TATA

JPP/GMO / 121 /18
Dt. 04-09-2018

To
The Member Secretary
Jharkhand State Pollution Control Board
TA Division Building (Ground Floor)
HEC Campus, Dhurwa,
Ranchi – 834 004

Sub : Submission of Environmental Statement for the FY 2017-18.

Dear Sir,

Please find the "Environment Statement" for Tata Power Co. Ltd., Jamshedpur for the period 1st April 2017 to 31st March 2018 enclosed here with.

We trust you will find the above in order.

Thanking you,

Yours faithfully
For The Tata Power Co. Ltd.

(V.V.Namjoshi)
Chief - Jojobera Station

Encl: as above.

CC : The Regional Officer, JSPCB, MB / 15, New Housing Colony, Adityapur, Jamshedpur – 13. (With enclosures)

TATA POWER
The Tata Power Company Limited
Jojobera Power Plant, Jamshedpur - 831016
Tel 91 657 2276878, 6511543
Registered Office Bombay House 24 Homi Mody Street Mumbai 400 001

Printed on 100 % Recycled Paper

FORM – V

(See rule 14)

Environmental Statement for the financial year ending the 31st March 2018.

PART – A

(i)	Name and address of the Owner / occupier of the industry	:	Mr. Ashok S. Sethi Designation:-COO & Executive Director Address: - B-1, 403, Godrej Platinum, Pirojshanagar, Vikhroli, Mumbai 400 079.
(ii)	Industry category Primary – (SC Code), Secondary – (SIC Code)	:	Not applicable
(iii)	Production capacity (Units)	:	67.5 MW - One no. 120 MW - Four Nos.
(iv)	Year of establishment	:	Unit #1 - 67.5 MW -1996 Unit #2 - 120 MW - 2000 Unit #3 - 120 MW - 2001 Unit #4 - 120 MW - 2005 Unit # 5 -120 MW - 2011
(v)	Date of the last Environmental Statement submitted.	:	12.09 2017

PART – B

Water and Raw Material Consumption

(1)	Water consumption m^3 / d	:	30011.69 m^3 / d
	Process	:	3587.12 m^3 / d
	Cooling	:	26305.57 m^3 / d
	Domestic	:	119 m^3 / d

Name of products	Process water consumption per unit of product output	
	During the Previous financial year (2016 – 17)Unit 1-5)	During the current financial year (2017 – 18)(Unit 1-5)
Power (MWH)	0.3529 m^3 / MWh	0.3419 m^3 / MWh

(2) Raw Material consumption :

Name of the raw material	Name of products	Consumption of raw material per unit of output	
		During the Previous financial year (2016 – 17)(Unit 1-5)	During the current financial year(2017 – 18)(Unit 1-5)
Coal	Electric Power	685 kg / MWh	655 kg / MWh

PART - C

POLLUTION DISCHARGED TO ENVIRONMENT / UNIT OF OUTPUT (PARAMETER AS SPECIFIED IN THE CONSENT ISSUED)

Pollutants	Quantity of pollutants discharged (mass / day)	Concentration of pollutants in Discharged (mass / volume)	Percentage of Variation from prescribed Standards with reasons
A) Water	NIL (No Discharge)		
B) Air (stack)	MT / Day	Mg / Nm^3	
SPM		Annexure II	N/A
SO2	62.6	Annexure I	Below prescribed Standard
NOX		Annexure II	

PART – D

HAZARDOUS WASTES
(AS SPECIFIED UNDER HAZARDOUS WASTES (MANAGEMENT, HANDLING AND TRANSBOUDARY MOVEMENT RULES, 2016)

Hazardous Waste	Total Quantity (kg / years)	
	During the Previous financial year (2016 – 17)(Unit 1-5)	During the current financial year (2017 – 18) (Unit 1-5)
a) From process	Used Oil –13860 Liters	Used Oil –2200 Liters
b) From Pollution Control	Nil	Nil

PART – E

Solid Waste

	Total Quantity (MT / year)	
	2016-17(unit 1-5)	2017-18 (unit 1-5)
a) From process (Ash)	1055459	998698
b) From Pollution Control Facility	Not Applicable	Not Applicable
c) Recycled within the unit for making PPC to Lafarge Railways transport to other cement plants, Bricks , Pigment and ready-mix industries	674319	703765
d) Sold	Nil	Nil
e) Utilized as land filling	368616	493027

PART – F

Wastes and their characteristics	**Used Oil – Liquid Hydrocarbon** (Category 5.1) mineral/synthetic oil used for lubrication

Parameter	Maximum Permissible Limit	Test Result (PPM)
Polychlorinated biphenyls (PCBs)	< 2.0 ppm by Gas Liquid Chromatography (GLC) using electron capture detector (ECD)	< 2.0
Lead	100 ppm (Max)	< 2.5
Arsenic	<5 ppm	< 0.25
Cadmium + Chromium + Nickel	<500 ppm	< 500
Polyaromatic hydrocarbons (PAH)	< 6%	<2.0

PART – G

Impact of pollution control measures on:	
Conservation of natural resources and	Water :0.09 M3/MWh
Cost of production	Rs. 10.30 / MWH

PART – H

Additional measures / investment proposal environmental protection including Abatement of pollution prevention of pollution :		Proposal of Rain water Harvesting system

PART – I

Any other particulars for improving the quality environment	(1) Approx. 500 Nos saplings planted inside & outside of the plant. (2) 5S technique is being implemented in Power Station for the betterment of work environment. (3) Specific water consumption reduced from 3.24 to 2.86 M3/MWHr in last Five years. (4) Continuous operation of effluent treatment plant for recycling of waste water is in place. The treated water being used as

	Make up water to minimize the intake of raw water. (5) Reduced air travel using webcast/video conferencing facilities. (6) Reduced Consumption of Paper by adopting Online reporting system & Mobile Apps (i.e. Xpression, Suraksha, Zaika). (7) Many initiatives taken for reduction of water consumption, Aux. power and heat rate through improvement initiative projects i.e. Sankalp, SPS etc.)

Stoichiometric Calculation for SO2 Generation MT in 2017-18 : (ANNEX - I)

Let X = Coal qantity fired in furnace in MT
Let Y = sulpher content of coal in %
Formula for Total emission of SO2 in MT in year = (X*Y)*2/100*0.95

Month	Coal Type	Total Coal consumption unit 1-5 (MT)	Sulpher content in coal (%)	SO2 Generation by coal (MT)	Total LDO consumption unit 1-5 (MT)	Sulpher content in LDO (%)	SO2 Generation by LDO (MT)	Total SO2 Generation (MT)
Apr-17	Coal (Type 1) - Middling (MT)	94173.0	0.45	805.2	130	0.24	**0.624**	1608
	Coal (Type 2) - MCL(MT)	51600.0	0.33	323.5				
	Coal (Type 3) - 2P (MT)	19127.5	0.25	90.9				
	Coal (Type 4) - Tailings (MT)	15287.0	0.55	159.7				
	Coal (Type 5) - CCL (MT)	28572.0	0.42	228.0				
May-17	Coal (Type 1) - Middling (MT)	138070.0	0.45	1180.5	87.5	0.24	0.42	1813
	Coal (Type 2) - MCL(MT)	52105.0	0.35	346.5				
	Coal (Type 4) - Tailings (MT)	3769.7	0.57	40.8				
	Coal (Type 5) - CCL (MT)	32977.0	0.39	244.4				
Jun-17	Coal (Type 1) - Middling (MT)	135892.2	0.47	1213.5	57	0.38	0.4332	1797
	Coal (Type 2) - MCL(MT)	68637.2	0.34	443.4				
	Coal (Type 5) - CCL (MT)	21593.5	0.34	139.5				
Jul-17	Coal (Type 1) - Middling (MT)	157810.6	0.41	1229.3	101.5	0.22	0.4466	1853
	Coal (Type 2) - MCL(MT)	65691.0	0.47	586.6				
	Coal (Type 3) - 2P (MT)	7357.0	0.26	36.3				
Aug-17	Coal (Type 1) - Middling (MT)	134145.0	0.48	1223.4	59	0.4	0.472	2035
	Coal (Type 2) - MCL(MT)	56680.0	0.55	592.3				
	Coal (Type 3) - 2P (MT)	30870.0	0.26	152.5				
	Coal (Type 4) - Tailings (MT)	5886.0	0.59	66.0				
Sep-17	Coal (Type 1) - Middling (MT)	105881.9	0.44	885.2	31	0.47	0.2914	1841
	Coal (Type 2) - MCL(MT)	50277.6	0.57	544.5				
	Coal (Type 3) - 2P (MT)	35674.7	0.17	115.2				
	Coal (Type 4) - Tailings by Road (MT)	15815.7	0.59	177.3				
	Coal (Type 5) - CCL (MT)	15605.1	0.40	118.6				
Oct-17	Coal (Type 1) - Middling (MT)	126235.0	0.42	1007.4	149.5	0.52	1.5548	1623
	Coal (Type 3) - 2P (MT)	6751.2	0.28	35.9				
	Coal (Type 4) - Tailings by Road (MT)	13239.0	0.69	173.6				
	Coal (Type 5) - Hind Washary (MT)	29185.0	0.73	404.8				
Nov-17	Coal (Type 1) - Middling (MT)	90207.0	0.5	857.0	145	0.35	1.015	1837
	Coal (Type 2) - MCL(MT)	7899.0	0.39	58.5				
	Coal (Type 3) - 2P (MT)	6047.0	0.38	43.7				
	Coal (Type 4) - Tailings by Road (MT)	12168.0	0.98	226.6				
	Coal (Type 5) - CCL (MT)	10207.0	0.56	108.6				
	Coal (Type 6) - H. Washary (MT)	45941.0	0.62	541.2				
Dec-17	Coal (Type 1) - Middling (MT)	95419.8	0.48	870.2	64	0.59	0.7552	2146
	Coal (Type 2) - MCL(MT)	19887.2	0.37	139.8				
	Coal (Type 3) - 2P (MT)	4053.9	0.39	30.0				
	Coal (Type 4) - Tailings by Road (MT)	39541.6	0.98	736.3				
	Coal (Type 5) - CCL (MT)	4916.4	0.73	68.2				
	Coal (Type 6) - H. Washary (MT)	26795.7	0.59	300.4				
Jan-18	Coal (Type 1) - Middling (MT)	65337.0	0.47	583.5	276	0.51	2.8152	2025.9
	Coal (Type 2) - MCL(MT)	10944.0	0.36	74.9				
	Coal (Type 3) - 2P (MT)	10680.0	0.35	71.0				
	Coal (Type 4) - Tailings by Road (MT)	19689.0	0.98	366.6				
	Coal (Type 5) - CCL (MT)	12384.0	0.71	167.1				
	Coal (Type 6) - H. Washary (MT)	63496.0	0.63	760.0				
Feb-18	Coal (Type 1) - Middling (MT)	91069.0	0.51	882.5	104	0.66	1.3728	2055.3
	Coal (Type 2) - MCL(MT)	50877.0	0.34	328.7				
	Coal (Type 3) - 2P (MT)	13891.0	0.35	92.4				
	Coal (Type 4) - Tailings by Road (MT)	13891.0	0.98	258.7				
	Coal (Type 5) - CCL (MT)	14540.0	0.6	165.8				
	Coal (Type 6) - H. Washary (MT)	19720.0	0.61	228.6				
	Coal (Type 7) - SBC-Reject coal (MT)	13158.0	0.39	97.5				
Mar-18	Coal (Type 1) - Middling (MT)	107670.0	0.47	961.5	178.5	0.62	2.2134	2208.7
	Coal (Type 2) - MCL(MT)	26088.4	0.36	178.4				
	Coal (Type 3) - 2P (MT)	16583.9	0.35	110.3				
	Coal (Type 4) - Tailings by Road (MT)	7078.0	0.98	131.8				
	Coal (Type 5) - Tailing by Rake (MT)	66759.9	0.65	824.5				
FY 2017-18	**Total SO2 Generation Unit 1-5 (Station) in MT/Year**							22841.2
	Total SO2 generation per day Unit 1-5 (Station) in MT/Day							62.6

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Stack Analysis FY 2017-18 : (ANNEX - II)

Stack connected to individual units	Parameters	Frequency of Measurement	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18
STACK (U # 1)	Stack		STACK U#1	STACK U#1	STACK U#1	STACK U#1	STACK U#1	STACK U#1	STACK U#1	STACK U#1	STACK U#1	STACK U#1	STACK U#1	STACK U#1
	Date		21.04.2017	18.05.2017	16.06.2017	20.07.2017	21.08.2017	14.09.2017	21.10.2017	24.11.2017	12.12.2017	20.01.2018	08.02.2018	14.03.2018
	SPM in mg/NM3	MONTHLY	74.90	74.60	74.50	74.70	74.76	74.90	74.88	74.85	74.96	74.24	72.86	73.88
	NO2 in mg/NM^3	MONTHLY	364	310	323	336	357	365	351	342	301	305	306	304
STACK (U # 2)	Stack		STACK U#2	STACK U#2	STACK U#2	STACK U#2	STACK U#2	STACK U#2	STACK U#2	STACK U#2	STACK U#2	STACK U#2	STACK U#2	STACK U#2
	Date		21.04.2017	18.05.2017	16.06.2017	19.07.2017	21.08.2017	14.09.2017	16.10.2017	09.11.2017	12.12.2017	20.01.2018	08.02.2018	15.03.2018
	SPM in mg/NM3	MONTHLY	74.70	74.30	74.70	74.62	74.69	74.78	74.85	74.91	74.92	73.35	73.89	74.07
	NO2 in mg/NM^2	MONTHLY	378	331	335	357	362	374	389	356	331	327	324	326
STACK (U # 3)	Stack		STACK U#3	STACK U#3	STACK U#3	STACK U#3	STACK U#3	STACK U#3	STACK U#3	STACK U#3	STACK U#3	STACK U#3	STACK U#3	STACK U#3
	Date		22.04.2017	18.05.2017	16.06.2017	19.07.2017	22.08.2017	15.09.2017	16.10.2017	09.11.2017	12.12.2017	19.01.2018	19.02.2018	14.03.2018
	SPM in mg/NM3	MONTHLY	74.40	74.80	74.60	74.58	74.63	74.92	74.97	74.81	74.92	72.28	71.96	73.49
	NO2 in mg/NM^3	MONTHLY	381	312	326	369	372	383	392	358	350	355	353	352
STACK (U # 4)	Stack		STACK U#4	STACK U#4	STACK U#4	STACK U#4	STACK U#4	STACK U#4	STACK U#4	STACK U#4	STACK U#4	STACK U#4	STACK U#4	STACK U#4
	Date		25.04.2017	19.05.2017	17.06.2017	18.07.2017	23.08.2017	15.09.2017	16.10.2017	10.11.2017	13.12.2017	19.01.2018	09.02.2018	15.03.2018
	SPM in mg/NM3	MONTHLY	49.90	49.20	49.50	49.48	49.61	49.82	49.91	49.97	49.93	48.18	48.88	49.03
	NO2 in mg/NM^3	MONTHLY	276	255	297	282	286	296	299	259	240	242	243	241
STACK (U # 5)	Stack		STACK U#5	STACK U#5	STACK U#5	STACK U#5	STACK U#5	STACK U#5	STACK U#5	STACK U#5	STACK U#5	STACK U#5	STACK U#5	STACK U#5
	Date		24.04.2017	19.05.2017	17.06.2017	18.07.2017	23.08.2017	16.09.2017	17.10.2017	10.11.2017	13.12.2017	27.01.2018	09.02.2018	15.03.2018
	SPM in mg/NM3	MONTHLY	49.80	49.40	49.60	49.67	49.45	49.90	49.76	49.88	49.96	47.29	47.91	49.17
	NO2 in mg/NM^3	MONTHLY	276	286	290	287	296	289	295	359	372	391	404	403