STATE POLLUTION CONTROL BOARD, ODISHA

(DEPT., OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVT OF ODISHA)
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No. 4463 / IND-I-CON-5440 Dt. 23.03.2023

CONSENT ORDER

Sub: Consent for Existing / New operation of the plant under Section 25 of the Water (Prevention & Control of Pollution) Act, 1974 and under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981.

Ref : Your online application **ID No. 4564752 dtd. 29.12.2022**

This consent order is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed there under to

Name of the Industry: **M/s. Tata Steel Limited,**

Name of the Occupier & Designation; **Sri Subodh Pandey, VP (Operation)**

Address: **At-Narendrapur, Po– Kusupanga, Via – Meramandali, Dist:Dhenkanal - 759121**

This consent order is valid for the period from **01.04.2023 to 31.03.2025**

*** After receipt of certificate on No Increase in Pollution Load vide letter No. 886, dtd. 20.01.2022 & grant of Consent to Establish vide letter No. 2204, dt.15.02.2023 Consent to operate for trial operation of Laddle Refining Furnace from 3 x 180 T/Heat to 3 x 190 T/H by enhancement of carrying capacity for a period of six months from 01.04.2023 to 30.09.2023**

This consent order is valid for the product quantity, specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.

Further, this consent is being granted without prejudice to the legal cases No. 2(C)CC-46/2013 (Water) and No. 2(C)CC-47/2013 (Air) filed in the court of SDJM, Dhenkanal by this Board.

This consent is granted subject to the general and special conditions stipulated therein

A. Details of Products Manufactured

Sl.No.	Product	Quantity
1.	Sponge Iron (Kiln-I,II,III, IV, V, VI, VII, VIII, IX & X) (10×500 TPD)	1.5 Million Ton/Annum
2.	Captive Power Plant (CPP) (1) 142 MW with 4 Tourbogenerators (77 MW + 33MW + 20 MW + 12 MW) (2) 175 MW with 1 Tourbogenerator	a) 77 MW & 33 MW (through WHRB + 120 TPH AFBC) b) 20 MW & 12 MW (through 3x75 TPH AFBC) c) 165 MW **(Using steam from 1×60 TPH, 1×125 TPH , 250 TPH gas fired boilers, 94.5 TPH CDQ-2 and surplus steam (i.e.280 TPH) from 2×275 TPH coal fired boiler)**

3.	Sinter Plant -I	1×177m^2
4.	Sinter Plant –II & III	2×204m^2
5.	Blast Furnace –I (1×1681m^3) & Blast Furnace-II (3814 m^3)	5.0 Million Ton/Annum
6.	CFBC Boilers of BF-II	2×275 TPH
7.	Steel Melting Shop (SMS)-I & II & Casting Unit i) Electric Arc Furnace ii) Ladle Refining Furnace iii) CONARC iv) VD/VOD v) RH-OB vi) HMDS	 6×15T/H 1×60T/H 1×60T/H, 1×15 T/H and 2×190 T/H(*) 1×180T/H 1× 60T/H 1×180T/H 2 numbers
8.	SMS-III i) BOF ii) ARS iii) LRF iv) CAS-OB v) HMDS	 2×180 T/H 2×180 T/H 1×190 T/H (*) 1×180 T/H 2 numbers
9.	Continuous Casting Plant (CCP) i) Slab Caster ii) Billet Caster	 2x1 strand and 2x1 strand 1x2 strand and 1x3 strand
10.	Hot Strip Mill including 3rd Reheating Furnace (330 tonne along with additional edger/ roughing mill stand/ Finishing mill, Laminar cooling system, Hot Strips and down coiler to increase Hot Strips	4.992 MTPA.
11.	Lime & Dolo Plants	4×300 TPD & 1x600 TPD
12.	Oxygen Plant -I (3 units)	1x150TPD+1x340 TPD+1x405 TPD
13.	Oxygen Plant -II (2 units)	1×1200 TPD, 1×1120 TPD
14.	Coke Oven Plant -I (Recovery Type)	0.85 MTPA
15.	Coke oven Plant –II (Recovery Type)	1.25 MTPA
16.	Coal Washery	2.4 MTPA
17.	Cold Rolling Mill Complex	
	i) Cold rolled steel products	0.35 MTPA
	ii) Galvanized steel products	0.225 MTPA
	iii) Colour coated steel products	0.15 MTPA
	iv) Hot rolled, pickled and oiled products	0.1 MTPA
	v) Galvanized Steel Products (3rd Non-Ox Galvanizing Unit of CRM Complex)	1,25,000 Metric Ton/ Annum
18.	Metal Recovery Plant	1x300 TPH capacity Metal Recovery Plant for recovery of metal from LD Slag (5000 TPD).
19.	Slag Processing Unit (Air Cooled BF Slag)	876000 TPA
20.	Iron Ore Crushing Plant	300 TPH

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21.	Iron Ore Screening Plant	500 TPH
22.	Processed Solid Waste Handling Screening Plant	150 TPH
23.	Lime & Dolo Fines Briquetting Plant	2 x 50 TPD
24.	DRI Fines Briquetting Plant	1 x 50 TPD
25.	Coal Screening Plant	250 TPH
26.	DG Set	1010 KVA
27.	Fly Ash will be supplied for Cement Plant, Fly ash brick manufacturing plant (outside and internal brick making and paver making), reclamation of Berhampur (Hindol) Stone Quarry of 6.63 Ac, Develpoment of Parjang Railway Siding 1,12,500 Tons and for supply to NH construction 19 Lakh Tons	

B. Discharge permitted through the following outlet subject to the standard

Outlet No.	Description of outlet	Point of discharge	Quantity of discharge	Prescribed standard							
				pH	SS (mg/l)	COD (mg/l)	BOD (mg/l)	O&G (mg/l)	Fe (mg/l)	Phenol (mg/l)	Cyanide (mg/l)
1.	Domestic effluent of the township and plant premises treated in STPs	No discharge for any STPs is permitted. The treated water shall be used for plantation purpose	No discharge	--	--	---	--	--	--	--	--
2.	Cooling water from all furnaces, BF-I, BF-II, SMS-I, II & III area, CPP, Scrubbed effluent from BF-I BF-II, SMS-I, II & III.	To be completely recycled	--	6.5-8.5	100	250	--	10	3.0	--	--
3.	Treated surface water drain outlet near Farm House (Outlet No.1) outlet of ETP-I	Kisinda Nallah after utilizing to the maximum extent (only in monsoon period)	--	6.5-8.5	100	250	--	10	3.0	--	--
4.	Treated wastewater from BOD plant of coke oven-I and coke oven –II	Completely reuse in coke quenching in Coke Oven –I & coke oven-II	No discharge	6.5 to 8.5	100	250	30	10	--	1.0	0.2
5.	Treated surface runoff from Coke Oven – I area and coke oven –II area	Lingara Nallah after utilizing to the maximum extent (only in monsoon period)	---	6.5-8.5	100	250	30	10	3.0	1.0	0.2
6.	Runoff from coal chemical area of coke oven-I and II	To be collected, treated & put into BOD plant without making any discharge.	No discharge	--	--	--	--	--	--	--	--
7.	Surface runoff from	To be treated in		--	--	--	--	--	--	--	--

	expansion project area	localized settling tanks & other water shall be reused.	No discharge								
8.	Effluent from acid regeneration plant, pickling line, galvanizing line of CRM and other process units.	Recovery of Acid followed by treatment and reuse		--	--	--	--	--	--	--	--
9.	Effluent from rinsing, alkali concentrated water & chromium wastewater from galvanizing of CRM (3rd Non-Ox Galvanizing Unit of CRM Complex)	Treatment and reuse	No discharge	--	--	--	--	--	--	--	--

C. Emission permitted through the following stack subject to the prescribed standard

Chimney / Stack No.	Description of Stack	Stack height (m)	Quantity of emission (Nm^3/hr)	Prescribed Standard	
				PM(in mg/Nm^3)	CO (Vol./Vol.)
1.	**DRI Kilns**				
	Stack attached to				
	(i) De-dusting ESP of Kiln –I&II	45	300000	100	
	(ii) De-dusting ESP of Kiln -III &IV	45	300000	100	1%
	(iiii) De-dusting ESP of Kiln-V & VI	45	350000	100	
	(iv) De-dusting ESP of Kiln – VII & VIII	45	350000	100	
	(v) De-dusting ESP of Kiln – IX & X	45	350000	100	
	(vi) DE attached to transfer tower T 30	30	15000	100	
	(vii) DE attached to final storage bunker T 30 A	30	59200	100	
	(viii) DE attached to Briquetting Plant of DRI	36	95500	100	
2.	**RMHS & RMPP**			100	
	(i) Iron Ore primary Screen	20	48,000		
	(ii) Iron Ore Secondary Crusher	20	5,000	100	
	(iii) Iron Ore Tertiary Crusher	20	7500	100	
	(iv) Iron Ore Secondary & Tertiary Screen	20	40,000	100	
	(v) Iron Ore Screening Bunker	20	48,000	100	
	(vi) Coal Screen Building I	32	70,000	100	
	(vii) Coal Screen Building II	36	93,400	100	
3.	**Blast Furnace Complex -I**				
	Stack attached to				
	(i) Bag filter of Cast house	45	740000	100	
	(ii) Bag filter of stock house	45	418000	100	
	(iii) Bag filter of PCI	72	120000	100	
	(iv) ESP of BF Power Plant Boiler-1	86	140000	50	
	(v) ESP of BF Power Plant Boiler-2	86	140000	50	
	(vi) ESP of BF Power Plant Boiler-3	86	140000	50	
4.	**Blast Furnace Complex –II**				
	(i) Bag filter attached to cast house	40	855000	50	
	(ii) Bag filter attached to stock house	30	540000	50	
	(iii) Bag filter attached to PCI - I	63	157000	50	
	(iv) Bag filter attached to PCI - II	53	108000	50	
	(v) ESPs CFBC Boiler -1 & 2	185	276120	PM: 50	SO2: 600 / NOx: 450 / Hg: 0.03

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5.	**Sinter Plant- I** Stack attached to (i) ESP of Sinter Machine of Sinter Plant -I (ii) ESP of Sinter Cooler of Sinter Plant -I (iii) Bag filter of Screen & Storage Building of Sinter Plant -I (iv) Bag filter of dosing house and crusher of Sinter plant -I	 120 30 30 35	 1020000 300000 400000 720000	 100 100 100 100			
6.	**Sinter plant –II** Stack attached to 1. Process ESP 2. De-dusting ESP	 80 80	 1187309 433168	 50 50			
7.	**Sinter Plant –III** Stack attached to 1. Process ESP 2. De-Dusting ESP	 80 80	 1187309 433168	 50 50			
8.	**SMS Area- I & II** Stack Attached to (i) Bag filter of SMS-I Electric Arc furnace (iii) Bag filter SMS-II , FES-I (iii) Bag filter SMS-II, FES-II	 36.5 65 65	 250000 1678000 1678000	 100 100 100			
9.	**SMS-III** (i) Bag filter attached to BOF (ii) Ventury Scrubber (iii) Bag filter attached to JHT 44 (v) Bag filter attached to JHT 44 A	 80 -- 30 30	 2194000 -- 63250 46500	 50 -- 50 50			
10.	**Power Plant** – Stack attached to (i) ESP of AFBC (33 MW)	86	194000	**PM** 50	**SO2** 600	**NOx** 300	**Hg** 0.03
11.	**Stack attached to gas fired Boiler (250 TPH)**	40	1899072	50	--	--	--
12.	**Power Plant** Stack attached to (i) ESP of WHRB of Kiln –I (ii) ESP of WHRB of Kiln –II (iii) ESP of WHRB of Kiln -III (iv) ESP of WHRB of Kiln –IV (v) ESP of WHRB of Kiln –V (vi) ESP of WHRB of Kiln –VI (vii) ESP of WHRB of Kiln –VII (viii) ESP of WHRB of Kiln -VIII (ix) ESP of WHRB of Kiln – IX (x) ESP of WHRB of Kiln –X (xi) 60 TPH Gas fired boiler & 125 TPH Gas fired Boiler	 76 76 76 76 76 76 76 76 76 76 70	 120000 120000 120000 120000 208000 208000 208000 208000 208000 208000 368640	 50 50 50 50 50 50 50 50 50 50 50			
13.	**Lime Plant- I & Lime & Dolo Plants** Stack attached to (i) Bag fitler attached to Kiln No.2 (300 TPD) (ii) Bag fitler attached to Kiln No.3 (300 TPD) (iii) Bag fitler attached to Kiln No.4 (300 TPD) (iv) Bag fitler attached to Kiln No.5 (300 TPD) (v) Bag fitler attached to Kiln No.6 (600 TPD) (vi) Dedusting Bag filter of Raw material Handling (vii) Dedusting Bag filter of Product Handling (viii) Dedusting Bag filter of Product Storage Building	 57 57 57 57 57 30 35 35	 65000 65000 65000 65000 100000 25000 120000 103400	 50 50 50 50 50 50 50 50			

14.	**Coke Oven-I**			
	Stack attached to			
	(i) Coke Oven Plant (Battery –1)	120	100000	50
	(ii) Coke Oven Plant (Battery –2)	120	100000	50
	(iii) Bag Filter of Coal Charging	30	120000	50
	(iv) Bag Filter of Coke Pushing	30	220000	50
	(v) Coke Screening Building – CO	30	16000	50
	(vi) Coke Preparation and Crushing	30	110000	50
	(vii) Coke Secondary Crusher	30	31554	50
15.	**Coke Oven-II**			
	Stack attached to			
	Coke Oven –II having 77 ovens.	120	150000	50
	De-dusting attached to CDQ-2	50	159300	50
16.	**Stacks attached to bag filters of**			
i)	Coal blending building	30	7600	50
ii)	Coal crushing building	30	1,45,000	50
iii)	02 J T Junction house	30	15,500	50
iv)	02 J T A junction house	30	30,500	50
v)	02 JT 01 and coke treatment building junction room	30	1,62,000	50
vi)	25 JT 11/41 building	30	48,500	50
vii)	25 JT 13 & 25 J T 15 junction house	30	34,000	50
viii)	25 JT 13 & 25 J T 43 junction house	30	26,500	50
ix)	EC J 3 junction house	30	13,500	50
x)	25 JT 42 Nut coke building EC J1 & EC J2	30	1,10,000	50
17.	**Hot Strip Mill**			
	Stack attached to			
	(i) Reheating furnace –I & II	70	300000	50
	(ii) Reheating furnace –III	70	300000	50
18.	**CRM Complex**			
i)	ARP	40	15000	--
ii)	Pickling	27	25000	--
iii)	Boiler	30	12970	--
iv)	GP-I	32	20000	--
v)	GP-I	32	20000	--
vi)	GP-I	32	17000	--
vii)	GP-I	32	10000	--
viii)	ECL	30	21600	--
ix)	MILL-1,2 and 3	28	200000	--
x)	Skin pass mill	24	28000	--
xi)	Kathabar Line	24	6000	--
xii)	Kathabar Line	24	6000	--
xiii)	Colour Coating	25	100000	--
xiv)	Colour Coating	25	20000	--
19.	**CRM Complex (GP-III)**			--
i)	De-Greasing Section	27	6700	--
20.	**Furnace (Galvanizing)**	27	6700	--
21.	**Stack attached to BF gas and coke oven gas fired reheating furnace**	110	--	50

D. Disposal of solid waste permitted in the following manner

Sl.No.	Type of Solid waste	Quantity generated (TPA)	Quantity to be reused on site(TPA)	Quantity to be reused off site(TPA)	Quantity disposed off (TPA)	Description of disposal site
1.	**Blast Furnace –I & II**					
	(i) Granulated Slag	20,00,000	----	----	----	Reused in cement plant
	(ii) Dry pit slag	46,394				Reused for road making and filling of low laying areas
	(iii) Dust from GCP	87,548				
	(iv) Flue Dust	50,000				Reused in Sinter Plant Reused in Sinter Plant
2.	**SMS-I , II & III**					
	(i) Slag	9,00,000	---	----	----	After recovery of metal in metal recovery plant, partly used in Sinter plant and balance used for filling low lying areas & soling of plant roads
	(ii) Mill Scale	11,650				Reused in Sinter plant
	(iii) Mill Scale from HSM	86,052				
3.	Dust from APC devices (ESP, Bag Filter dust of DRI, Lime Plant & FES)	5,00,000	----	----	----	Reused in Sinter plant
4.	**Sinter Plant-I, II & III**					
	Sinter Dust from ESP	59,558	----	----	----	Reused in Sinter plant
5.	**DRI Section**					
	(i) Char	1,90,000				Used in CPP partly and sold to outside party
	(ii) Wet Scrapper sludge	13912	----	----	---	
	(iii) Cold ESP Dust	51521				
6.	**Coke Oven-I & II**					
	(i) Coke Breeze	314000				Used in Sinter Plant
	(ii) Tarry Sludge	4000	----	----	----	Used in Coke Oven Process
	(iii) BOD plant sludge	4000				Used in Coke Oven Process
7.	**DRI-WHRB & AFBC**					
	(i) Ash	455827	----	----	----	
8.	**CFBC Boilers No. I & II of BF- II**					As stipulated in Table 'A' Sl. No. 27
	(i) Fly Ash	15,00,000				

E. GENERAL CONDITIONS FOR ALL UNITS

1. The consent is given by the Board in consideration of the particulars given in the application. Any change or alternation or deviation made in actual practice from the particulars furnished in the application will also be the ground liable for review/variation/revocation of the consent order under section 27 of the Act of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 and to make such variations as deemed fit for

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the purpose of the Acts.

2. The industry would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and quality of raw material / and products / manufacturing process or quantity /quality of the effluent rate of emission / air pollution control equipment / system etc.
3. The applicant shall not change or alter either the quality or quantity or the rate of discharge or temperature or the route of discharge without the previous written permission of the Board.
4. The application shall comply with and carry out the directives/orders issued by the Board in this consent order and at all subsequent times without any negligence on his part. . In case of non-compliance of any order/directives issued at any time and/or violation of the terms and conditions of this consent order, the applicant shall be liable for legal action as per the provisions of the Law/Act.
5. The applicant shall make an application for grant of fresh consent at least 90 days before the date of expiry of this consent order.
6. The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulation.
7. This consent does not authorize or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.
8. The applicant shall display this consent granted to him in a prominent place for perusal of the public and inspecting officers of this Board.
9. An inspection book shall be opened and made available to Board's Officers during their visit to the factory.
10. The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system / air pollution control system / stack monitoring system any other particulars as may be pertinent to preventing and controlling pollution of Water / Air.
11. Meters must be affixed at the entrance of the water supply connection so that such meters are easily accessible for inspection and maintenance and for other purposes of the Act provided that the place where it is affixed shall in no case be at a point before which water has been taped by the consumer for utilization for any purposes whatsoever.
12. Separate meters with necessary pipe-line for assessing the quantity of water used for each of the purposes mentioned below:
    a) Industrial cooling, spraying in mine pits or boiler feed,
    b) Domestic purpose
    c) Process
13. The applicant shall display suitable caution board at the lace where the effluent is entering into any water-body or any other place to be indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing.
14. Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the terminal manholes where the flow measuring devices will be installed.
15. The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
16. The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems install or used by him to achieve with the term(s) and conditions of the consent.
17. Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilized as mere stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed with sides and bottom made impervious.
18. The utilization of treated effluent on factory's own land, if any, should be completed and there should be no possibility of the effluent gaining access into any drainage channel or other water courses either directly or by overflow.
19. The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings or inundation of the lands at any time.
20. If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any problem or becomes a matter of dispute, the industry must adopt alternate satisfactory treatment and disposal measures.
21. The sludge generated from treatment units shall be dried in sludge drying beds and the drained liquid shall be taken to equalization tank of treatment plant.
22. The effluent treatment units and disposal measures shall become operative at the time of commencement of production.
23. The applicant shall provide port holes for sampling the emissions and access platform for carrying out stack sampling and provide electrical outlet points and other arrangements for chimneys/stacks and other sources of emissions so as to collect samples of emission by the Board or the applicant at any time in accordance with the provision of the Act or Rules made therein.
24. The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples / stack

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monitoring / inspection.

25. The applicant shall not change or alter either the quality or quantity or rate of emission or install, replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the previous written permission of the Board.
26. No control equipments or chimney shall be altered or replaced or as the case may be erected or re-erected except with the previous approval of the Board.
27. The liquid effluent arising out of the operation of the air pollution control equipment shall be treated in the manner to the meet the prescribed standards by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as amended).
28. The stack and ambient monitoring system installed by the applicant shall be opened for inspection to this Board at any time.
29. There shall not be any fugitive or episodal discharge from the premises.
30. In case of such episodal discharge/emissions the industry shall take immediate action to bring down the emission within the limits prescribed by the Board in conditions/stop the operation of the plant. Report of such accidental discharge /emission shall be brought to the notice of the Board within 24 hours of occurrence.
31. The applicant shall keep the premises of the industrial plant and air pollution control equipments clean and make all hoods, pipes, valves, stacks/chimneys leak proof. The air pollution control equipments, location, inspection chambers, sampling port holes shall be made easily accessible at all times.
32. Any upset condition in any of the plant/plants of the factory which is likely to result in increased effluent discharge/emission of air pollutants and / or result in violation of the standards mentioned above shall be reported to the Headquarters and Regional Office of the Board by fax / speed post within 24 hours of its occurence.
33. The industry has to ensure that minimum three varieties of indigenous species of trees are planted at the density of not less than 1000 trees per acre. The trees may be planted along boundaries of the industries or industrial premises. This plantation is stipulated over and above the bulk plantation of trees in that area.
34. The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments collected within the premises of the industrial plants shall be disposed off scientifically to the satisfaction of the Board, so as no to cause fugitive emission, dust problems through leaching etc., of any kind.
35. All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by :
    i) Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into ground water or carried away with storm run-off.
    ii) Controlled incineration, wherever possible in case of combustible organic material.
    iii) Composting, in case of bio-degradable material.
36. Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of this Board in writing. The detoxication or sealing and burying shall be carried out in the presence of Board's authorized persons only. Letter of authorization shall be obtained for handling and disposal of hazardous wastes.
37. If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions so varied.
38. The applicant, his/heirs/legal representatives or assignees shall have no claim whatsoever to the condition or renewal of this consent after the expiry period of this consent.
39. The Board reserves the right to review, impose additional conditions or condition, revoke change or alter the terms and conditions of this consent.
40 Notwithstanding anything contained in this conditional letter of consent, the Board hereby reserves to it the right and power under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.
41. The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 A of Air (Prevention & Control of Pollution) Act, 1981.
42. The industry shall comply to all the conditions stipulated under Charter on Corporate Responsibility for Environmental Protection (CREP) guidelines in a time bound manner as envisaged there in. (if applicable)
43. The industry shall comply to the conditions stipulated in CTE order issued by ODISHA State Pollution Control Board.
44. The industry shall abide by E(P) Act, 1986 and Rules framed there-under
45. In case the consent fee is revised upward or the fees paid is found to be inadequate for any reason during this period, the industry shall pay the differential fees to the Board (for the remaining years) to keep the consent order in force. If they fail to pay the adequate amount within the period stipulated by the Board the consent order will be revoked without prior notice.
46. The Board reserves the right to revoke/refuse consent to operate at any time during period for which consent is granted in case any violation is observed and to modify/ stipulate additional conditions as deemed appropriate

GENERAL CONDITIONS FOR UNITS WITH INVESTMENT OF MORE THAN Rs 50 CRORES, AND 17 CATEGORIES OF HIGHLY POLLUTING INDUSTRIES (RED A).

1. The applicant shall analyze the effluent / emissions and Ambient Air Quality every month through approved laboratory for the parameters indicated in TABLE- 'B', 'C' & Part -'B' as mentioned in this order and shall furnish the report thereof to the Board on monthly basis.

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2. The following information shall be forwarded to the Member Secretary on or before 10th of every month.
   a) Performance / progress of the treatment plant.
   b) Monthly statement of daily discharge of domestic and/or trade effluent.
3. Non-compliance with effluent limitations

a) If for any reason the applicant does not comply with or is unable to comply with any effluent limitations specified in this consent, the applicant shall immediately notify the consent issuing authority by telephone and provide the consent issuing authority with the following information in writing within 5 days of such notification.
   i) Causes of non-compliance
   ii) A description of the non-compliance discharge including its impact on the receiving waters.
   iii) Anticipated time of continuance of non-compliance if expected to continue or if such condition has been corrected the duration or period of non-compliance.
   iv) Steps taken by the applicant to reduce and eliminate the non-complying discharge and
   v) Steps to be taken by the applicant too prevent the condition of non-compliance.

b) The applicant shall take all reasonable steps to minimize any adverse impact to natural waters resulting from non-compliance with any effluent limitation specified in this consent including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

c) Nothing in this consent shall be construed to relieve the applicant from civil or criminal penalties for non-compliance whether or not such non-compliance is due to factors beyond his control, such as break-down, electric failure, accident or natural disaster.

4. Proper housekeeping shall be maintained inside the factory premises including process areas by a dedicated team.
5. The industry must constitute a team of responsible and technically qualified personnel who will ensure continuous operation of all pollution control devices round the clock (including night hours) and should be in a position to explain the status of operation of the pollution control measures to the inspecting officers of the Board at any point of time. The name of these persons with their contact telephone numbers shall be intimated to the concerned Regional Officer and Head Office of the Board and in case of any change in the team it shall be intimated to the Board immediately.
6. The industry shall engage dedicated qualified manpower to ensure continuous and effective operation of online stack / Ambient Air Quality / Effluent monitoring stations for maintenance of database, real time data transfer to SPCB server, data analysis and co-ordination with concerned personnel of process units for taking corrective measures in case of non-compliances and to respond to the instructions of SPCB in this matter.
7. All employees of the industry including officers, staff, workers, contract workers involved in operation/maintenance/ supervision of process area, pollution control areas, raw material and waste handling areas shall undergo short term training at least twice in a year in the field of pollution control and environment protection to create awareness and develop green skill. The report on the activities along with details and photographs shall be submitted to the Board on annual basis by end of June for previous financial year.
8. ISO auditing reports of the industry in the field of environment shall be submitted to the Board every year on annual basis.
9. The environmental cell shall be established and upgraded effectively to guide, monitor the pollution control and environmental protection activities inside the industries on day to day basis to ensure that the conditions stipulated in the consent to establish/operate order of the SPCB and conditions imposed in EC and provisions of various environmental acts and rules are complied with and the report returns, compliances are submitted to the Board in due time.
10. Adequate numbers of scientific / technical persons having qualification in environmental engineering/ environmental science from recognized institution/ university must be engaged or appointed along with other interdisciplinary qualified persons to effectively implement and monitor different areas of environment management and regulatory compliances including air pollution control, water pollution control, online monitoring, real time data transmission, management of solid waste, hazardous waste, E-waste, plastic waste etc. The Head of the environmental cell should be a senior level official, who will directly report to the plant head to ensure that environmental management is performed effectively to ensure compliance to the environmental

norms on priority basis.

11. Energy consumption data of different pollution control devices like ESP/ Bag filter/ Scrubber/ Cyclone/ Gas cleaning plant/ Fume treatment plant/ ETP/STP/Flow meters (treated effluent recycling) shall be collected online on real time basis adopting IOT and shall be displayed in a dashboard in the control room of the plant with facility for data storage facility and generate monthly report for reference. The energy management of pollution control devices should be practiced for self-monitoring and record the progressive achievements to minimize energy consumption in order to reduce greenhouse gas emission.
12. The post EIA monitoring schedule should be strictly followed for different parameters around the plant for the units is covered under EIA notification. The industry shall also conduct noise level study in the core zone and buffer zone of the industry and submit 6 monthly report to the Board.

F. SPECIAL CONDITIONS:

AIR POLLUTION CONTROL

1. **The industry shall comply the conditions stipulated in CTE order issued vide letter No. 11861 dtd.7.7.2022 and certificate on No Increase in Pollution load issued vide letter No. 246 dtd.04.01.2022 for production of Hot Metal 5.0 MTPA in Blast Furnace –I & II.**
2. The unit shall enhance the production of hot metal in Blast furnace –I & II within existing premises without any additional plant facilities with condition to reduce DRI production 2.38 MTPA to 1.5 MTPA, Power production from 256 MW to 165 MW with change of fuel from Coal to mix gas in 3x275 TPH coal fired boiler from CFBC to 1x250 TPH Gas fired Boiler keeping total Crude Steel Production of 5.6 MTPA.
3. The industry shall comply the conditions stipulated in CTE order Letter No. 2204, dtd. 15.02.2023 and certificate on No Increase in Pollution Load vide letter No. 886, dtd. 20.01.2022 for enhancement of capacity of Laddle Refining Furnace from 3 x 180 T/Heat to 3 x 190 T/H.
4. The unit shall achieve the increasing production capacity of Laddle Refining Furnace from 3 x 180 T/Heat to 3 x 190 T/H by enhancement of carrying capacity.
5. The 1×175 MW turbo-generator shall be operated with steam generated from the 60 TPH, 125 TPH & 250 TPH Gas Fired Boilers, 94.5 TPH CDQ-2 and surplus steam from 2×275 TPH boilers of Blast Furnace-2 only. Surplus steam from any other sources available inside the plant premises shall not be used without obtaining prior consent to operate from the Board.
6. The particulate matter emission from the coke oven gas and BF gas fired reheating furnace of Hot Rolling Mill shall comply to the norms of 50mg/Nm^3.
7. All the air pollution control devices like ESPs / GCPs / Bag filters installed at various process units and their raw material feeding and product handling sections shall be maintained, operated efficiently and continuously so that particulate matter emission from the stack shall meet the prescribed standard of the Board as indicated in 'Table-C'. The industry shall ensure continuous and effective operation of all the APC devices through preventive maintenance.

8. All the potential fugitive dust generating areas of all the process units shall be covered with the adequate suction points. Fume generated from the induction furnaces, ladle furnaces, and other process units of SMS-I & II and SMS-III shall be collected through adequately designed swiveling hoods. The collected dust / fumes shall be treated in the GCPs / Bag filters/ Scrubbers.
9. Steps shall be taken for regular monitoring of Mercury (Hg) in the stack of boilers and submit data to the Board.
10. The raw material handling yards shall be provided with adequate water sprinkling facilities so as to prevent fugitive dust generation during raw material handling and vehicle movement. All the raw material processing units and their transfer points shall be provided with adequate network of dry fog nozzles. The dust suppression system shall be operated continuously and effectively to avoid dust nuisance in the area.
11. There shall be no leakage of flue gas through the emergency caps, slip rings or any other process areas of DRI kilns except during exigencies.
12. The unit shall provide low NO_x burners to reduce NO_x emission to keep the level within the prescribed standard by MoEF & CC vide Notification dtd. 07.12.2015.
13. There shall not be any leakages from flanges and pipes and gas conveying system of the Blast furnaces and such leakages if any shall be immediately attended.
14. Appropriate air pollution control devices shall be installed to collect and treat the secondary emissions from tapping area and casting areas of Blast furnaces.
15. Steps shall be taken for installation of Flue Gas Desulpurisation (FGD) system in future if required to keep the SO_2 level within 600mg/Nm^3 to confirm the MoEF & CC Notification dtd. 07.12.2015. This shall also include management and disposal of effluent / solid waste to be generated from FGD system.
16. All the online continuous stack emission monitoring systems (CEMS) for measurement of particulate matter and gaseous pollutants shall be operated effectively & uninterruptedly and real time monitoring data so generated shall be transmitted directly to RT-DAS server of the Board without passing through any local PC or server.
17. All the online continuous ambient air quality monitoring stations (CAAQMS) shall be operated effectively & uninterruptedly and real time monitoring data so generated shall be transmitted directly to RT-DAS server of the Board without passing through any local PC or server.
18. The industry shall strictly follow the guidelines of CPCB dated July, 2018 for Online Continuous Effluent Monitoring Systems (OCEMS) and Guidelines for continuous Emission Monitoring Systems dtd. August, 2018 for PM and other gaseous pollutants.
19. The unit shall provided adequate dust suppression measures like DFs / Mist Cannon/ sprinklers at potential dust generating points of metal recovery plant to control fugitive emission.

20. Fixed type / gun type sprinklers / mist cannon shall be provided at raw material handling area of metal recovery plant to control fugitive emission.
21. Gun type sprinklers shall be provided at LD slag storage yard to control fugitive emission.
22. The industry shall ensure tampered proof real time transmission of online monitoring data to the server of CPCB and SPCB and maintain the health of the analyzers and data connectivity through valid AMC
23. The Pneumatic Dust Handling system installed at the hoppers of all the ESPs and bag filters shall be operated continuously and effectively so that no fugitive dust nuisance is created.
24. Telescopic chute shall be installed at the bottom of hoppers/silo wherever applicable to prevent emission of fugitive dust during material transfer/unloading.
25. Adequate no. of carbon monoxide (CO) detectors shall be installed near Gas Cleaning Plant area of the blast furnaces and those shall be in operation all the time. Appropriate and adequate alarm provision shall also be made.
26. Adequate measures shall be taken to control acid fumes in the shop floor of pickling lines.
27. The wet scrubber installed at galvanized line before exhaust of alkali fume through stack shall be operated efficiently and continuously.
28. The unit shall use LPG/Coke Oven Gas as fuel in the Galvanizing Furnace.
29. The unit shall provide stack height of 30m in the DG set of 1010 KVA.
30. The acoustic enclosure / acoustic treatment of the room shall be desired for minimum 25dB(A) insertion loss or meeting the Ambient Noise Standards wherever in the higher side as notified under Env. (P) Act, 1986 and amendment thereafter.
31. The performance evaluation of ESP, bag filter, air pollution control devices, online CEMS, AAQMS & surveillance cameras shall conducted by reputed institute like NIT / IIT and annual report shall be submitted to the Board by end of Junefor the previous financial year.
32. The digital display board installed at the main gate shall be of minimum size of 6ft x 4ft as stipulated by CPCB with provision of display of real time data online analysers (CEMS, CAAQMS & CEQMS), so that the public can visualize the actual emission and the values of parameters displayed at the gate. Outdoor LED video screens should be preferred for digital display of environmental parameters, CTO and authorization conditions and awareness clippings on environment at the main gate, colony area and process area.
33. The installed HD IP camera shall be operated continuously so that video streaming shows in server of the Board on interruptedly.
34. Online analysers for measuring flow, temperature and velocity of flue gas shall be installed at the stacks and integrated with online CEMS data.
35. Online CO / Ammonia/ Chlorine and such other gas monitoring system shall be installed in every process area where such toxic gas are expected to be generated

and in the plant premises along with alarm system to avoid accidental hazards due to gas leakage.

36. Green belt shall be properly designed and developed with plantation of suitable local species and species prescribed by CPCB.

37. Material storage area of the plant, approach roads shall be covered with adequate sprinkling facility. The water sprinkling system shall be kept operational all the time to avoid any fugitive dust nuisance.

38. Dust suppression facilities by provision of adequate water sprinkling shall be made at the active dumping area and roads to prevent dust nuisance in the area.

39. The industry shall comply with all the stipulations contained in the Gazette Notification of Govt. of India vide No. 155, dtd. 31.03.2012 (copy enclosed). For emission standard, the details of 'Table-C' of this order is applicable.

40. The unit shall submit fly ash utilization status to the Board annually and shall comply to the provisions of revised fly ash Notification No. SO.254(E),dt. 25.01.2016 of MOEF, Govt. of India.

41. Accumulation of dust and other solid waste in the work zone and non-dumping areas inside the factory premises shall be avoided. The work zone shall be properly cleaned either manually or mechanically every day and the dust so collected shall be disposed off in the designated dump site.

42. The approach roads and all the internal roads shall be fully concreted / blacktopped. All the roads shall be cleaned periodically to avoid accumulation of dust.

43. D.G. sets should be acoustically enclosed with anti-vibration measures and equipped with A.M.F. (Auto Mains Failure Device) for auto changeover of power supply from grid to D.G. in the event of power failure. The AMF Panel should preferably be PLC (Programmable Logic Control) based. Dedicated D.G. sets of adequate capacity shall be installed to ensure adequate standby power supply to run all pollution control devices of the plant in the event of power failure.

44. The industry shall put up sign Boards at appropriate places with nomenclature of the stacks in consultation with Regional Officer of the Board. It shall install electronic display Board in front of main gate to display the monitoring data, prescribed standard for public information.

45. The ambient air quality shall confirm to the National Ambient Air Quality standard as per the notification of MoEF dated 16 Nov 2009 (Annexed).

WATER POLLUTION CONTROL

1. Specific water consumption shall be limited within 3.5m^3/MWh as per MoEF & CC vide Notification dtd. 07.12.2015.

2. Under no circumstances there shall be discharge of any effluent to outside the factory premises. Water used for cooling purposes shall be fully recycled. Water used in

various processes shall be suitably treated at source and recycled in those processes.

3. The wastewater generated from the Coke Oven- I & II and their respective coal chemical departments shall be adequately treated in the respective BOD plants with UV based cyanide treatment facilities and the treated effluent after confirming to the prescribed standard shall be utilized in coke quenching in coke oven-1, slag granulation in blast furnaces and dust suppression. Under no circumstances, there shall be any diversion of effluent from coke oven and byproduct plant into any other drains or discharge system.
4. Wastewater generated from the pickling lines Cold Rolling Mill shall be treated in adequately designed ETP and the treated water shall be reused. Care shall be taken to avoid spillage of the pickling acids.
5. The wastewater generated from direct cooling of Hot Strip Mill shall be passed through scale pit, settling tank and filters followed by cooling towers and shall be recycled in the process. The wastewater generated from the process of indirect cooling of hot strip mill shall be passed through cooling tower and completely recycled. The back wash of filters shall be treated in a thickener and overflow of thickener shall be reused. Underflow shall be taken to sludge holding tank, where sludge shall be separated and water shall be taken to inlet of thickener.
6. Online flow meter and IP Camera shall be installed at the outlet of ETP as per requirement of CPCB to transfer online data with the server of the SPCB and CPCB.
7. The effluent generated from rinsing, alkali concentrated water and chromium wastewater from galvanizing unit shall be treated in the existing ETP of CRM and the treated effluent shall be reused completely. In case the existing CRM ETP is found to be inadequate to treat the additional effluent generated from this new unit, then the industry shall install an adequately designed new ETP immediately so as to comply with the standard prescribed under E(P) Rules and Notification made thereunder.
8. Waste water generated from raw water treatment system and back wash of filtration plant shall be properly treated and taken to guard pond and reused.
9. Blow down from WHRB boiler / AFBC boilers and all the cooling towers shall meet the following standards before it is discharged to the common monitoring basin and shall be used for dust suppression;

    a. For boiler blow down: SS-100mg/l,O&G-20mg/l,Cu(Total)-1.0mg/l,Fe(Total)-1.0mg/l

    b. For cooling tower blow down: Free available chlorine-0.5mg/l, Zn-1.0mg/l, Cr (Total)-2.0mg/l, Phosphate-5.0mg/l.

10. The domestic effluent generated from colony, office and canteen shall be treated in STP and shall meet the standards prescribed by MoEF & CC vide notification G.S.R 1265(E) dtd.13th October 2017 as follows; pH - 6.5-9.0, BOD - less than 30mg/l TSS - less than 100mg/l and Fecal Coliform (FC) MPN/100ml<100.

46. Online and continuous effluent monitoring system (CEQMS) shall be operated effectively & uninterruptedly and real time monitoring data so generated shall be transmitted directly to RT-DAS server of the Board without passing through any local PC or server.

11. The runoff water from the whole factory premises including solid waste dumping area shall be collected through dedicated garland drains and shall be adequately treated in ETPs (3 nos.) so as to meet the prescribed standard of the Board before discharge to outside / reused. Under no circumstances any wastewater shall be discharged to Kisinda nallah and Lingara nallah during non-monsoon period.

12. The industry shall carry out monitoring of qualities of ground water ,surface water bodies (i.e. nalla, pond ,river)and conduct Ambient Air quality monitoring within 5 Km radius of the plant in up wind and down and directions and submit reports quarterly to the Board.

13. The industry shall operate mechanized wheel washing system along with effluent treatment and recycling facilities for the raw material / product /solid waste transport vehicles installed at power plant and RMHS area of the industry.

14. The performance evaluation of ETP, STP, online CEQMS & Web cameras, flow meter shall conducted by reputed institute like NIT / IIT and annual report shall be submitted to the Board by end of June for previous financial year.

15. Flow meter and level sensors with telemetry system should be installed in the bore wells as stipulated by Central Ground Water Authority/ Water Resources Department.

16. The industry shall conduct surface run off management study and develop rain water harvesting structures and surface runoff treatment systems inside the premises.

17. Dumping of solid waste shall be made at designated locations in a systematic manner with proper engineering applications by providing proper slope, angle, berms, height, toe wall, retaining wall and road network. The active dumping area shall be kept at minimum. The exhausted dump area shall be technically reclaimed by spreading a layer of soil with proper compaction and consolidation. Biological reclamation of the same shall be made by planting saplings of appropriate species. Adequate provision for watering of plants and protection of trees shall be made.

18. The industry shall have adequate space at point of time for waste disposal at least for a period of two years. Before using any new patch of land / site for solid waste dumping, the industry shall obtain prior consent to establish of the Board.

19. The unit shall strictly adhere to the provisions stipulated in the revised fly ash notification dtd. 25.01.2016.

20. Consent to operate is subject to availability of all other statutory clearances required under relevant Acts / Rules and fulfillment of required procedural formalities.

G) ADDITIONAL CONDITIONS:

1. The unit shall maintain the ETP of BOD Plant of Coke Oven-1 and common ETP-3 to maintain Cyanide and Fluoride concentration within prescribed standard.
2. The unit shall install additional HD IP Camera of 07 nos. within 01 month.
3. The unit shall install one more Effluent Treatment Plant (ETP) of capacity 390 m^3/Hr near LD sludge dump area to treat the runoff water generated from LD sludge dump area, SMS slag dump area and other mixed water generated from dump area during monsoon season by March, 2024.
4. The unit shall install additional bag filter at coke dryer to control fugitive emission within 06 months.
5. The road connects between Coke Oven Plant-II and HDPE lined pond shall made concreted or blacktopped within 06 months.
6. The industry shall deploy 01 additional mechanical road sweeping machines besides existing sites for cleaning of internal roads within 06 months.
7. The industry shall install APC device at mixing house of Sinter Plant-1 within 06 months.
8. The unit shall expedite the installation of third DE system at Coke Oven-1 battery within 06 month.
9. Road connecting BFPP-2 and Coke Oven-1, back side of CRM near GP-3 (Galvanized Product), road at back side of Sinter-2 & 3, railway siding road, road at back side of Coke Oven-2 and other remaining roads shall be paved/concreted within 06 months.
10. Cleaning of internal drains of CRM Plant, DRI Plant, RMHS area and Sinter Plant area shall be carried out before monsoon.
11. The unit shall engage mechanical road sweeping machine and Industrial Vacuum Cleaner in RMHS/RMPP area, sinter plant -2 & 3 (back side), old MRP area to improve housekeeping there.

12. The unit shall complete the installation of DE system at Junction House – 34, 34A, 35 & 74 within 06 months.
13. The Industry shall complete the installation of metallic screen barrier at the RMHS area within 06 months.

The occupier must comply with the conditions stipulated in section A, B, C, D, E, F & G to keep this consent order valid.

To,

The VP (Operation),
M/s. Tata Steel BSL Limited,
At-Narendrapur, Po– Kusupanga,
Via – Meramandali,
Dhenkanal – 759121

Encl : *As above*

MEMBER SECRETARY
STATE POLLUTION CONTROL BOARD, ODISHA

Memo No. 4464 /Dt. 23-03-2023

Copy forwarded to;

i) Regional Officer, State Pollution Control Board, Angul
ii) District Collector , Dhenkanal
iii) D.F.O, Dhenkanal
iv) Director of Mines, Odisha, Bhubaneswar
v) Director Factories & Boiler, Bhubaneswar
vi) Consent Register / HWM Cell, Bhubaneswar

22/3/23

CHIEF ENV. ENGINEER
STATE POLLUTION CONTROL BOARD, ODISHA

GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENT POLLUTANTS
PART-A:EFFLUENTS

Sl.No.	Parameters	Standards			
		Inland surface	Public sewers	Land for irrigation	Marine Costal Areas
		(a)	(b)	(c)	(d)
1.	Colour & odour	Colourless/Odourless as far as practible	------	See 6 of Annex-1	See 6 of Annex-1
2.	Suspended Solids (mg/l)	100	600	200	For process wastewater – 100 b. For cooling water effluent 10% above total suspended matter of influent.
3.	Particular size of SS	Shall pass 850	-----	------	
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6.	Temperature	Shall not exceed 5^0C above the receiving water temperature	-------	--------	Shall not exceed 5^0C above the receiving water temperature
7.	Oil & Grease mg/l max.	10	20	10	20
8.	Total residual chlorine	1.0	----	------	1.0
9.	Ammonical nitrogen (as N) mg/l max.	50	50	------	50
10.	Total Kajeldahl nitrogen (as NH_3) mg/1 max.	100	----	------	100
11.	Free ammonia (as NH_3) mg/1 max.	5.0	----	------	5.0
12.	Biochemical Oxygen Demand (5 days at (20^0C) mg/1 max.	30	350	100	100
13.	Chemical Oxygen Demand, mg/1 max.	250	----	------	250
14.	Arsenic (as As) mg/1 max.	0.2	0.2	0.2	0.2
15.	Mercury (as Hg) mg/1 max.	0.01	0.01	------	0.001
16.	Lead (as pb) mg/1 max.	01.	1.0	------	2.0
17.	Cardmium (as Cd) mg/1 max.	2.0	1.0	------	2.0

18.	Hexavalent Chromium (as Cr + 6) mg/l max.	0.1	2.0	--------	1.0
19.	Total Chromium (as Cr) mg/l max.	2.0	2.0	---------	2.0
20.	Copper (as Cu) mg/l max.	3.0	3.0	---------	3.0
21.	Zinc (as Zn) mg/l max.	5.0	15	---------	15
22.	Selenium (as Sc) mg/l max.	0.05	0.05	---------	0.05
23.	Nickel (as Nil) mg/l max.	3.0	3.0	---------	5.0
24.	Cyanide (as CN) mg/l max.	0.2	2.0	0.2	0.02
25.	Fluoride (as F) mg/l max.	2.0	15	---------	15
26.	Dissolved Phosphates (as P) mg/l max.	5.0	-------	---------	-------
27.	Sulphide (as S) mg/l max.	2.0	--------	---------	5.0
28.	Phennolic compounds as (C_6H_5OH) mg/l max.	1.0	5.0	---------	5.0
29.	Radioactive materials a. Alpha emitter micro curle/ml. b. Beta emitter micro curle/ml.	10^7 10^6	10^7 10^6	10^8 10^7	10^7 10^6
30.	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
31	Manganese (as Mn)	2 mg/l	2 mg/l	---------	2 mg/l
32.	Iron (Fe)	3 mg/l	3 mg/l	---------	3 mg/l
33.	Vanadium (as V)	0.2 mg/l	0.2 mg/l	---------	0.2 mg/l
34.	Nitrate Nitrogen	10 mg/l	--------	---------	20 mg/l

PART- B: NATIONAL AMBIENT AIR QUALITY STANDARDS

Sl. No.	Pollutants	Time Weighed Average	Concentrate of Ambient Air		
			Industrial Residential, Rural and other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1.	Sulphur Dioxide (SO_2), µg/m³	Annual *	50	20	-Improved west and Gaeke
		24 Hours **	80	80	- Ultraviolet fluorescence
2.	Nitrogen Dioxide (NO_2), µg/m³	Annual *	40	30	- Modified Jacob & Hochheiser (Na-Arsenite)
		24 Hours **	80	80	- Chemiluminescence
3.	Particulate Matter (size less than 10µm) or PM_{10}µg/m³	Annual *	60	60	-Gravimetric - TOEM
		24 Hours **	100	100	- Beta Attenuation
4.	Particulate Matter (size less than 2.5µm) or $PM_{2.5}$ µg/m³	Annual *	40	40	-Gravimetric - TOEM
		24 Hours **	60	60	- Beta Attenuation
5.	Ozone (O_3) µg/m³	8 Hours **	100	100	- UV Photometric - Chemiluminescence
		1 Hours **	180	180	- Chemical Method
6.	Lead (Pb) µg/m³	Annual *	0.50	0.50	-AAS/ICP method after sampling on EMP 2000 or equivalent filter paper. - ED-XRF using Teflon filter
		24 Hours **	1.0	1.0	
7.	Carbon Monoxide (CO) mg/m³	8 Hours **	02	02	- Non Dispersive Infra Red (NDIR) Spectroscopy
		1 Hours **	04	04	
8.	Ammonia (NH_3) µg/m³	Annual*	100	100	-Chemiluminescence - Indophenol Blue Method
		24 Hours**	400	400	
9.	Benzene (C_6H_6) µg/m³	Annul *	05	05	-Gas Chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis
10.	Benzo (a) Pyrene (BaP)-Particulate phase only, ng/m³	Annual*	01	01	-Solvent extraction followed by HPLC/GC analysis
11.	Arsenic (As), ng/m³	Annual*	06	06	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12.	Nickel (Ni),ng/m³	Annual*	20	20	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

** Annual arithmetic mean of minimum I04 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 0I hourly monitored values, as applicable, shall be complied with 98% of the time in a year, 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

P.T.O