JINDAL SAW LTD.

Ref: JSL/BHL/Pellet/2017-18/91 Dated: 19.09.2017

To,

The Member Secretary,
Rajasthan Pollution Control Board
4, Institutional Area, Jhalana Doongri,
Jaipur (Rajasthan)

Sub: Environmental Statement for the Financial Year ended on 31st March' 2017 in respect of Iron Ore Pellet Plant located near Village Pur, Tehsil & Distt. Bhilwara (Rajasthan). **(Unit ID-18747)**

Ref: Existing Consent to Operate of RPCB vide letter no. F (CPM) /Bhilwara (Bhilwara) /22(1)/ 2016 - 2017/ 1743-1745 dated 18.05.2016.

Dear Sir,

Kindly find enclosed herewith Environmental Statement for the period from 01st April 2016 to 31st March 2017 in respect of Iron Ore Pellet Plant of M/s Jindal Saw Limited located near Village Pur, Tehsil & Distt. Bhilwara (Rajasthan) for your reference and records.

Thanking you,

Yours faithfully,
For: JINDAL SAW LTD.

Rajendra Gaur
Authorised Signatory

Encls: a/a

Copy to:

1. The Director, Regional Office, MoEF&CC (C), Kendriya Bhawan, 5th Floor, Sector-H, Aliganj, Lucknow- Uttar Pradesh (Pin-226024)
2. The Regional Officer, Rajasthan State Pollution Control Board, 18, Azad Nagar, Pannadhai Circle, Bhilwara-Rajasthan, (Pin-311001)

FORM No. V
(See rule 14)

Environmental statement for the financial year ended on 31st ***March 2017***

PART-A

(i)	Name and address of the owner/ occupier of the industry operation or process.	:	**M/s Jindal Saw Limited** **Khasra No. 6711, 9697/6711, Near Tiranga Hill** **Village: Pur, Tehsil & Distt. Bhilwara** **Rajasthan, Pin-311802** Industry: Iron Ore Pellet Plant
(ii)	Industry Category	:	**Red**
(iii)	Production Capacity	:	**DETAIL OF PRODUCT WITH QUANTITIES** **SN** | **Products** | **Existing capacity** 1 | Iron Ore Pellet | 1.2 MTPA
(iv)	Year of Establishment	:	**07 Dec 2012**
(v)	Date of Last Environment Statement Submitted	:	**14.09.2016**

PART – B

Water and Raw Material Consumption

(1) Water consumption m^3/d

Process & Cooling - 273 approx)

Domestic - 20 (approx)

Green Belt - 23 (approx)

(1) Name of Products

Name of Products	Process Water Consumption per unit of product output	
	During the previous financial year	**During the current financial year**
1) Iron Ore Pellet	0.07 KL/ ton of Product	0.06 KL/ ton of Product

For Jindal SAW Ltd.
(Rajender Gaur)
Authorised Signatory

(2) Raw material consumption

Name of Raw material:	**Consumption of raw material per unit of product Output**	
Name of product:	**During the previous Financial year** (consumption/ton of product)	**During the current Financial year** (consumption/ton of product)
1. Iron Ore Pellet	**1. Iron Concentrate**-0.98 Ton **2. Bentonite** :- 0.013 Ton **3. Coal :** 0.018 Ton 4. **ESP Dust:** 0.0019 Ton **5. Calcined Lime:** 0.0009 Ton **4. Power:** 0.024 Mwh	**1. Iron Concentrate**-0.99 Ton **2. Bentonite** :- 0.013 Ton **3. Coal :** 0.022 Ton 4. **ESP Dust:** 0.0022 Ton **5. Calcined Lime:** 0.0007 Ton **4. Power:** 0.028 Mwh

- Industry may use codes if disclosing details of raw material would violate contractual obligations; otherwise all industries have to name the raw materials used.

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 discharges (Mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	**Industrial:** **Domestic:**	No waste water was discharged from the manufacturing process. Domestic sewage water generated from office toilets and plant building is treated in 15 KLD STP unit based on green bio filter bed technology and treated water is being used for plantation / horticulture purpose. STP treated water quality monitoring is enclosed as **Annexure-I**	Well Within the Prescribed Limits
(b) Air		Concentration of the pollutants in the air are being measured by MoEF & GOI approved agency in every quarter Ambient Air Quality, Ambient Noise, Fugitive dust and Stack monitoring reports are enclosed as **Annexure- II to V**	

PART – D

HAZARDOUS WASTES

(As specified under Hazardous Wastes/Management and Handling Rules, 1989)

Hazardous Wastes	Total Quantity (MT)	
	During the previous financial year	**During the current financial year**
(a) From process During Pellet Plant operation no hazardous waste was generated from the process except used oil which was generated from machinery equipment.	Earlier Balance: **3.11 KL** Generated Quantity (Apr'15 - Mar'16): **4.68 KL** Sent to recycler: **7.75 KL** Balance Quantity: **0.047 KL** for reuse and selling to recycler	Earlier Balance: **0.047 KL** Generated Quantity (Apr'16 - Mar'17): **4.69 KL** In-house Reuse: **0.05 KL** Sent to recycler: **1.8 KL** Balance Quantity: **2.89 KL** for reuse and selling to recycler
(b)From pollution control facilities	**NA**	**NA**

PART – E

SOLID WASTES

	Total Quantity	
	During the previous financial year	**During the current financial year**
(a) From process	Nil, During pellet manufacturing process, no solid waste was generated.	Nil, During Pellet manufacturing process, no solid waste is generated. Broken Pellets & fines 100% reused in the process for the preparation of pellet.
(b) From pollution control facilities	**1. ESP Dust: 2309 Ton (2015-16)** The dust generated from ESP being stored in dust bin and used in the preparation of Pellet by dispatching to proportioning room.	**1. ESP Dust: 2604 Ton (2016-17)** The dust collected from ESP is being stored in dust bin and used in the preparation of Pellet by dispatching to proportioning room.
(C) (1)Quantity recycled or reutilized within the unit	**2. ESP Dust : 2309 Ton (2015-16)** Reused for preparation of Pellet (100% ESP dust reutilized in process)	**1. ESP Dust : 2604 Ton (2016-17)** Reused for preparation of Pellet (100% ESP dust reutilized in process)
(2)Sold	Nil	Nil
(3)Disposed	Nil	Nil

For Jindal SAW Ltd.

(Rajender Gaur)
Authorised Signatory

PART – F

Please specify the characterizations (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Hazardous Waste

During Pellet Plant operation no hazardous waste is generated from the process except used oil, which is generated from plant equipment/ machinery. Very small quantity of used oil is being reused for lubrication in chains, Stacker and conveyor for transportation of raw materials and finished product. Maximum quantity have been sent to RPCB approved authorized recycler.

Solid Waste:

From ESP (Dust fines):

- Dust fines generating from high quality low ash-content coal is being recovered from ESP and mixed with green balls for the preparation of pellet.
- The Dust fines generated from ESP being recycled to dust bin and used in the preparation of Pellet by dispatching to proportioning room.

PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

Jindal Saw Ltd. Bhilwara is continuously making efforts to conserve the natural resources as well as environment by adopting clean and green technology in the process. In this regard JSL has installed 10.0 MLD (5.5 + 4.5 MLD) Sewage Treatment Plant which is helping to reduce sewerage pollution of Bhilwara city and by this way we also meet our water requirement for plant operation.

No waste water is discharged from the pellet manufacturing process. Domestic waste water generated from office toilets in Pellet Plant area is being treated in STP unit based on green bio filter bed technology and treated water completely used in plantation / horticulture purpose.

The pellet plant of M/s Jindal Saw Ltd is being operated in energy efficient technology having 40% less power consumption compare to other pellet plant located in India. The stack emissions from the plant are controlled by ESPs. Bag Filters have been installed at various points to clean the process and arrest the fugitive emissions. The particulate matter collected in the pollution control equipment is recycled in process and reducing the cost of operation of pollution control equipments.

PART – H

Additional measures/investment proposed for environmental protection including abatement of pollution, prevention of pollution.

Green belt development and plantation is given its utmost importance. For conservation of environment, the company has carried out plantation of various species of trees within and outside the premises. Every year we carry out more and more plantation and also taking all possible care, i.e. watering, fencing and using pesticides etc.

In the year 2016-17 around 320 Nos. new saplings have been planted within the plant area and 235 Nos. outside the premises in (Bhilwara City, Malikhera Village, Various Govt Offices, Schools, nearby Villages and Out Site Road).

Up to March 2017 total green cover area in pellet plant site is 2.85 hectare with around 2841 nos. plants. In pellet plant area we are strengthening green belt area in phase manner and our target is to cover minimum 33% green belt cover area within five years

The expenditure made by us for the purpose of environmental management during the period 2016-2017 are as follows:

Environment management/Pollution Control etc	:	13.0 Lakh
Greenery Development/ Maintenance	:	17.5 Lakh
Environment Monitoring	:	1.0 Lakh
Rural Development / CSR by M/s Jindal Saw Ltd. in Bhilwara Units	:	809.7 Lakh

(Community facilities Projects, Hygiene Cleaning/ Housekeeping (MG Hospital),Plantation Works, Construction of rooms in hostel for special privilege children,Animal Fodder to Villages, Armed force veterans, Health care, Promote special Education, Rural Sports, Rajasthan Heritage week 2016, Schools - Class room, Toilet, Kitchen Shed, Water Hut, etc., Water harvesting/management in 6 villages, Promote gender equality, Animal Fodder to Villages, Veterinary Cover, School Development, Blood donation / Medical camp, Village Development, Drinking Water Facilities etc, Community Parks & Drainage Maintenance - (MCB), Community facilities Projects, Animal Welfare, Art and culture, Restore Heritage site, Mukhyamantri Jal Swavlamban Abhiyan (MJSA)

For Jindal Saw Ltd.

(Rajender Gaur)
Authorised Signatory

PART – I

Any other particulars for improving the quality of the environment

1. We have EHS Department with three separate cells, one for monitoring and one for maintenance of pollution control equipment and one for Green Belt development.
2. Monitoring of stack emission, ambient air and water quality is being carried out regularly.
3. Maintenance department is doing regular checking and scheduled maintenance of all the pollution control devices.
4. Civil deptt is taking care of Housekeeping and water supply.
5. Horticulture Department is taking care of plantation and green belt development. Every year we are adding new trees to protect our environment.

For Jindal SAW Ltd.

(Rajender Gaur)
Authorised Signatory

(Rajendra Gaur)
Authorized Signatory

Annexure-I

STP Outlet Water Quality Monitoring Statement for the period of April 2016 to March 2017 Iron Ore Pellet Plant, Jindal Saw Limited, Bhilwara						
Sr. No.	Parameter/ Date of Monitoring	Units	STP Outlet (15 KLD STP Unit)			
			Jun-16	Sep-16	Dec-16	Mar-17
1	pH Value		7.87	7.56	7.38	7.71
2	Total Suspended Solid	mg/l	38	42	15	42
3	Oil & Grees	mg/l	3	3	2	4
4	Biological Oxygen Demand (3 Days	mg/l	16.8	13.6	9	21.6
5	Chemical Oxygen Demand	mg/l	72.56	61.47	87.79	80.56
6	Ammonical Nitrogen as NH4-N	mg/l	7.7	6.47	5.6	8.22
7	Total Kjeldehal Nitrogen as N	mg/l	15.8	16.81	10.5	17.9
8	Total Residual chlorine	mg/l	BDL	BDL	0.1	BDL
9	Chloride as Cl	mg/l	271.5	267.52	577.51	316.26
10	Sulphide	mg/l	0.38	0.56	BDL	0.62

Note: Above monitoring result is based upon Environment Monitoring carriedout by MoEF, RPCB and NABL Approved Agency.

For Jindal SAW Ltd.

(Rajender Gaur)
Authorised Signatory

Annexure-II

Ambient Air Quality Comparative Monitoring Statement for the priod of April 2016 to March 2017															
Iron Ore Pellet Plant, Jindal Saw Limited, Bhilwara															
Location/ Month	Near Tiranga House					Switch Yard Station					Near Staff Canteen				
	PM10	PM 2.5	Sox	Nox	CO	PM10	PM 2.5	Sox	Nox	CO	PM10	PM 2.5	Sox	Nox	CO
	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
Jun-16	84.70	32.47	8.74	15.90	310.00	87.15	35.81	10.72	18.90	380.00	74.85	30.47	8.19	14.87	250.00
Sep-16	75.20	31.50	7.70	18.52	380.00	78.93	27.12	7.07	15.87	430.00	77.37	25.30	6.32	13.82	230.00
Dec-16	88.58	33.19	7.90	15.80	310.00	76.12	39.89	7.70	17.52	340.00	74.46	31.17	7.51	14.44	280.00
Mar-17	89.16	35.41	7.58	16.40	330.00	86.54	42.15	8.91	17.50	360.00	78.61	32.44	7.74	14.92	270.00
Min	75.20	31.50	7.58	15.80	310.00	76.12	27.12	7.07	15.87	340.00	74.46	25.30	6.32	13.82	230.00
Max	89.16	35.41	8.74	18.52	380.00	87.15	42.15	10.72	18.90	430.00	78.61	32.44	8.19	14.92	280.00
Avg	84.41	33.14	7.98	16.66	332.50	82.19	36.24	8.60	17.45	377.50	76.32	29.85	7.44	14.51	257.50

Note: Above monitoring result is based upon Environment Monitoring carriedout by MoEF, RPCB and NABL Approved Agency.

For Jindal SAW Ltd.

(Rajender Gaur)
Authorised Signatory

Annexure-III

Fugitive Emission Comparative Monitoring Statement for the priod of April 2016 to March 2017		
Iron Ore Pellet Plant, Jindal Saw Limited, Bhilwara		
Location/ Month	Bentonite Storage Area (Nr Balling disc building)	Coal Pulverize Area (Nr Nitrogen Plant)
	SPM (ug/m3)	SPM (ug/m3)
Jun-16	485.62	437.85
Sep-16	476.69	466.82
Dec-16	489.58	451.25
Mar-17	463.81	481.50
Min.	463.81	437.85
Max.	489.58	481.50
Avg.	478.93	459.36

Note: Above monitoring result is based upon Environment Monitoring carriedout by MoEF, RPCB and NABL Approved Agency.

For Jindal Saw Ltd.
(Rajender Gaur)
Authorised Signatory

Annexure-IV

Stack Emission Comparative Monitoring Statement for the priod of April 2016 to March 2017

Iron Ore Pellet Plant, Jindal Saw Limited, Bhilwara

Location/ Month	Rotary Kiln Stack Monitoring Result	Coal Grinding Mill
	PM (mg/Nm3)	PM (mg/Nm3)
Jun-16	42.63	36.40
Sep-16	36.84	40.43
Dec-16	38.77	36.64
Mar-17	26.01	39.48
Average	**36.06**	**38.24**

Location/ Month	D.G. Set 750 KVA (Kirloskar)				
	PM (g/kw-hr)	SO2 (g/kw-hr)	Nox (g/kw-hr)	CO (g/kw-hr)	HC (g/kw-hr)
Jun-16	0.12	BDL	2.45	0.92	0.23
Sep-16	0.15	BDL	2.63	0.85	0.28
Dec-16	0.16	BDL	1.99	0.25	0.14
Mar-17	0.14	BDL	1.87	0.61	0.17
Average	**0.14**	**BDL**	**2.24**	**0.66**	**0.21**

Location/ Month	D.G. Set 563 KVA (Magnamax)				
	PM (g/kw-hr)	SO2 (g/kw-hr)	Nox (g/kw-hr)	CO (g/kw-hr)	HC (g/kw-hr)
Jun-16	0.11	BDL	2.61	1.26	0.25
Sep-16	0.13	BDL	2.75	1.45	0.18
Dec-16	0.12	BDL	1.36	0.22	0.12
Mar-17	0.15	BDL	2.21	0.63	0.23
Average	**0.13**	**BDL**	**2.23**	**0.89**	**0.20**

Note: Above monitoring result is based upon Environment Monitoring carriedout by MoEF, RPCB and NABL Approved Agency.

For Jindal SAW Ltd.

(Rajender Gaur)
Authorised Signatory

Annexure-V

Ambient Noise Level Comparative Monitoring Statement for the priod of April 2016 to March 2017							
Iron Ore Pellet Plant, Jindal Saw Limited, Bhilwara							
Sr. No.	Location of Sampling/ Month/	Nr. Proportioning		Nr. Balling disc Building		Nr. D G Room	
		Results in dB(A) (Day Time)	Results in dB(A) (Night Time)	Results in dB(A) (Day Time)	Results in dB(A) (Night Time)	Results in dB(A) (Day Time)	Results in dB(A) (Night Time)
01.	Jun-16	69.6	61.4	69.7	62.3	68.6	60.2
02.	Sep-16	70.8	62.8	68.3	60.6	67.2	61.3
03.	Dec-16	73.4	64.7	70.5	62.4	72.4	65.4
04.	Mar-17	71.2	64.5	72.2	63.4	67.8	58.6
Min.		69.6	61.4	68.3	60.6	67.2	58.6
Max.		73.4	64.7	72.2	63.4	72.4	65.4
Avg.		71.3	63.4	70.2	62.2	69.0	61.4

Sr. No.	Location of Sampling/ Month/	Nr. Nitrogen Plant		Nr. Cooler Area	
		Results in dB(A) (Day Time)	Results in dB(A) (Night Time)	Results in dB(A) (Day Time)	Results in dB(A) (Night Time)
01.	Jun-16	70.6	65.5	74.9	72.3
02.	Sep-16	68.5	62.7	71.6	67.4
03.	Dec-16	69.2	63.5	72.4	65.4
04.	Mar-17	72.3	62.7	70.5	63.8
Min.		68.5	62.7	70.5	63.8
Max.		72.3	65.5	74.9	72.3
Avg.		70.2	63.6	72.4	67.2

Note: Above monitoring result is based upon Environment Monitoring carriedout by MoEF, RPCB and NABL Approved Agency.

For Jindal SAW Ltd.

(Rajender Gaur)
Authorised Signatory