/ SCADA Trend 3) DGR 4)MGR 5) SAP Entry in PP/PM Module	1) Weigh Feeder 2) Solid flow Meter 3) Coal Storage register 4) Storage Level
(vi)	Please provide the annual average Gross Calorific Value of Coal in kcal/kg		Daily, Monthly, Yearly	1) Daily Internal Report from Lab on Fuel Proximate Analysis performed on each lot. 2) Test Certificate from Government Accredited lab. (Plant to maintain minimum 1 sample test in a quarter for Proximate and Ultimate Analysis i.e. 4 test certificates in a year for each fuel in case of CPP/Cogen Fuel, for Process Fuel 1 sample test in a quarter for Proximate Analysis) 3) Purchase Order, where guaranteed GCV range is mentioned	1) Lab Register on Fuel Testing for Proximate Analysis 2) Calibration Record of instrument used for testing
(vii)/(ix)/(xi)	Please provide the total consumption of Fuel - 2/Fuel - 3/Fuel-4		Continuous, Hourly, Daily, Monthly	1) DGR 2) MGR 3) CPP/Cogen Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	1)Belt Weigher before Fuel Bunker
(viii)/(x)/(xi)	Please provide the annual average Gross Calorific Value of Fuel - 2/Fuel - 3/Fuel-4 in kcal/kg		Daily, Monthly, Yearly	1) DGR 2) MGR 3) Lab Test Report	1) Lab Register on Fuel Testing for Proximate Analysis 2) Calibration Record of instrument used for testing
(xiii)	Please provide the annual average of Feed water Temperature in °C		Continuous, Hourly, Daily, Monthly	1) DGR 2) DCS/SCADA Trends	
(xiv)	Please provide annual average operating Efficiency of Boiler (%)		Continuous, Hourly, Daily, Monthly	1) Indirect Method or Direct method calculation	
(xv)	Please provide annual average Super Heated Steam outlet Pressure (Operating) in kg/cm ²		Continuous, Hourly, Daily, Monthly	1) DGR 2) DCS/SCADA Trends	1) Field Pressure Meter
(xvi)	Please provide annual average Super Heated Steam outlet Temperature (Operating) in °C		Continuous, Hourly, Daily, Monthly	1) DGR 2) DCS/SCADA Trends	1) Field Temperature Meter
(xvii)	Please provide annual average Super Heated Steam Enthalpy (Operating) in kcal/kg		Continuous, Hourly, Daily, Monthly	1) Steam Table	
(xviii)	Please provide Design Efficiency of the boiler in %		Yearly	1) OEM document on Boiler Efficiency 2) Predicted performance Data (PPD) for Boiler	1) Design Calculation
(xix)	Formula Protected (Total steam generated/ total annual running hours of boiler)				
(xx)	Formula Protected (Total fuel consumption x GCV of Fuel consumption/ Total steam generated)				
(xxi)	Formula Protected (((Coal Consumption (Tonne) * GCV of Coal (kcal/kg))/ [(Coal Consumption (Tonne) * GCV of Coal) + (Type of Fuel - 2 (Tonne) * GCV of Fuel - 2 (kcal/kg)) + (Type of Fuel - 3 (Tonne) * GCV of Fuel - 3 (kcal/kg)) + (Type of Fuel - 4 (Tonne) * GCV of Fuel - 4 (kcal/kg))])				
e1.6	Formula protected (addition of Total Steam generated by Process Boiler)				

e1.7	Formula protected (Weighted Average of all 5 Process Boiler Operating Efficiency)				
e1.8	Formula protected (addition of Total operating capacity of Process Boiler)				
e1.9	Formula protected (SEC Weighted average of all 5 Process Boilers)				
e1.10	Formula protected (Weighted Percentage of Coal Energy Used in steam Generation in all 5 process boilers)				
e2	Co-Gen Boiler used for Power generation				
e2.1/e2.2/ e2.3/e2.4/ e2.5	Boiler 6/ Boiler 7/ Boiler 8/ Boiler 9/Boiler 10				
(i)	Please specify type of boiler		Annual	1) OEM Document	
(ii)	Please specify Rated Capacity of boiler		Continuous, Hourly, Daily, Monthly	1) OEM document on Boiler Capacity 2) Predicted performance Data (PPD) for Boiler 3) Environmental Consent to Operate	1) Capacity calculation submitted for Environmental Consent
(iii)	Please provide the total amount of Steam Generation form this boiler in Tonnes per year		Continuous, Hourly, Daily, Monthly	1) Log Sheet 2) DCS/ SCADA Trend 3) DGR 4)MGR 5) SAP Entry in PP/PM Module	1) Steam Flow Meter 2) Process steam Consumption report 3) Log Book
(iv)	Please provide the total annual running hours of boiler		Continuous, Hourly, Daily, Monthly	1) Log Sheet 2) DCS/ SCADA Trend 3) DGR 4)MGR 5) SAP Entry in PP/PM Module	1) Hour Meter 2) Log book
(v)	Please provide the total amount of Coal Consumption in Tonne		Continuous, Hourly, Daily, Monthly	1) Log Sheet 2) DCS/ SCADA Trend 3) DGR 4)MGR 5) SAP Entry in PP/PM Module	1) Weigh Feeder 2) Solid flow Meter 3) Coal Storage register 4) Storage Level
(vi)	Please provide the annual average Gross Calorific Value of Coal in kcal/kg		Daily, Monthly, Yearly	1) Daily Internal Report from Lab on Fuel Proximate Analysis performed on each lot. 2) Test Certificate from Government Accredited lab. (Plant to maintain minimum 1 sample test in a quarter for Proximate and Ultimate Analysis i.e. 4 test certificates in a year for each fuel in case of CPP/Cogen Fuel, for Process Fuel 1 sample test in a quarter for Proximate Analysis) 3) Purchase Order, where guaranteed GCV range is mentioned	1) Lab Register on Fuel Testing for Proximate Analysis 2) Calibration Record of instrument used for testing
(vii)/(ix)/(xi)	Please provide the total consumption of Fuel - 2/Fuel - 3/Fuel-4		Continuous, Hourly, Daily, Monthly	1) DGR 2) MGR 3) CPP/Cogen Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	1)Belt Weigher before Fuel Bunker
(viii)/(x)/(xi)	Please provide the annual average Gross Calorific Value of Fuel - 2/Fuel - 3/Fuel-4 in kcal/kg		Daily, Monthly, Yearly	1) DGR 2) MGR 3) Lab Test Report	1) Lab Register on Fuel Testing for Proximate Analysis 2) Calibration Record of instrument used for testing
(xiii)	Please provide the annual average of Feed water Temperature in °C		Continuous, Hourly, Daily, Monthly	1) DGR 2) DCS/SCADA Trends	
(xiv)	Please provide annual average operating Efficiency of Boiler (%)		Continuous, Hourly, Daily, Monthly	1) Indirect Method or Direct method calculation	
(xv)	Please provide annual average Super Heated Steam outlet Pressure (Operating) in kg/cm ²		Continuous, Hourly, Daily, Monthly	1) DGR 2) DCS/SCADA Trends	1) Field Pressure Meter
(xvi)	Please provide annual average Super Heated Steam outlet Temperature (Operating) in °C		Continuous, Hourly, Daily, Monthly	1) DGR 2) DCS/SCADA Trends	1) Field Temperature Meter
(xvii)	Please provide annual average Super Heated Steam Enthalpy (Operating) in kcal/kg		Continuous, Hourly, Daily, Monthly	1) Steam Table	
(xviii)	Please provide Design Efficiency of the boiler in %		Yearly	1) OEM document on Boiler Efficiency 2) Predicted performance Data (PPD) for Boiler	1) Design Calculation

(xix)	Formula Protected (Total steam generated/ total annual running hours of boiler)				
(xx)	Formula Protected (Total fuel consumption x GCV of Fuel consumption/ Total steam generated)				
(xxi)	Formula Protected (((Coal Consumption (Tonne) * GCV of Coal (kcal/kg))/ ((Coal Consumption (Tonne) * GCV of Coal) + (Type of Fuel – 2 (Tonne) * GCV of Fuel – 2 (kcal/kg)) + (Type of Fuel – 3 (Tonne) * GCV of Fuel – 3 (kcal/kg)) + (Type of Fuel – 4 (Tonne) * GCV of Fuel – 4 (kcal/kg))))				
e3	Weighted Average Boiler 6-10				
e3.1	Formula protected (addition of Total Steam generated by Cogen Boiler)				
e3.2	Formula protected (Weighted Average of all 5 Cogen Boiler Operating Efficiency)				
e3.3	Formula protected (addition of Total operating capacity of Cogen Boiler)				
e3.4	Formula protected (SEC Weighted average of all 5 Cogen Boilers)				
e3.5	Formula protected (Weighted Percentage of Coal Energy Used in steam Generation in all 5 Cogen boilers)				
e3.6	Formula Protected (Total Operating efficiency(process boiler) X Total operating capacity(Process boiler) + Total Operating efficiency(Cogen boiler) X Total operating capacity(Cogen boiler))/(Total operating capacity(Cogen boiler)+Total operating capacity(Process boiler))				
e4	Note: DCs to provide separate Excel sheet in the Boiler format as specified above If no of boiler exceeds for additional nos of boilers installed for Cogen/Steam				
B	Electricity Consumption and cost				
B.1	Electricity from Grid / Other (Including Colony and Others)				
(i)	Please provide annual electricity purchase from the grid in Lakh kWh.		Daily, Monthly	1) Monthly Electricity Bills from Grid 2) Internal Meter reading records for grid incomer	Energy Management System
(ii)	Please provide renewal electricity consumption through wheeling in Lakh kWh.		Daily, Monthly	1) Open Access records 2) Electricity Bills for renewal energy 3) Renewal Purchase Obligation document	Energy Management System
(iii)	Please provide electricity consumption from CPP located outside of the plant boundary though wheeling in Lakh kWh.		Daily, Monthly	1) Open Access records 2) Electricity Bills (for Wheeling)	Energy Management System
(iv)	Please provide Renewal Purchase obligation of plant for the current year in % (Solar and Non-Solar).		Yearly	1) Renewal Purchase Obligation document	
(v)	Please provide Renewal Purchase obligation of plant for the current year in Lakh kWh (Solar and Non-Solar).		Yearly	1) Renewal Purchase Obligation document	
(vi)	Please provide Renewal Purchase obligation of plant for the current year in MW (Solar and Non-Solar).		Yearly	1) Renewal Purchase Obligation document	
(vii)	Please provide Renewal Energy Generator Capacity in MW as approved by MNRE		Yearly	1) 'Certificate for Registration' to the concerned Applicant as 'Eligible Entity' confirming its entitlement to receive Renewable Energy Certificates for the proposed RE Generation project	

(viii)	Please provide Quantum of Renewable Energy Certificates (REC) obtained as a Renewal Energy Generator (Solar & Non-Solar) in terms of REC equivalent to 1 MWh	The quantity of exported power (partially or fully) on which Renewable Energy Certificates have been earned by Designated Consumer in the assessment year under REC mechanism shall be treated as Exported power and normalization will apply. However, the normalized power export will not qualify for issue of Energy Saving Certificates under PAT Scheme.	Lot,Yearly	1) Renewable Energy Certificates	
(ix)	Please provide Quantum of Energy sold interms of preferential tariff under REC Mechanism in MWh	The quantity of exported power (partially or fully) from Renewable energy which has been sold at a preferential tariff by the Designated consumer in the assessment year under REC mechanism shall be treated as Exported power. However, the normalized power export will not qualify for issue of Energy Saving Certificates under PAT Scheme.	Lot, Yearly	1) Power Purchase Agreement (PPA) for the capacity related to such generation to sell electricity at preferential tariff determined by the Appropriate Commission	
(x)	Please provide plant connected load in kW.		Monthly	1) L-Form document 2) Electrical Inspectorate record	1) Total connected Load (TCL) of Plant 2) Equipment List
(xi)	Please provide plant contract demand with utility in KVA.		Monthly	1) Monthly Electricity Bills from Utility	
(xii)	Please fill the Baseline SEC as per PAT notification in TOE/Tonne			S.O.687(E), 30th March, 2012	
(xiii)	Please fill the Target SEC as per PAT notification in TOE/Tonne			S.O.687(E), 30th March, 2012	
(xiv)	Formula Protected (saving target as per PAT notification = Notified Target SEC-Baseline SEC in toe/t)				
(xv)	Please fill the baseline equivalent production as per PAT Notification			S.O.687(E), 30th March, 2012	
(xvi)	Formula protected (Total electricity purchased from grid = Electricity purchased from grid + Renewal Electricity Consumption + Electricity consumption from CPP outside Plant boundary through wheeling)				
(xvii)	Formula protected (Total Electricity Purchased from grid/ Other with out colony/construction power= Total electricity purchased from grid -Electricity supplied to Colony/Others)				
(xviii)	Formula protected (Equivalent thermal energy of purchase electricity from the grid / others = Total electricity from the grid/ other without colony/construction power * 860/10)				
b.2	Own Generation				
B.2.1	Through DG set				
(i)	Please specify whether DG set is connected to grid (the further calculation is based on selection of Yes/No)	If selected No undertaking from competent authority has to be provided	Annual	1) undertaking from Competent authority 2) Document of synchronization from DISCOMS	
(ii)	Please provide installed capacity of DG sets in MW.		Annual	1) OEM document for capacity 2) Rating plate of Generator	1) Capacity Enhancement document
(iii)	Please provide gross unit generation from DG sets in Lakh kWh.		Continuous, Hourly, daily, Monthly	1) Daily Power Report 2) Monthly Power Report 3) DG main energy meter reading record 4) Energy Managemen System data	1)Electrical Shift log book 2) Utility Shift Log book

(iv)	Please provide annual fuel consumption for generating power from DG in kilo litres		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) DG Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Flow Meter, Dip measurement in day tank
(v)	Please provide average density of fuel used for generating power in kg/lit		Lot, Monthly, Yearly	1) Test report from Supplier 2) Internal Test Report from lab 3) Test report from Government Accredited Lab 4) Standard Value as per Notification	Lab Register
(vi)	Please provide DG Auxilliary Power Consumption for Baseline Year and Assessment year in %		Continuous, Hourly, daily, Monthly	1) Daily Power Report 2) Monthly Power Report 3) DG main energy meter reading record 4) Energy Managemen System data	1) Energy Meter 2) Equipment List
(vii)	Please provide designed gross heat rate of DG sets in kcal/kWh.		Annual	1) OEM document on designed heat rate 2) OEM document on Specific Fuel consumption in kWh/ltr	
(viii)	Please provide operating heat rate of DG sets in kcal/kWh.		Annual	1) Daily Fuel Consumption Report 2) Monthly Fuel consumption Report 3) DG main energy meter reading record 4) OEM document on Specific Fuel consumption in kWh/ltr	1) Fuel shift log book 2) Utility Shift Log book 3) Energy meter
(ix)	Please provide annual running hours of DG sets.		Continuous, Hourly, daily, Monthly	1) Daily Power Report 2) Monthly Power Report 3) DG hour meter reading record 4) Energy Managemen System data	1)Electrical Shift log book 2) Utility Shift Log book
B.2.2 Through steam turbine					
(i)	Please provide whether your Steam Turbine is connected to grid or not by selecting Yes/No	If selected No undertaking from competent authority has to be provided	Annual	1) undertaking from Competent authority 2) Document of synchrorinzation from DISCOMS	
(i)	Please provide installed capacity of all the Units in MW		Annual	1) OEM document for capacity 2) Rating plate of Generator	1) Capacity Enhancement document 2) R&M document
(ii)	Please provide gross unit generation of all the Units in Lakh kWh		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) CPP main energy meter reading record 4) Energy Managemen System data	1) Energy Meter
(iii)	Please provide auxiliary power consumption (APC) in % in Sheet! Form Sa1 CPP	Note: These rows are linked with Form Sa1 CPP so please fill Form Sa1 CPP it will automatically linked in this rows.	Continuous, Hourly, daily, Monthly	1) Daily Power Report 2) Monthly Power Report 3) CPP main energy meter reading record 4) Energy Managemen System data	1) Energy Meter 2) Equipment List
(iv)	Please provide Design Heat Rate of all the Units in kcal/kWh in Sheet! Form Sa1 CPP.		Annual	1) OEM document on designed heat rate	1) PG test documement
(v)	Please provide the operating heat rate in kcal/kWh in Sheet! Form Sa1 CPP		Annual	1) Daily Generation Report 2) Monthly Generation Report 3) CPP main energy meter reading record 4) Energy Managemen System data 5) annual Fuel consumption report	1) Energy Meter 2) Fuel shift log book
INSTRUCTION FOR FILLING UP THE FORM-Sa, CPP (Detail of production and Energy Consumption)					
1	OEM Curve / HBD data				
1.a	Please provide unit wise Design capacity of CPP , boiler efficiency, Turbine Heat Rate as provided by Original Equipment Manufacturer (OEM) and R2, Costant 1, Constant 2 and Constant 3 from OEM curve or HBD data curve equation and Trubine Heat Rate kcal/kwh from HBD curve or Load Vs Heat Rate curve (at 100% Load)			1. OEM Curves and docuemts/ COD documents 2 PG Test Report 3. HMB diagram at different load (Minimum 5-7 nos of (x,y) co-ordinates to plot as curve 4. Design Boiler Efficiency Document from Original Equipment Manufacturer (OEM) 5. Design Coal Analysis Document as per OEM	1.Plant Design document from OEM
1.b	Formula protected (Weighted average of boiler efficiency, Turbine Heat Rate and unit Heat Rate)				
2	Unit wise Operating Data Details				

2.a	Please provide unit wise operating load of CPP in MW , Unit Load Factor in % , Gross Generation in Lakh Units, Unit Gross Heat Rate in Kcal/kwh for Baseline Year (2007-10) and Assessment year		Continuous, Daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) Shift Report and Register 4) Unit Log book 5) Coal Consumption records 6) Stores Stock Register 7)Purchase Order 8) SAP Entry in PP/SD module	1) Generator Energy Meter (Sealed) 2) Energy Management System 3) Weigh feeder 4) Bunker load Cells 5) Fuel GCV test report (Internal and External)
2.b	Formula Protected (Total station operating load in MW , Total annual generation of CPP and weighted average of plant Load Factor, Station Gross Heat Rate in Kcal/kwh for Baseline Year (2007-10) and Assessment year				
2.c	Please provide Station Auxillary Power Consumption for Baseline year and Assessment year		Continuous, Daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) Shift Report and Register	1) Energy Meter (Sealed) 2) Energy Management System
3	Plant Load Factor Details				
3.a	Loss of PLF due to non-availability of fuel/schedule/backing down/any external factor/Unforeseen factors				
3.a.1	Please provide unit wise Average Operating Load (MW) and operation hours (Hours) due to Coal Unavailability, Scheduling, backing down, any other external factor for baseline year and Assessment year			1) Daily Generation Report 2) Monthly Generation Report 3) Shift Report and Register 4) Generation Schedule from Load Despatch Centre 5) External Breakdown Report 6) Fuel Unavailability document/record from external agencies 7) Coal Linkage Document 8) Stores Stocks Register 9) SAP Entry in PP/SD/PM Module 10) Stocks duration report 11) Log Book	1) Purchase order 2) Rail Racks details 3) Weighing Document 4) Shift Register 5) Shift Reports 6) Energy Meter Readings 7) Energy Management System
3.a.2	Formula Protected (Total station Average Operating Load (MW) and operation hours (Hours) due to Coal Unavailability, Scheduling, backing down, any other external factor for baseline year and Assessment year for Baseline Year (2007-10) and Assessment year)				
3.b	Loss of PLF due to non-availability of fuel/schedule/backing down/any external factor/Unforeseen factors/Internal Factor				
3.b.1	Please provide unit wise operation hours (Hours) caused by Forced Outage/ Unavailability, Planned Maintenance Outage/ Planned Unavailability and Average Operating Load (MW) and with Operating hours due to Internal factor for baseline year and Assessment year			1) Daily Generation Report 2) Monthly Generation Report 3) Shift Report and Register 4) Generation Schedule from Load Despatch Centre 5) External Breakdown Report 6) Fuel Unavailability document/record from external agencies 7) Coal Linkage Document 8) Log Book	1) Shift Register 2) Shift Reports 3) Energy Meter Readings 4) Energy Management System 5) Breakdown reports (Internal and External)
3.b.2	Formula Protected (unit wise operation hours (Hours) caused by Forced Outage/ Unavailability, Planned Maintenance Outage/ Planned Unavailability and Average Operating Load (MW) and with Operating hours due to Internal factor for baseline year and Assessment year)				
4	Unitwise Fuel Analysis Details (As Fired Basis)@				
4.a	Please provide unit wise ultimate analysis (Volatile Matter, Total Moisture, Ash) and proximate analysis (Hydrogen, Sulphur, Nitrogen) of fuel used	In case of difference in Design Coal Quality for different units, Coal analysis to be given unit wise		1) Daily Internal Report from Lab on Fuel Proximate Analysis performed on each lot. 2) Test Certificate from Government Accredited lab. (Plant to maintain minimum 1 sample test in a quarter for Proximate and Ultimate Analysis i.e. 4 test certificates in a year for each soild fuel 3) Purchase Order, where guaranteed GCV range is mentioned	1) internal test report 2) Calibration report of measuring equipment 3) Lab register 4) Lab analysis procedure documents 5) Sampling methodology document
B.2.3	Through Gas turbine				
(i)	Please provide whether your Gas Turbine is connected to grid or not by selecting Yes/No		Annual		

(ii)	Please provide installed capacity of all the Units in MW.		Annual	1) OEM document for capacity 2) Rating plate of Generator	1) Capacity Enhancement document 2) R&M document
(iii)	Please provide gross unit generation of all the Units in Lakh kWh.		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) CPP main energy meter reading record 4) Energy Management System data	1) Energy Meter
(iv)	Please provide Plant Load Factor (PLF) in %		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) CPP main energy meter reading record 4) Energy Management System data 5) OEM document for capacity 6) Rating plate of turbine	1) Energy Meter 2) Break down report 3) Operators Shift Register 4) Capacity Enhancement document 5) R&M document
(v)	Please provide auxiliary power consumption (APC) in %.		Continuous, Hourly, daily, Monthly	1) Daily Power Report 2) Monthly Power Report 3) CPP main energy meter reading record 4) Energy Management System data	1) Energy Meter 2) Equipment List
(vi)	Please provide Design Heat Rate of all the Units in kcal/kWh.		Annual	1) OEM document on designed heat rate	1) PG test document
(vii)	Please provide annual running hours of all the units.		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) Energy Management System data	1) Break down report 3) Operators Shift Register
B.2.4 Through Waste Heat Recovery					
(i)	Please provide installed capacity of WHR in MW.		Annual	1) OEM document for capacity 2) Rating plate of Generator	
(ii)	Please provide gross unit generation from WHR in Lakh kWh.		Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) CPP main energy meter reading record 4) Energy Management System data	1) Energy Meter
(iii)	Please provide running hours.		Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) CPP main energy meter reading record 4) Energy Management System data	1) Break down report 3) Operators Shift Register
B.2.5 Through Co-Generation (Extraction/Back Pressure)					
(i)	Please provide whether your Co-Gen is connected to grid or not by selecting Yes/No		Annual		
(ii)	Please provide installed capacity of all the Units in MW.		Annual	1) OEM document for capacity 2) Rating plate of Generator	1) Capacity Enhancement document 2) R&M document
(iii)	Please provide gross unit generation of all the Units in Lakh kWh.		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) CPP main energy meter reading record 4) Energy Management System data	1) Energy Meter
(iv)	Please provide auxiliary power consumption (APC) in %.		Continuous, Hourly, daily, Monthly	1) Daily Power Report 2) Monthly Power Report 3) CoGen main energy meter reading record 4) Energy Management System data	1) Energy Meter 2) Equipment List
(v)	Please provide Design Heat Rate of Cogen Units in kcal/kWh.		Annual	1) OEM document on designed heat rate	1) PG test document
(vi)	Please provide annual running hours of Cogen units.		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) Energy Management System data	1) Break down report 3) Operators Shift Register
(vii)	Please provide the Enthalpy of the Input Steam in kCal/kg		Continuous, Hourly, daily, Monthly	1) Cogen Log Sheet 2) Operators log Register 3) Daily generation Report 4) Monthly Generation Report 5) Energy Management System data 6) SAP	1) Operator's Shift Register 2) CPP Break down analysis Report

(viii)	Please provide the Steam Pressure of the Input Steam in Kg/cm2		Continuous, Hourly, daily, Monthly	1) CPP Log Sheet 2) Operators log Register 3) Daily generation Report 4) Monthly Generation Report 5) Energy Managemen System data 6) SAP	1) Operator's Shift Register 2) CPP Break down analysis Report
(ix)	Please provide the Steam Temperature of the Input Steam in °C		Continuous, Hourly, daily, Monthly	1) CPP Log Sheet 2) Operators log Register 3) Daily generation Report 4) Monthly Generation Report 5) Energy Managemen System data 6) SAP	1) Operator's Shift Register 2) CPP Break down analysis Report
(x)	Please provide the Flow rate of the input steam in Tonne per Hour		Continuous, Hourly, daily, Monthly	1) CPP Log Sheet 2) Operators log Register 3) Daily generation Report 4) Monthly Generation Report 5) Energy Managemen System data 6) SAP	1) Operator's Shift Register 2) CPP Break down analysis Report
Details of Steam Extraction 1					
(xi)	Please provide the Steam Pressure at Extraction 1 in Kg/cm2		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) DCS/SCADA Records	1) Field Pressure Meter
(xii)	Please provide the Steam Temperature at Extraction 1in °C		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) DCS/SCADA Records	1) Field Temperature Meter
(xiii)	Please provide the Enthalpy of the Steam at Extraction 1 in kCal/kg		Continuous, Hourly, daily, Monthly	1) Steam Table	
(xiv)	Please provide the Mass Flow rate of the steam at Extraction 2 in Tonne per Hour		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) DCS/SCADA Records	1) Makeup water Reading 2) Field Steam Flow meter reading
Details of Steam Extraction 2					
(xv)	Please provide the Steam Pressure at Extraction 2 in Kg/cm2		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) DCS/SCADA Records	1) Field Pressure Meter
(xvii)	Please provide the Steam Temperature at Extraction 2 in °C		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) DCS/SCADA Records	1) Field Temperature Meter
(xviii)	Please provide the Enthalpy of the Steam at Extraction 2 in kCal/kg		Continuous, Hourly, daily, Monthly	1) Steam Table	
(xix)	Please provide the Mass Flow rate of the steam at Extraction 2 in Tonne per Hour		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) DCS/SCADA Records	1) Makeup water Reading 2) Field Steam Flow meter reading
(xx)	Formula protected (Thermal energy used in process= ((Steam enthalpy x Mass flow rate at Extraction 1) + (steam enthalpy x Mass flow rate at extraction 2))/ 1000)				
(xxi)	Formula protected (Thermal energy used in Power=(Input steam enthalpy x Input Mass flow rate /1000 - Thermal energy used in process)				
(xxii)	Formula protected (% energy used in Power= Thermal energy used in process x 1000/ (Input steam enthalpy x Input Mass flow rate))				
B.2.6 Through Co-Generation (Extraction Cum Condensing)					
(i)	Please provide whether your Co-Gen is connected to grid or not by selecting Yes/No		Annual		
(ii)	Please provide installed capacity of all the Units in MW.		Annual	1) OEM document for capacity 2) Rating plate of Generator	1) Capacity Enhancement document 2) R&M document
(iii)	Please provide gross unit generation of all the Units in Lakh kWh.		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) CPP main energy meter reading record 4) Energy Managemen System data	1) Energy Meter

(iv)	Please provide auxiliary power consumption (APC) in %.		Continuous, Hourly, daily, Monthly	1) Daily Power Report 2) Monthly Power Report 3) CoGen main energy meter reading record 4) Energy Management System data	1) Energy Meter 2) Equipment List
(v)	Please provide Design Heat Rate of Cogen Units in kcal/kWh.		Annual	1) OEM document on designed heat rate	1) PG test document
(vi)	Please provide annual running hours of Cogen units.		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) Energy Management System data	1) Break down report 3) Operators Shift Register
(vii)	Please provide the Enthalpy of the Input Steam in kCal/kg		Continuous, Hourly, daily, Monthly	1) Cogen Log Sheet 2) Operators log Register 3) Daily generation Report 4) Monthly Generation Report 5) Energy Management System data 6) SAP	1) Operator's Shift Register 2) CPP Break down analysis Report
(viii)	Please provide the Steam Pressure of the Input Steam in Kg/cm2		Continuous, Hourly, daily, Monthly	1) CPP Log Sheet 2) Operators log Register 3) Daily generation Report 4) Monthly Generation Report 5) Energy Management System data 6) SAP	1) Operator's Shift Register 2) CPP Break down analysis Report
(ix)	Please provide the Steam Temperature of the Input Steam in °C		Continuous, Hourly, daily, Monthly	1) CPP Log Sheet 2) Operators log Register 3) Daily generation Report 4) Monthly Generation Report 5) Energy Management System data 6) SAP	1) Operator's Shift Register 2) CPP Break down analysis Report
(x)	Please provide the Flow rate of the input steam in Tonne per Hour		Continuous, Hourly, daily, Monthly	1) CPP Log Sheet 2) Operators log Register 3) Daily generation Report 4) Monthly Generation Report 5) Energy Management System data 6) SAP	1) Operator's Shift Register 2) CPP Break down analysis Report
Details of Steam Extraction 1					
(xi)	Please provide the Steam Pressure at Extraction 1 in Kg/cm2		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) DCS/SCADA Records	1) Field Pressure Meter
(xii)	Please provide the Steam Temperature at Extraction 1 in °C		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) DCS/SCADA Records	1) Field Temperature Meter
(xiii)	Please provide the Enthalpy of the Steam at Extraction 1 in kCal/kg		Continuous, Hourly, daily, Monthly	1) Steam Table	
(xiv)	Please provide the Mass Flow rate of the steam at Extraction 1 in Tonne per Hour		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) DCS/SCADA Records	1) Makeup water Reading 2) Field Steam Flow meter reading
Details of Steam Extraction 2					
(xv)	Please provide the Steam Pressure at Extraction 2 in Kg/cm2		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) DCS/SCADA Records	1) Field Pressure Meter
(xvii)	Please provide the Steam Temperature at Extraction 2 in °C		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) DCS/SCADA Records	1) Field Temperature Meter
(xviii)	Please provide the Enthalpy of the Steam at Extraction 2 in kCal/kg		Continuous, Hourly, daily, Monthly	1) Steam Table	
(xix)	Please provide the Mass Flow rate of the steam at Extraction 2 in Tonne per Hour		Continuous, Hourly, daily, Monthly	1) Daily Generation Report 2) Monthly Generation Report 3) DCS/SCADA Records	1) Makeup water Reading 2) Field Steam Flow meter reading
(xx)	Formula protected (Thermal energy used in process= ((Steam enthalpy x Mass flow rate at Extraction 1) + (steam enthalpy x Mass flow rate at extraction 2))/ 1000)				
(xxi)	Formula protected (Thermal energy used in Power=(Input steam enthalpy x Input Mass flow rate /1000 - Thermal energy used in process)				
(xxii)	Formula protected (% energy used in Power= Thermal energy used in process x 1000/ (Input steam enthalpy x Input Mass flow rate))				

(xxiii)	Formula protected (Total % of thermal energy in Process from Cogen = (total Thermal energy used in process/ Total Thermal energy used in power)				
b3	Formula protected (Total Own Generation of Electricity)				
B.4	Please provide quantity of electricity sold to the grid in Lakh kWh.		Continuous, Hourly, daily, Monthly	1) Daily Power Report 2) Monthly Power Report 3) Export main energy meter reading record 4) Energy Managemen System data 5) Montly Export bill receipt sent to utility	Export Energy Meter
B.5	Please provide quantity of electricity consumed in colony /other in Lakh kWh.		Continuous, Hourly, daily, Monthly	1) Daily Power Report 2) Monthly Power Report 3) Colony/other main energy meter reading record 4) Energy Managemen System data	1) colony/Others meter
B.6	Formula Protected (Electricity Suplied to the grid/others)				
B.7	Formula Protected (Equivalent Thermal Energy supplied to the grid/others)				
B.8	Formula Protected (Total Electricity Consumed for Process and Auxiliaries within Plant)				
C	Solid Fuel Consumption				
C.1/C.2/C.3/C.4/C.5	Coal (Indian) / Pet Coke/Carbon / Coal (Imported) / Coal (Lignite) (Other Solid Fuels)				
(i)	Please provide landed cost of Solid fuel i.e. Basic Cost+All Taxes + Freight. The landed cost of last purchase order in the financial year		Annual	1) Purchase Order for basic rates and taxes 2) Freight document for rates	
(ii)	Please provide the gross calorific value (As Fired Basis) of Solid fuel consumed in kcal/kg.	Operating Coal Quality- Monthly average of the lots (As Fired Basis),Test Certificate for Coal Analysis including Proximate and Ultimate analysis (Minimum of 4 Samples Test from Government Lab for cross verification quarterly)	Lot, Daily, Monthly, Quarterly	1) Daily Internal Report from Lab on Fuel Proximate Analysis performed on each lot. 2) Test Certificate from Government Accredited lab. (It is desirable that the plant may maintain minimum 4 sample test in a quarter for Proximate and Ultimate Analysis i.e. 16 test certificates in a year for each fuel) 3) Purchase Order, where guaranteed GCV range is mentioned	1) Lab Register on Fuel Testing for Proximate Analysis 2) Callibration Record of instrument used for testing
(iii)	Please provide the moisture content in sold fuel (As Received Basis) in %		Lot, Daily, Monthly, Quarterly	1) Daily Internal Report from Lab on Fuel Proximate Analysis performed on each lot. 2) Test Certificate from Government Accredited lab. (It is desirable that the plant may maintain minimum 4 sample test in a quarter for Proximate and Ultimate Analysis i.e. 16 test certificates in a year for each fuel) 3) Purchase Order, where guaranteed moisture % range is mentioned	1) Lab Register on Fuel Testing for Proximate Analysis 2) Callibration Record of instrument used for testing
(iv)	Please provide the annual Solid fuel quantity purchased in tonnes.		Lot, Daily, Monthly, Yearly	1) Purchase Order 2) Stores Receipt 3) SAP Entry in MM/PP/FI module 4) Annual Report	1) Stores Receipt Register
(v)	Please provide the annual Solid fuel quantity consumed in power generation(CPP) in tonnes.		Hourly, Daily and Monthly	1) DPR 2) MPR 3) CPP Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	1)Belt Weigher before Coal Bunker
(vi)	Please provide the annual Solid fuel quantity consumed in power generation(Cogen) in tonnes.		Hourly, Daily and Monthly	1) DPR 2) MPR 3) Cogen Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	1)Belt Weigher before Coal Bunker
(vii)	Please provide the annual Solid fuel quantity consumed in process in tonnes.		Hourly, Daily and Monthly	1) DPR 2) MPR 3) Boiler/Digestor/Calciner/Process Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	1)Belt Weigher before Coal Bunker
(viii)	Formula protected (Total sold fuel consumption in the power generation and process)				
(ix)	Formula protected (Equivalent thermal energy used in power generation (CPP))				
(x)	Formula protected (Equivalent thermal energy used in power generation (Cogen))				

(xi)	Formula protected (Equivalent thermal energy used in processing)				
C.6	Bio mass or Other purchased Renewable solid fuels (pl. specify) baggase, rice husk, etc.				
(i)	Please provide landed cost of Solid Fuel i.e. Basic Cost+All Taxes + Freight. The landed cost of last purchase order in the financial year		Yearly	1) Purchase Order for basic rates and taxes 2) Freight document for rates	
(ii)	Please provide the gross calorific value (As Fired Basis) of Fuel in kcal/kg.		Lot, Daily, Monthly, Quarterly	1) Daily Internal Report from Lab on Fuel Proximate Analysis performed on each lot. 2) Test Certificate from Government Accredited lab. (It is desirable that the plant may maintain minimum 4 sample test in a quarter for Proximate and Ultimate Analysis i.e. 16 test certificates in a year for each fuel) 3) Purchase Order, where guaranteed GCV range is mentioned	1) Lab Register on Fuel Testing for Proximate Analysis 2) Callibration Record of instrument used for testing
(iii)	Please provide the moisture content in sold fuel (As Received Basis) in %		Lot, Daily, Monthly, Quarterly	1) Daily Internal Report from Lab on Fuel Proximate Analysis performed on each lot. 2) Test Certificate from Government Accredited lab. (It is desirable that the plant may maintain minimum 4 sample test in a quarter for Proximate and Ultimate Analysis i.e. 16 test certificates in a year for each fuel) 3) Purchase Order, where guaranteed moisture % range is mentioned	1) Lab Register on Fuel Testing for Proximate Analysis 2) Callibration Record of instrument used for testing
(iv)	Please provide the annual Biomass quantity purchased in tonnes.		Lot, Daily, Monthly, Yearly	1) Purchase Order 2) Stores Receipt 3) SAP Entry in MM/PP/FI module 4) Annual Report	1) Stores Receipt Register
(v)	Please provide the annual Fuels quantity consumed in power generation (CPP) in tonnes.		Hourly, Daily and Monthly	1) DPR 2) MPR 3) CPP Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	1)Belt Weigher before Coal Bunker
(vi)	Please provide the annual Fuels quantity consumed in power generation (Cogen) in tonnes.		Hourly, Daily and Monthly	1) DPR 2) MPR 3) Cogen Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	1)Belt Weigher before Coal Bunker
(vii)	Please provide the annual Fuels quantity consumed in process in tonnes.		Hourly, Daily and Monthly	1) DPR 2) MPR 3) Boiler/Digestor/Calciner/Process Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	1) Belt Weigh Feeder 2) Solid Flow Meter
(viii)	Formula protected (Total sold fuel consumption in the power generation and process)				
(ix)	Formula protected (Equivalent thermal energy used in power generation (CPP))				
(x)	Formula protected (Equivalent thermal energy used in power generation(Cogen))				
(xi)	Formula protected (Equivalent thermal energy used in processing)				
C.7	Solid Waste (pl. specify and refer CPCB guidelines, enclosed) rubber tyres chips, Municipal Solid waste etc.				
(i)	Please provide landed cost of Fuel i.e. Basic Cost+All Taxes + Freight. The landed cost of last purchase order in the financial year		Yearly	1) Purchase Order for basic rates and taxes 2) Freight document for rates	

(ii)	Please provide the gross calorific value (As Fired Basis) of Fuel in kcal/kg.		Lot, Daily, Monthly, Quarterly	1) Daily Internal Report from Lab on Fuel Proximate Analysis performed on each lot. 2) Test Certificate from Government Accredited lab. (It is desirable that the plant may maintain minimum 4 sample test in a quarter for Proximate and Ultimate Analysis i.e. 16 test certificates in a year for each fuel) 3) Purchase Order, where guaranteed GCV range is mentioned	1) Lab Register on Fuel Testing for Proximate Analysis 2) Calibration Record of instrument used for testing
(iii)	Please provide the moisture content in sold fuel (As Received Basis) in %		Lot, Daily, Monthly, Quarterly	1) Daily Internal Report from Lab on Fuel Proximate Analysis performed on each lot. 2) Test Certificate from Government Accredited lab. (It is desirable that the plant may maintain minimum 4 sample test in a quarter for Proximate and Ultimate Analysis i.e. 16 test certificates in a year for each fuel) 3) Purchase Order, where guaranteed moisture % range is mentioned	1) Lab Register on Fuel Testing for Proximate Analysis 2) Calibration Record of instrument used for testing
(iv)	Please provide the annual Solid waste quantity purchased in tonnes.		Lot, Daily, Monthly, Yearly	1) Purchase Order 2) Stores Receipt 3) SAP Entry in MM/PP/FI module 4) Annual Report	1) Stores Receipt Register
(v)	Please provide the annual Fuels quantity consumed in power generation(CPP) in tonnes.		Hourly, Daily and Monthly	1) DPR 2) MPR 3) CPP Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	1)Belt Weigher before Coal Bunker
(vi)	Please provide the annual Fuels quantity consumed in power generation(Cogen) in tonnes.		Hourly, Daily and Monthly	1) DPR 2) MPR 3) Cogen Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	1)Belt Weigher before Coal Bunker
(vii)	Please provide the annual Fuels quantity consumed in process in tonnes.		Hourly, Daily and Monthly	1) DPR 2) MPR 3) Boiler/Digestor/Calciner/Process Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	1) Belt Weigh Feeder 2) Solid Flow Meter
(viii)	Formula protected (Total Waste consumption in the power generation and process)				
(ix)	Formula protected (Equivalent thermal energy used in power generation) CPP				
(x)	Formula protected (Equivalent thermal energy used in power generation) Cogen				
(xi)	Formula protected (Equivalent thermal energy used in processing)				
C.8	Formula protected [Total solid fuel (indian coal, petcoke, imported coal, lignite and biomass) thermal energy used in power generation (CPP)]				
C.9	Formula protected [Total solid fuel (indian coal, petcoke, imported coal, lignite and biomass) thermal energy used in power generation (Cogen)]				
C.10	Formula protected [Total solid fuel (indian coal, petcoke, imported coal and lignite) thermal energy used in processing]				
D	Liquid Fuel Consumption				
D.1	Furnace Oil				
(i)	Please provide landed cost of Furnace Oil i.e. Basic Cost+All Taxes + Freight. The landed cost of last purchase order in the financial year		Annual	1) Purchase Order for basic rates and taxes 2) Freight document for rates	
(ii)	Please provide the gross calorific value of furnace oil in kcal/kg.		Lot, Montly, Yearly	1) Test report from Supplier 2) Internal Test Report from lab 3) Test report from Government Accridited Lab 4) Standard Value as per Notification	Lab Register
(iii)	Please provide the annual furnace oil quantity purchase in kilo liters.		Lot, Montly, Yearly	1) Purchase Order 2) Stores Receipt 3) SAP Entry in MM/PP/FI module 4) Annual Report	Stores Receipt

(iv)	Please provide the density of furnace oil in kg/lit.		Lot, Montly, Yearly	1) Test report from Supplier 2) Internal Test Report from lab 3) Test report from Government Accredited Lab 4) Standard Value as per Notification	Lab Register
(v)	Please provide the furnace oil quantity consumed in DG set for power generation in kilo liters.		Daily, Monthly, Yearly	1) Daily Generation Report 2) Monthly Generation Report 3) DG Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Flow Meter, Dip measurement in day tank
(vi)	Please provide the furnace oil quantity consumed in CPP for power generation in kilo liters.		Daily, Monthly, Yearly	1) Daily Generation Report 2) Monthly Generation Report 3) CPP Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Flow Meter, Dip measurement in day tank
(vii)	Please provide the furnace oil quantity consumed in Cogen for power generation in kilo liters.		Daily, Monthly, Yearly	1) DPR 2) MPR 3) Cogen Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Flow Meter, Dip measurement in day tank
(viii)	Please provide the furnace oil quantity used in process heating in kilo liters.		Daily, Monthly, Yearly	1) DPR 2) MPR 3) Boiler/Digestor/Calciner/Carbon Anode Process Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report/ Cast House Log Sheet	Flow Meter, Dip measurement in day tank
(ix)	Formula protected (Total furnace oil used in DG, CPP, Cogen and process heating multiply by the density)				
(x)	Formula protected (Total furnace oil thermal energy used in DG set)				
(xi)	Formula protected (Total furnace oil thermal energy used in CPP)				
(xii)	Formula protected (Total furnace oil thermal energy used in Cogen)				
(xiii)	Formula protected (Total furnace oil thermal energy used in Process Heating)				
D.2/D.3	LSHS/HSHS				
(i)	Please provide landed cost of Liquid Fuel i.e. Basic Cost+All Taxes + Freight. The landed cost of last purchase order in the financial year		Annual	1) Purchase Order for basic rates and taxes 2) Freight document for rates	
(ii)	Please provide the gross calorific value of LSHS/HSHS in kcal/kg.		Lot, Montly, Yearly	1) Test report from Supplier 2) Internal Test Report from lab 3) Test report from Government Accredited Lab 4) Standard Value as per Notification	Lab Register
(iii)	Please provide the annual LSHS/HSHS quantity purchase in Tonnes.		Lot, Montly, Yearly	1) Purchase Order 2) Stores Receipt 3) SAP Entry in MM/PP/FI module 4) Annual Report	Stores Receipt
(iv)	Please provide the LSHS/HSHS quantity consumed in DG set for power generation in Tonnes.		Daily, Monthly, Yearly	1) Daily Generation Report 2) Monthly Generation Report 3) DG Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Flow Meter, Dip measurement in day tank
(v)	Please provide the LSHS/HSHS quantity consumed in CPP for power generation in Tonnes.		Daily, Monthly, Yearly	1) Daily Generation Report 2) Monthly Generation Report 3) CPP Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Flow Meter, Dip measurement in day tank
(vi)	Please provide the LSHS/HSHS quantity consumed in Cogen for power generation in Tonnes.		Daily, Monthly, Yearly	1) Daily Generation Report 2) Monthly Generation Report 3) Cogen Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Flow Meter, Dip measurement in day tank
(vii)	Please provide the LSHS/HSHS quantity consumed in process heating.		Daily, Monthly, Yearly	1) DPR 2) MPR 3) Boiler/Digestor/Calciner/Carbon Anode Process Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report/ Cast House Log Sheet	Flow Meter, Dip measurement in day tank
(viii)	Formula protected (Total LSHS/HSHS used in DG, CPP and process heating)				
(ix)	Formula protected (Total LSHS/HSHS thermal energy used in DG set)				
(x)	Formula protected (Total LSHS/HSHS thermal energy used in CPP)				

(xi)	Formula protected (Total LSHS/HSLS thermal energy used in Cogen)				
(xii)	Formula protected (Total LSHS/HSLS thermal energy used in Process Heating)				
D.4/D.5	High Speed Diesel (HSD)/ Light Diesel Oil (LDO)				
(i)	Please provide landed cost of HSD/LDO and cost of last purchase order in the financial year		Annual	1) Purchase Order for basic rates and taxes 2) Freight document for rates	
(ii)	Please provide the gross calorific value of HSD/LDO in kcal/kg.		Lot, Montly, Yearly	1) Test report from Supplier 2) Internal Test Report from lab 3) Test report from Government Accredited Lab 4) Standard Value as per Notification	Lab Register
(iii)	Please provide the annual HSD/LDO quantity purchase in kilo liters.		Lot, Montly, Yearly	1) Purchase Order 2) Stores Receipt 3) SAP Entry in MM/PP/FI module 4) Annual Report	Stores Receipt
(iv)	Please provide the density of HSD/LDO in kg/lit.		Lot, Montly, Yearly	1) Test report from Supplier 2) Internal Test Report from lab 3) Test report from Government Accredited Lab 4) Standard Value as per Notification	Lab Register
(v)	Please provide the HSD/LDO quantity consumed in DG set for power generation in kilo liters.		Daily, Monthly, Yearly	1) Daily Generation Report 2) Monthly Generation Report 3) DG Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Flow Meter, Dip measurement in day tank
(vi)	Please provide the HSD/LDO quantity consumed in CPP for power generation in kilo liters.		Daily, Monthly, Yearly	1) Daily Generation Report 2) Monthly Generation Report 3) CPP Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Flow Meter, Dip measurement in day tank
(vii)	Please provide the HSD/LDO quantity consumed in Cogen for power generation in kilo liters.		Daily, Monthly, Yearly	1) Daily Generation Report 2) Monthly Generation Report 3) Cogen Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Flow Meter, Dip measurement in day tank
(viii)	Please provide the HSD/LDO quantity used in Transportation, if any in kilo liters.		Daily, Monthly, Yearly	1) Vehicle Log book 2) Stores Receipt 3) Fuel Dispenser meter reading 3) Work Order for Internal Transportation	
(ix)	Please provide the HSD/LDO quantity used in process heating in kilo liters.		Daily, Monthly, Yearly	1) DPR 2) MPR 3) Boiler/Digestor/Calcliner/Carbon Anode Process Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report/ Cast House Log Sheet	Flow Meter, Dip measurement in day tank
(x)	Formula protected (Total HSD/LDO used in DG, CPP and process heating multiply by the density)				
(xi)	Formula protected (Total HSD/LDO thermal energy used in DG set)				
(xii)	Formula protected (Total HSD/LDO thermal energy used in CPP)				
(xiii)	Formula protected (Total HSD/LDO thermal energy used in Cogen)				
(xiv)	Formula protected (Total HSD/LDO thermal energy used in Process Heating)				
D.6	Liquid Waste (pl. specify and refer CPCB guidelines, enclosed)				
(i)	Please provide landed cost of Liquid Waste i.e. Basic Cost+All Taxes + Freight. The landed cost of last purchase order in the financial year		Annual	1) Purchase Order for basic rates and taxes 2) Freight document for rates	
(ii)	Please provide the gross calorific value of liquid waste in kcal/kg.		Lot, Montly, Yearly	1) Test report from Supplier 2) Internal Test Report from lab 3) Test report from Government Accredited Lab 4) Standard Value as per Notification	Lab Register
(iii)	Please provide the annual liquid waste quantity purchase in kilo liters.		Lot, Montly, Yearly	1) Purchase Order 2) Stores Receipt 3) SAP Entry in MM/PP/FI module 4) Annual Report	Stores Receipt

(iv)	Please provide the average density of liquid waste in kg/lit.		Lot, Montly, Yearly	1) Test report from Supplier 2) Internal Test Report from lab 3) Test report from Government Accredited Lab 4) Standard Value as per Notification	Lab Register
(v)	Please provide the liquid waste quantity consumed in DG set for power generation in kilo liters.		Daily, Monthly, Yearly	1) Daily Generation Report 2) Monthly Generation Report 3) DG Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Flow Meter, Dip measurement in day tank
(vi)	Please provide the liquid waste quantity consumed in CPP for power generation in kilo liters.		Daily, Monthly, Yearly	1) Daily Generation Report 2) Monthly Generation Report 3) CPP Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Flow Meter, Dip measurement in day tank
(vii)	Please provide the liquid waste quantity consumed in Cogen for power generation in kilo liters.		Daily, Monthly, Yearly	1) Daily Generation Report 2) Monthly Generation Report 3) Cogen Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Flow Meter, Dip measurement in day tank
(viii)	Please provide the liquid waste quantity consumed in process heating in kilo liters.		Daily, Monthly, Yearly	1) DPR 2) MPR 3) Boiler/Digestor/Calciner/Carbon Anode Process Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report/ Cast House Log Sheet	Flow Meter, Dip measurement in day tank
(ix)	Formula protected (Total liquid waste used in DG, CPP and process heating multiply by the density)				
(x)	Formula protected (Total liquid waste thermal energy used in DG set)				
(xi)	Formula protected (Total liquid waste thermal energy used in CPP)				
(xii)	Formula protected (Total liquid waste thermal energy used in Cogen)				
(xiii)	Formula protected (Total liquid waste thermal energy used in Process Heating)				
D.7	Formula protected [Total liquid fuel (furnace oil, LSHS, HSHS, HSD and LDO) thermal energy used in DG set for power generation]				
D.8	Formula protected [Total liquid fuel (furnace oil, LSHS, HSHS, HSD and LDO) thermal energy used in CPP for power generation]				
D.9	Formula protected [Total liquid fuel (furnace oil, LSHS, HSHS, HSD and LDO) thermal energy used in Cogen for power generation]				
D.10	Formula protected [Total liquid fuel (furnace oil, LSHS, HSHS, HSD and LDO) thermal energy used in process heating]				
E	Gaseous Fuel				
E.1	Compressed Natural Gas (CNG/NG/PNG/LNG)				
(i)	Please provide landed cost of Gaseous Fuel i.e. Basic Cost+All Taxes + Freight. The landed cost of last purchase order in the financial year		Annual	1) Purchase Order for basic rates and taxes 2) Freight document for rates	
(ii)	Please provide the gross calorific value in kcal/SCM.		Lot, Dailiy, Monthly, Yearly	1) Test report from Supplier 2) Test report from Government Accredited Lab 3) Standard Value as per Notification	
(iii)	Please provide the annual quantity purchase in million SCM.		Lot, Dailiy, Monthly, Yearly	1) Purchase Order 2) Stores Receipt 3) SAP Entry in MM/PP/FI module 4) Annual Report	Gas Meter Reading, Bullet Pressure Reading
(iv)	Please provide the NG quantity consumed in power generation in million SCM.		Daily, Monthly, Yearly	1) DPR 2) MPR 3) GG Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Gas Meter Reading, Bullet Pressure Reading
(v)	Please provide the NG quantity consumed in transportation in million SCM.		Daily, Monthly, Yearly	1)Vehicle Log book 2) Stores Receipt 3) Fuel Dispenser meter reading 3) Work Order for Internal Transportation	

(vi)	Please provide the NG quantity consumed in process heating million SCM		Daily, Monthly, Yearly	1) DPR 2) MPR 3) Boiler/Digestor/Calciner/Carbon Anode Process Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report/ Cast House Log Sheet	Gas Meter Reading, Bullet Pressure Reading
(vii)	Formula protected (Total NG used in power generation and process heating)				
(viii)	Formula protected (Total NG thermal energy used in power generation)				
(ix)	Formula protected (Total NG thermal energy used in Process Heating)				
E.2	Liquefied Petroleum Gas (LPG)				
(i)	Please provide landed cost of LPG i.e. Basic Cost+All Taxes + Freight. The landed cost of last purchase order in the financial year		Annual	1) Purchase Order for basic rates and taxes 2) Freight document for rates	
(ii)	Please provide the gross calorific value of LPG in kcal/SCM		Lot, Dailiy, Monthly, Yearly	1) Test report from Supplier 2) Test report from Government Accredited Lab 3) Standard Value as per Notification	
(iii)	Please provide the annual LPG quantity purchase in million SCM		Lot, Dailiy, Monthly, Yearly	1) Purchase Order 2) Stores Receipt 3) SAP Entry in MM/PP/FI module 4) Annual Report	Gas Meter Reading, Bullet Pressure Reading
(iv)	Please provide the LPG quantity consumed in power generation in million SCM		Daily, Monthly, Yearly	1) DPR 2) MPR 3) GG Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report	Gas Meter Reading, Bullet Pressure Reading
(v)	Please provide the LPG quantity consumed in process heating million SCM		Daily, Monthly, Yearly	1) DPR 2) MPR 3) Boiler/Digestor/Calciner/Carbon Anode Process Log Sheet 4) SAP Entry in MM/PP/FI module 5) Annual Report/ Cast House Log Sheet	Gas Meter Reading, Bullet Pressure Reading
(vi)	Formula protected (Total LPG used in power generation and process heating)				
(vii)	Formula protected (Total LPG thermal energy used in power generation)				
(viii)	Formula protected (Total LPG thermal energy used in Process Heating)				
E.3	Formula protected [Total gaseous fuel thermal energy used in power generation]				
E.4	Formula protected [Total gaseous fuel thermal energy used in processing]				
F	Steam Import/Export				
F.1	Steam Import				
F.1.1/F.1.2	LP/HP Steam Import				
(i)	Please provide landed cost of Import Low Pressure/High Pressure Steam i.e. Basic Cost+All Taxes + Freight. The landed cost of last purchase order in the financial year		Annual	1) Purchase Order for basic rates and taxes 2) Freight document for rates	
(ii)	Please provide the LP/HP Steam energy in kcal/kg	Enthalpy/Boiler Efficiency	Dailiy, Monthly, Yearly	1) SAP Entry in MM/PP/FI module	1) Boiler Efficiecny calculation
(iii)	Please provide the annual LP/HP Steam quantity purchase in Tonnes		Lot, Dailiy, Monthly, Yearly	1) Purchase Order 2) SAP Entry in MM/PP/FI module 3) Annual Report	Steam Flow Meter Reading, Pressure Reading, Temperature Reading
(iv)	Please provide the annual average temperature of imported LP/HP Steam in oC		Daily, Monthly, Yearly	1) SAP Entry in MM/PP/FI module	Steam Flow Meter Reading, Pressure Reading, Temperature Reading
(v)	Please provide the annual average pressure of imported LP/HP Steam in bar		Daily, Monthly, Yearly	1) SAP Entry in MM/PP/FI module	Steam Flow Meter Reading, Pressure Reading, Temperature Reading
(vi)	Formula protected (Total LP/HP steam imported for processing)				
F.1.3	Formula protected (Total energy imported by LP & HP Steam for processing)				

F.2	Steam export				
F.2.1/F.2.2	LP/HP Steam export				
(i)	Please provide landed cost of Exported Low Pressure/High Pressure Steam i.e. Basic Cost+All Taxes + Freight. The landed cost of last purchase order in the financial year		Annual	1) Purchase Order for basic rates and taxes 2) Freight document for rates	
(ii)	Please provide the enthalpy of exported LP/HP Steam in kcal/kg		Dailiy, Monthly, Yearly	1) SAP Entry in MM/PP/FI module	
(iii)	Please provide the annual quantity exported of LP/HP Steam in Tonnes		Lot, Dailiy, Monthly, Yearly	1) Purchase Order 2) SAP Entry in MM/PP/FI module 3) Annual Report	Steam Flow Meter Reading, Pressure Reading, Temperature Reading
(iv)	Please provide the annual average temperature of exported LP/HP Steam in oC		Daily, Monthly, Yearly	1) SAP Entry in MM/PP/FI module	Steam Flow Meter Reading, Pressure Reading, Temperature Reading
(v)	Please provide the annual average pressure of exported LP/HP Steam in bar		Daily, Monthly, Yearly	1) SAP Entry in MM/PP/FI module	Steam Flow Meter Reading, Pressure Reading, Temperature Reading
(vi)	Formula protected (Total LP/HP steam exported for processing)				
F.2.3	Formula protected (Total energy exported by LP & HP Steam)				
F.3	Formula protected (Weighted Average Boiler Efficiency (Boiler 1-10))				
F.4	Formula protected (Total Thermal Energy Exported for Steam)				
F.5	Formula protected (Total Thermal Energy for Steam (Import-Export))				
G	Total Thermal Energy				
G.1	Formula protected [Total thermal energy of all input fuels (Solid, Liquid and Gaseous) used in power generation]				
G.2	Formula protected [Total thermal energy of all input fuels (Solid, Liquid and Gaseous) used in process heating]				
G.3	Formula protected [Total thermal energy of all input fuels (Solid, Liquid and Gaseous) used in power generation and process heating]				
H	Gross Heat Rate				
H.1	Formula protected (Gross heat rate of DG set = Total thermal energy used in DG set/ Total annual generation of DG set)				
H.2	Formula protected (Gross heat rate of Steam Turbine = Total thermal energy used in Steam Turbine / Total annual generation of Steam Turbine)				
H.3	Formula protected (Gross heat rate of Gas Turbine = Total thermal energy used in Gas Turbine / Total annual generation of Gas Turbine)				
H.4	Formula Protected (Gross Heat Rate of Co-Gen (Extraction cum Condensing))				
H.5	Formula Protected (Gross Heat Rate of Co-Gen(Extraction/BackPressure))				
H.6	Formula protected (Weighted Heat Rate of plant)				
I	Coal Quality in CPP (As Fired Basis)				
I.1	Please provide the GCV value of coal used in CPP	Location of sampling and Fuel consumption for AS FIRED Fuel analysis: After the Mill	Lot, Daily, Monthly, Quarterly	1) Daily Internal Report from Lab on Fuel Proximate Analysis performed on each lot. 2) Test Certificate from Government Accredited lab. (Plant to maintain minimum 1 sample test in a quarter for Proximate and	1) Lab Register on Fuel Testing for Proximate Analysis 2) Callibration Record of instrument used for testing 3) Lab register 4) Lab analysis procedure documents 5) Sampling methodology document
I.2	Please provide the Ash % in coal used in CPP				
I.3	Please provide the Hydrogen % in coal used in CPP				
I.4	Please provide the Moisture % in coal used in CPP				
J	Bauxite Quality				
i	Please provide total Bauxite Consumed for alumina production in Tonnes			1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Shift Register 7) Log Book	1) Weigh Feeder 2) Weigh Bridge

ii	Please provide type of Bauxite consumed in plant			1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Shift Register 7) Log Book	
iii	Please provide percentage of total Al ₂ O ₃ /siO ₂ Ratio in bauxite			1) Calculation Sheet	
iv	Please provide percentage of Total Available Alumina (TAA) in bauxite		Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Shift Register 7) Log Book	1) Test Report 2) Lab Register 3) Callibration Record of the instrument used for testing
v	Please provide percentage of Monohydrate Alumina (MHA) in Bauxite		Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Shift Register 7) Log Book	1) Test Report 2) Lab Register 3) Callibration Record of the instrument used for testing
vi	Please provide percentage of Trihydrate Alumina (THA) in Bauxite		Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Shift Register 7) Log Book	1) Test Report 2) Lab Register 3) Callibration Record of the instrument used for testing
vii	Please provide percentage of Silica in Bauxite		Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Shift Register 7) Log Book	1) Test Report 2) Lab Register 3) Callibration Record of the instrument used for testing
viii	Please provide percentage of Moisture in Bauxite		Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Shift Register 7) Log Book	1) Test Report 2) Lab Register 3) Callibration Record of the instrument used for testing
ix	Please provide percentage of Overall Recovery		Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Shift Register 7) Log Book	1) Test Report 2) Lab Register 3) Callibration Record of the instrument used for testing
x	Please provide Wash Water in tonne of water /tonne of bauxite		Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Shift Register 7) Log Book	1) Test Report 2) Lab Register 3) Callibration Record of the instrument used for testing
xi	please provide Steam Economy in tonne of steam/tonne of bauxite		Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Shift Register 7) Log Book	1) Test Report 2) Lab Register 3) Callibration Record of the instrument used for testing
xii	Please provide percentage of Fe in Bauxite		Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Shift Register 7) Log Book	1) Test Report 2) Lab Register 3) Callibration Record of the instrument used for testing
xiii	Please provide percentage of Fe in Mud		Daily, Monthly	1) Log Sheet 2) CCR SCADA Report/ Ternds 3) DPR 4) MPR 5) SAP Entry in PP/SD module 6) Shift Register 7) Log Book	1) Test Report 2) Lab Register 3) Callibration Record of the instrument used for testing
xiv	Formula protected enthalpy of steam in kcal/kg				
xv	Formula protected ofBoiler Efficiency in %				
K	Miscellaneous Data				
K1	Additional Equipment installation after baseline year due to Environmental Concern				
(i)	Please provide the Electrical Energy Consumption with list of additional Equipment installed due to Environmental Concern after baseline year in Sheet! Addl Eq List-Env.	List of Equipment to be filled up	Daily, Monthly, Annual	Energy Meter Readings and Power consumption details of each additional equipment installed from 1st Apr to 31st March	1) EMS 2) Energy Meter 3) Addition Equipment List with capacity and running load 4) Purchase Order document 5) SAP Data in MM module
(ii)	Please provide the Thermal Energy Consumption with list of additional Equipment installed due to Environmental Concern after baseline year.	List of Equipment to be filled up	Daily, Monthly, Annual	Solid/Liquid/Gaseous Fuel consumption of each additional equipment installed from 1st Apr to 31st March	1) Fuel Flow Meter 2) Weigh Feeder 3) Purchase Order document 4) SAP Data in MM module
K2	Biomass/ Alternate Fuel availability (as per Sr. No D.9/D.10/E.6)				
(i)	Please provide the details of replacment of Bio-mass with fossil fuel due to un-avaialability. This is required in fossil fuel tonnage in terms of equivalent GCV of Bio-mass (Used in Process)	Fossil Fuel: Coal/Lignite/Fuel Oil	Monthly	1) Authentic Document in relation to Bio-Mass/Alternate Solid Fuel/Alternate Liquid Fuel availability in the region. 2) Test Certificate of Bio-mass from Government Accredited Lab for GCV in Baseline and assessment year 3) Test Certificate of replaced Fossil Fuel GCV	
(ii)	Please provide the details of replacment of Alternate Solid Fuel with fossil fuel due to un-avaialability. This is required in fossil fuel tonnage in terms of equivalent GCV of Alternate Solid Fuel (Used in Process)		Monthly		

(iii)	Please provide the details of replacement of Alternate Liquid Fuel with fossil fuel due to un-availability. This is required in fossil fuel tonnage in terms of equivalent GCV of Alternate Liquid Fuel (Used in Process)		Monthly		
K3	Project Activities (Construction Phase)				
(i)	Please provide the Electrical Energy Consumption with list of Project Activities and energy consumed during project activities treated as Construction phase in Lakh kwh	List of Equipment to be filled up	Daily, Monthly	Energy Meter Readings of each project activity with list of equipment installed under each activity from 1st Apr to 31st March	1) EMS 2) Energy Meter 3) Addition Equipment List with capacity and running load 3) Purchase Order document 4) SAP Data in MM module
(ii)	Please provide the Thermal Energy Consumption with list of Project Activities and energy consumed during project activities treated as Construction phase in Million kcal converted from different fuel	List of Equipment to be filled up	Daily, Monthly	Solid/Liquid/Gaseous Fuel consumption of each project activity with list of equipment under each activity installed from 1st Apr to 31st March	1) Fuel Flow Meter 2) Weigh Feeder 3) Purchase Order document 4) SAP Data in MM module
K4	New Line/Unit Commissioning				
(i)	Please provide the electrical energy consumed in Lakh kWh during its commissioning till it attains 70% of the new line capacity utilisation		Daily, Monthly	1) Rated Capacity of new Process/line from OEM 2) Energy Meter Readings and Power Consumption record of process/line with list of equipment installed from 1st Apr to 31st March	1) EMS 2) Energy Meter 3) Addition Equipment List with capacity and running load
(ii)	Please provide the thermal energy consumed in Million kcal during its commissioning till it attains 70% of the new line capacity utilisation. The energy is calculated after converting from the different fuel GCV used in the new process/line		Daily, Monthly	1) Rated Capacity of new Process/line from OEM 2) Thermal Energy Consumption record with list of equipment from DPR/Log book/SAP Entry in PP module	1) Fuel Flow Meter 2) Weigh Feeder
(iii)	Please provide the Calcined Alumina production line (Refinery) during its commissioning up to 70% of new line/process capacity utilisation in Tonnes		Daily, Monthly	1) Rated Capacity of new Process/line from OEM 2) Production record from DPR/Log book/SAP Entry in PP module	1) Bauxite Weigh Feeder
(iv)	Please provide the Molten Aluminium production line (Smelter & Integrated) during its commissioning up to 70% of new line/process capacity utilisation in Tonnes		Daily, Monthly	1) Rated Capacity of new Process/line from OEM 2) Production record from DPR/Log book/SAP Entry in PP module	1) Alumina Weigh Feeder
(v)	Please provide the date of achieving 70% capacity utilisation of new process/line			1) Record/Document from SAP Entry/Log Book Entry/DPR/MPR	Operator's Shift Register
(vi)	Please provide the Electrical Energy consumed in Lakh kWh from external source during its commissioning till it attains 70% of the new unit capacity utilisation in Power generation		Daily, Monthly	1) Rated Capacity of new unit from OEM 2) Energy Meter Readings and Power Consumption record of unit from external source with list of equipment installed from 1st Apr to 31st March	1) EMS 2) Energy Meter 3) Addition Equipment List with capacity and running load
(vii)	Please provide the thermal energy consumed in Million kcal during its commissioning till it attains 70% of the new unit capacity utilisation. The energy is calculated after converting from the different fuel GCV used in the new unit in Power generation		Daily, Monthly	1) Rated Capacity of new unit from OEM 2) Thermal Energy Consumption record with list of equipment from DPR/Log book/SAP Entry	1) Fuel Flow Meter 2) Weigh Feeder
(viii)	Please provide the Steam Generation From Co-Gen till New Line /Unit attains 70% of Capacity Utilisation		Daily, Monthly	1) Record/Document from SAP Entry/Log Book Entry/DPR/MPR	1) Fuel Flow Meter 2) Weigh Feeder
(ix)	Please provide Net Electricity Generation till new line/ Unit attains 70% Capacity Utilisation from CPP/Cogen		Daily, Monthly	1) Record/Document from SAP Entry/Log Book Entry/DPR/MPR	1) EMS 2) Energy Meter
(x)	Please provide the date of achieving 70% capacity utilisation of new unit in Power generation			1) Record/Document from SAP Entry/Log Book Entry/DPR/MPR	
K5	Unforeseen Circumstances				
(i)	Please provide the Electrical Energy Consumption with list of unforeseen circumstances consumed in Lakh kWh claimed for Normalisation	Unforeseen Circumstances: Situation not under direct or indirect control of pLant management		1) Relevant document on Unforeseen Circumstances beyond the control of plant 2) Energy Meter Readings and Power Consumption during the said period of unforeseen circumstances	1) EMS 2) Energy Meter 3) Addition Equipment List with capacity and running load
(ii)	Please provide the Thermal Energy Consumption with list of unforeseen circumstances consumed in Million kcal claimed for Normalisation			1) Relevant document on Unforeseen Circumstances beyond the control of plant 2) Thermal Energy Consumption record during the said period of unforeseen circumstances from DPR/Log book/SAP Entry	1) Fuel Flow Meter 2) Weigh Feeder

L	Documentation for Normalisation				
(i)	Bauxite Quality Normalisation			1) For Normalisation factors, which became applicable due to external factors, authentic documents to be produced by DC for the baseline as well for the assessment year. In absence of these authentic documents, no Normalisation Factor will be applied/Considered. 2) While selecting "No" from the drop down list, the inbuilt calculation automatic treat the Normalisation for particular factor as zero. However, DC needs to submit an undertaking from the Authorised Signatory on non-availability of document	
(ii)	Please select from drop down list on availability of documents for Smelter Capacity Utilization Normalisation				
(iii)	Please select from drop down list on availability of documents for Fuel Quality in CPP & Co-Gen Normalisation				
(iv)	Please select from drop down list on availability of documents for CPP PLF Normalisation				
(v)	Please select from drop down list on availability of documents for Power Mix Normalisation				
(vi)	Please select from drop down list on availability of documents for Product Mix Normalisation				
(vii)	Please select from drop down list on availability of documents for Carbon Anode Production Normalisation				
(viii)	Please select from drop down list on availability of documents for Carbon Anode Production Normalisation				
(ix)	Please select from drop down list on availability of documents for Other Factors Normalisation				
M	Energy Saving and Investment				
(i)	Please provide in Rs Million th year wise Investment made towards Energy saving Projects	Sum of three years 2012-15 for Assessment year data entry			
(ii)	Thermal Energy Saving during the year				
a	Solid Fuel	Sum of three years 2012-15 for Assessment year data entry			
a.1	Please provide the Coal savings in Million kcal				
a.2	Please provide the Lignite savings in Million kcal				
a.3	Please provide the Petro Coke savings in Million kcal				
a.4	Please provide the Biomass waste savings in Million kcal				
b	Please provide Liquid Fuel (FO/HSD/LDO/LSHS/HSHS) savings in million kcal	Sum of three years 2012-15 for Assessment year data entry			
c	Please provide Gaseous Fuel savings in Million kcal				
(iii)	Please provide the Electrical Energy savings in Million kcal				
N	Compulsory to attach yearwise Plant's Process Flow Diagram				
(i)	Please provide the PFD for baseline as well as for assessment year				
O	Document related to external factor				
(i)	Market Demand				
	1) Calcined Alumina stock record from Calciner Log book (Refinery) 2)SAP entry in SD and FI module 3) SAP entry in PP module 4) Document related to sales impact of market				
(ii)	Grid Failure				
	1) SLDC Reference No. for planned Stoppages from respective Substation 2) Log book record of Main Electrical Substation of Plant 3) DPR 4) MPR 5) SAP entry in PM module of Electrical department				
(iii)	Raw Material un-availability				
	1) Material Order copy and denial document from Mines owner 2) SAP entry in MM/FI module on raw material order 3) DPR 4) MPR				
(iv)	Natural Disaster				
	1) Supporting Authentic document from Local district Administration 2) Kiln Log Sheet 3) Kiln operators Report book 4) DPR 5) MPR				
(v)	Major change in government policy hampering plant's process system				

	1)Government Notification or Statutory order 2) Authentic document from plant on effect of kiln production due to policy change 3) DPR 4) MPR 5) SAP Entry on production change				
(vi)	Unforeseen circumstances/Labour Strike/Lockouts/Social Unrest/Riots				
	1) Relevant document on Unforeseen Circumstances beyond the control of plant 2) Energy Meter Readings and Power Consumption during the said period of unforeseen circumstances 3) Thermal Energy Consumption record during the said period of unforeseen circumstances from DPR/Log book/SAP Entry				
P	Note				
(i)	The hard copy/Printouts is to be signed by Authorised signatory, if SAP data is used as documents				
Q	Abbreviations				
MPR	Monthly Production Report				
DPR	Daily Production Report				
MM	Material Management				
PP	Production and Planning				
SD	Sales and Distribution				
FI	Financial Accounting				
PM	Plant Maintenance				
EMS	Energy Management System				