



Works :

P. B. No. 9, Toranagallu
Dist. Bellary - 583 123, Karnataka, India

CIN. : L74999MH1994PLC077041

Phone : 08395 - 252 124

Fax : 08395 - 250 757

Website : www.jsw.in

Ref. No. JSWEL/ Env/ Auth/ 6707
Date : September 19, 2017

The Environmental Officer,
Regional office KSPCB,
Sy no.597P, Ward No.25,
4th Main, Near Dr. Vishnuvardhana Park,
Kuvempunagar
Bellary- 583 104.

Sub: Submission of Environmental Statement (Form-V).

Ref : Consent to Operate No. AWH-300547 dated 01st July 2016.

Sir


We hereby submit the Environmental Statement (Form-V) for 860 MW for the financial year 2016-17.

Kindly acknowledge the same.

Thanking you.

Yours faithfully,

for **JSW Energy Limited**


K Surya Prakash 19/9
Vice President & Plant Incharge



ENVIRONMENTAL STATEMENT FORM – V
(see Rule-14)

Environment Audit report for the year ending the 31st March -2017

PART – A

(i)	Name and address of the owner / occupier of the industry, operation or process :	K Surya Prakash Vice President - Plant In Charge JSW Energy Limited ,Post Box No.9 Toranagallu,Dist:Bellary,State:Karnataka Pin:583 123.
(ii)	Industry category Primary :	- Red - 24
(iii)	Production category - units :	- Electricity Generation 860 MW
(iv)	Year of Establishment :	- 2000 & 2009
(ii)	Date of the last Environment Audit Report submitted :	-04.06.2016

PART - B

Water and Raw Material Consumption :

(i)	Water consumption m3 / day Process	(Average)
	Process	413
	Cooling	26,891
	Domestic	78

Name of products :		Water Consumption per Unit Of products	
		During the Previous Financial Year	During the Current Financial Year
(1) Electricity Generation	Million Unit	6,756.10	4,415.32
(2) Water	(KL / KWthr)	0.002203	0.002264

(ii) Raw material consumption

Name of raw Materials :	Name of products	Consumption of raw material per unit of output	
		During the Previous Financial Year	During the Current Financial Year
a	Coal MT	0.000353	0.000346
b	Corex KNm3	0.000069	0.000168
c	Water m3	0.002203	0.002264
d	Caustic Soda(48% to 49%)Kgs	0.000011	0.000015
e	Sulfuric Acid(98% to 99%)Kgs	0.000203	0.000204

Note : Month wise Raw material, Power generation and Water consumption is given in Annexure - I.

PART – C

Pollution discharged to Environment / unit of output :

(Parameters as specified in the consent issued)

Pollutants	Quantity of Pollutants Discharged (mass/Day) (kg/day)	Concentration of pollutants Discharged (mass/volume) (mg/lit), AVG	Percentage of variation from prescribed standards with reasons
a) Total 1022 m ³ /Day of trade effluent is generated and reutilized in JSW complex.			
			1022
1. pH	7.5	7.7	No variations (Data is of 860 MW-JSWEL)
2. Temp. diff (degC)	2.8	2.9	
3. Suspended Solids	25.4	26	
4. O&G	9.3	9.5	
5. Free available chlorine	0.0	0.0	
6. Copper	0.1	0.1	
7. Iron	0.1	0.1	
8. Corr.Inhibitor	0.9	0.96	
9. Chromium	0.0	0.05	
10. Zinc	0.0	0.05	

Note : Monthwise Treated Effluent water quality report given in Annexure - II.

b) Stack Emissions (Particulate Matter) :

	Emmission rate	2x130 MW (stack emmission)	
Stack -1	0.90 MT/day	58 mg/Nm3	
Stack -2	0.87 MT/day	59 mg/Nm3	
	Emmission rate	2x300 MW (stack emmission)	
Stack -1	1.61 MT/day	64 mg/Nm3	
Stack -2	1.47 MT/day	63 mg/Nm3	

Note : Monthwise Particulate matter concentrations given in Annexure - III.

PART – D

Hazardous Wastes

[as specified under Hazardous Wastes (Management and Handling) rules, 1989]

Hazardous Wastes	Total Quantity (lts)	
	During the previous financial year	During the current financial year
(a) Used oil generated from every action relating to and every use of lubricating and system oil	12,300	3,860

Note : Monthwise Waste Oil generations given in Annexure - IV.

PART – E

Solid Wastes (Ash)

Solid Wastes		Total Quantity (kg)	
		During the previous financial year	During the current financial year
(a)	From process	-	-
(b)	From pollution control Facility-Ash	321,963,000	154,316,000
(c)	Quantity recycled or utilized for Cement & bricks	321,963,000	154,316,000
(d)	RO plant sludge generated quantity from pretreatment (Utilised)	1,507,120	1,708,340

PART – F

Please specify the characteristics (in items of concentration and quantum) of Hazardous as well as solids wastes and indicate disposal practice adopted for both these categories of wastes.

Hazardous Wastes	Hazardous Waste Management Form 4 (annual report) enclosed as Annexure - V Hazardous waste Oil analysis report enclosed as Annexure-VI
Solid Wastes	Ash generation and utilization annual report enclosed as Annexure - VII Ash analysis report enclosed as Annexure-VIII Sludge analysis report enclosed as Annexure-IX

PART – G

Impact of pollution control measures on conservation of natural resources and consequently on the cost of production

- 1 666490 cum water was recycle from RO plant to Cooling tower.
- 2 Water saved by collecting the rain water in Rain Water Harvesting system, and reutilized as cooling tower make up.
- 3 Treated domestic effluents for gardening through Reed bed system.
- 4 RO plant UF membranes were replaced for both the skids with the approximate investment of 1 crore rupees, to improve recycling efficiency.
- 5 Coal dust generated from JSW Steel plant fired in boilers for steam generation.

PART – H

Additional investment proposal for environmental protection including abatement of pollution.

- 1 Installed the Variable frequency drive (VFD) at ID Fan to reduce auxiliary power consumption.

PART – I

Any other particulars in respect of environmental protection and abatement of pollution.

- 1 Developed Green belt in more than 60 acres area at Sultanpur & vidyanagar in addition to existing green belt at plant area.

FY 2016-2017 : 860 MW JSWEL : POWER GENERATION & WATER CONSUMPTION DETAILS																					
Month	SBU-1 (mw)		SBU-2 (mw)		Power Generation		Raw Materials Consumption			Raw Water Consumption				Treated Effluent Water			Chemical Consumption		RO Plant		
					Total	Coal	Correx Gas	Total Raw Water	Process	Cooling	Domestic	Total Treated Effluent Discharge	Net CW Blow Down	DM Waste (Process)	Sulfuric acid	Caustic Soda Lye (48% conc)	Ro Product	RO Reject	RO PTP Sludge		
UOM	Million Units	MT	KNM3	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	MT	MT	Cum	Cum	Kg		
Apr-16	18882	433047	211315	30557	1431461	14324	1414617	12888	1273968	2635	106626	1065333	4293	119	7	71861	33242	141400			
May-16	195155	382625	187813	44770	1289491	12888	1273968	12888	1273968	2635	82392	77509	4883	164	7	110098	51116	169700			
Jun-16	97577	98165	62846	44678	513961	16106	495185	16106	495185	2670	27044	22565	4479	83	10	60676	28579	157540			
Jul-16	97303	29858	43761	32225	326095	13188	310582	13188	310582	2325	20397	18431	1966	20	7	53553	26394	180160			
Aug-16	95813	74978	59770	35172	385200	14644	368386	14644	368386	2170	7122	6015	1107	19	4	36503	18580	151400			
Sep-16	91774	194095	102016	29628	620152	17498	600404	17498	600404	2250	10055	9029	1026	38	5	32047	15744	91700			
Oct-16	110137	211358	102147	65233	782706	14444	765875	14444	765875	2387	17136	14057	3079	60	4	34198	16590	143020			
Nov-16	159163	216207	118833	110447	841597	8331	830926	8331	830926	2340	17879	15721	2158	63	4	35240	17553	141480			
Dec-16	160051	152815	96396	91092	696214	7118	686171	7118	686171	2325	12919	12138	781	61	3	41764	20352	145140			
Jan-17	165682	235969	131266	84873	878605	11816	864247	11816	864247	2542	18864	17487	1377	81	5	57960	27226	142410			
Feb-17	163390	288360	180244	82929	979877	9368	966689	9368	966689	1820	21417	19692	1725	88	4	66285	30601	158640			
Mar-17	190042	382876	231830	91082	1249066	10596	1235745	10596	1235745	2325	31111	29837	1274	123	6	84211	40751	85750			
Grand Total	1714969	2700355	1528238	742885	9994425	150721	9815395	150721	9815395	28309	372960	347612	25148	900	66	684416	326728	1708340			
Sp. Consn. (Per day)	4899	7398	4187	2035	27382	413	26891	413	26891	78	1022	953	69	2.5	0.2	1875	895	4680			

Annexure- II

TRADE EFFLUENT ANALYSIS REPORT FOR THE FY : 2016-17

Sl.No.	Month/Parameters	UOM	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	AVG
1	pH		7.5	7.5	7.8	7.6	7.5	7.8	7.9	7.8	7.0	7.9	7.9	8.0	7.7
2	Temperature diff.	mg/lit	4	3	4	3	3	3	2	3	3	3	3	3	2.9
3	Suspended solids		20	14	22	23	23	23.5	25.5	30	32	33	30.5	31.5	25.7
4	Oil & Grease	mg/lit	<1	<1	<2	<1	<3	4	1	5	8	15	18	17	9.5
5	Free Available Chlorine		NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
6	Copper	degC	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
7	Iron	mg/lit	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1
8	Corroion Inhibitor	mg/lit	0.57	0.66	0.62	0.93	0.93	1.10	0.92	0.85	0.80	0.98	1.40	1.72	1.0
9	Chromium	mg/lit	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.03	<0.04	<0.06	<0.03	<0.06	<0.06	<0.05
10	Zinc	mg/lit	<0.03	<0.03	<0.03	<0.03	<0.03	<0.04	<0.05	<0.06	<0.06	<0.06	<0.05	<0.04	<0.05

FY 2016-17 : 2*130MW : STACK EMISSIONS REPORT

Month	Day	STACK - 1		STACK - 2			Flue Gas Flow in Nm ³ /hr	
		PM (mg/Nm ³)	MT	PM (mg/Nm ³)	MT	Unit-1	Unit-2	
Apr-16	30	53	29.0	55	30.1	758702	760312	
May-16	31	58	32.7	62	36.8	757458	798521	
Jun-16	30	0	0.0	53	29.0	0	760410	
Jul-16	31	51	28.9	0	0.0	760410	0	
Aug-16	31	53	30.0	0	0.0	760410	0	
Sep-16	30	51	27.9	0	0.0	760410	796554	
Oct-16	31	0	0.0	53	30.0	0	760625	
Nov-16	30	53	29.0	55	30.5	760660	770234	
Dec-16	31	63	36.8	59	36.9	785969	840448	
Jan-17	31	66	38.6	63	39.9	786878	850218	
Feb-17	28	68	36.0	65	38.5	787674	880812	
Mar-17	31	65	38.7	69	45.9	799874	893812	
	365	58	327.6	59	317.6			
			0.90		0.87			
	MT		645					

FY 2016-17 : 2*300MW : STACK EMISSIONS REPORT

Month	Day	STACK - 1		STACK - 2		Flue Gas Flow in Nm3/hr	
		PM (mg/Nm ³)	MT	PM (mg/Nm ³)	MT	Unit-1	Unit-2
Apr-16	30	64	65.1	67	70.6	1412256	1463715
May-16	31	58	56.6	61	64.2	1312090	1413691
Jun-16	30	60	61.0	0	0.0	1412326	0
Jul-16	31	0	0.0	0	0.0	0	0
Aug-16	31	0	0.0	0	0.0	0	0
Sep-16	30	65	66.0	0	0.0	1410189	0
Oct-16	31	0	0.0	61	64.1	0	1412195
Nov-16	30	64	65.1	66	67.1	1413187	1411895
Dec-16	31	60	63.1	59	62.0	1413346	1411897
Jan-17	31	62	65.3	59	62.4	1416446	1420886
Feb-17	28	70	67.6	67	68.0	1436846	1510156
Mar-17	31	71	76.5	69	78.0	1447736	1520175
TOTAL	365	64	586.3	63	536.3		
PER DAY			1.61		1.47		
TOTAL-600 MW	MT		1123				

		TOTAL OIL GENERATION																	
		2 x 130MW						2 x 300MW											
2016-17		USED OIL			TF OIL			USED OIL			TF OIL			OIL SOAKED COTTON WASTE (KGS)-SBU2			USED OIL FILTERS (Nos)		
		Generation	Disposal	Balance	Generation	Disposal	Balance	Generation	Disposal	Balance	Generation	Disposal	Balance	Generation	Disposal	Balance	Generation	Disposal	Balance
	Apr-16	750	0	750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	May-16	0	750	0	0	0	0	0	2730	0	2730	0	0	0	0	0	0	0	0
	Jun-16	600	0	600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Jul-16	10	0	610	0	0	0	400	0	400	0	0	0	0	0	0	0	0	0
	Aug-16	450	1000	60	0	0	1480	1100	780	0	0	0	0	0	0	0	0	0	0
	Sep-16	0	0	60	0	0	0	0	780	0	780	0	0	0	0	0	0	0	0
	Oct-16	0	0	60	0	0	0	0	780	0	780	0	0	0	0	0	0	0	0
	Nov-16	30	90	0	0	0	600	1380	0	0	0	0	0	100	0	100	14	0	14
	Dec-16	0	0	0	0	0	90	0	90	0	90	0	0	0	0	100	0	0	14
	Jan-17	0	0	0	0	0	0	0	90	0	90	0	0	0	0	100	0	0	14
	Feb-17	200	200	0	0	0	0	90	0	0	0	0	0	0	0	100	0	0	14
	Mar-17	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	6	20	20
	Total	1290	2040	0	0	0	2570	5300	0	0	0	0	0	100	100	0	20	20	0



JSW Energy Limited

Works :
P. B. No. 9, Toranagallu
Dist. Bellary - 583 123, Karnataka, India
CIN. : L74999MH1994PLC077041
Phone : 08395 - 252 124
Fax : 08395 - 250 757
Website : www.jsw.in

Ref. No. JSWEL/HWM/ 6631
Date: June 28, 2017

To

The Environmental Officer,
Regional office KSPCB,
Sy no.597P, Ward No.25,
4th Main, Near Dr. Vishnuvardhana Park,
Kuvempunagar
Bellary- 583 104.

Sub: Hazardous waste Management Annual Returns JSWEL 860 MW Reg.

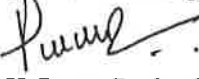
Dear Sir,


Please find enclosed herewith Hazardous Waste Management annual returns in Form-4 for the Period of April 2016 to March 2017 for your information.

Please acknowledge the receipt of the same.

Yours faithfully,

for JSW Energy Limited

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K Surya Prakash
Vice President & Plan In Charge

ಕರ್ನಾಟಕ ರಾಜ್ಯ ಪರಿಸರ ಮತ್ತು ಅರಣ್ಯ ಇಲಾಖೆ ಪ್ರಾದೇಶಿಕ ಕಛೇರಿ, ಬೆಳ್ಳಾರಿ. ಸ್ವೀಕರಿಸಿದೆ	
ಸಹಿ:	 ದಿನಾಂಕ: 28/6/17



JINDAL Part of O. P. Jindal Group

Regd. Office : JSW Centre,
Bandra Kurla Complex,
Bandra (East), Mumbai - 400 051
Phone : +91 22 4286 1000
Fax : +91 22 4286 3000

FORM 4

[See rules 6(5), 13(8), 16(6) and 20(2)]

FORM FOR FILING ANNUAL RETURNS

[To be submitted to State Pollution Control Board by 30th day of June of every year for the preceding period April to March]

1. Name and address of facility : JSW Energy Limited (860 MW),
P.O.Box.No.9,Toranagallu, Sandur aluka,
Bellary Dist, Karnataka-583123.
2. Authorization No. and Date of issue : PCB/HWM/SEO/2015-16/HD
Reg.No.90770/327,dated 17.06.2015 valid
up to 30.06.2020.
3. Name of the authorised person and full address
with telephone, fax number and e-mail : Mr. K. Surya Prakash,
Vice President & Plant In Charge,
JSW Energy Limited-860 MW
P.O. Box NO.9, Toranagallu,
Bellary Dist, Karnataka-583123
Phone no: 08395-250767,
Fax no : 08395-250757.
E-Mail : surya.prakash@jsw.in.
4. Production during the year (product wise),
wherever applicable :

Part A. To be filled by hazardous waste generators

1. Total quantity of waste generated category wise :

Type of hazardous as per Authorization	Quantity (in KL or MT)	
	Authorized	Generated
(a) Used Oil (5.1)	60 KL / A	3.86 KL / A
(b) Transformer Oil (5.1)	42 KL / A	0 KL / A
(c) Oil soaked Cotton waste (cat 5.2)	3.5 MT/ A	0.100 MT/ A
(d) Oil used filters (cat 5.2)	30 Nos/A	20 Nos (0.01 MT) / A

2. Quantity dispatched
- (i) to disposal facility : Nil
- (ii) to recycler or co-processors or pre-processor : 7.34 KL
- (iii) others / Incinerator facility : 0.11 MT

Name & address of consignee	Mode of packing		
M/s M.R. Industries Office No :2, Behind Binni mill ground, Markandeswara nagar, Banglore- 560 023	Leak proof closed containers	Date	Quantity
		Used oil	
		09.05.2016	3.48 KL
		08.08.2016	2.10 KL
		04.11.2016	1.47 KL
		02.02.2017	0.29 KL
	Total	7.34 KL	
M/s GOMITI INCINCO, No.3- B-2, 1st Phase, KIADB Industrial Area, Kumbalgodu, Mysore Road, Bangaluru, Karnataka – 560 060	Leak proof closed containers	Oil soaked Cotton Waste	
		0.100 MT/ A	
		Used Oil Filters	
		20 Nos / A (0.010 MT/A)	

3. Quantity utilised in-house, if any - : Nil

4. Quantity in storage at the end of the year - : Nil

Part B. To be filled by Treatment, storage and disposal facility operators

1. Total quantity received - **Not Applicable**

2. Quantity in stock at the beginning of the year -

3. Quantity treated -

4. Quantity disposed in landfills as such and after treatment -

5. Quantity incinerated (if applicable) -

6. Quantity processed other than specified above -

7. Quantity in storage at the end of the year -

Part C. To be filled by recyclers or co-processors or other users

1. Quantity of waste received during the year - **Not Applicable**

- (i) domestic sources
- (ii) imported (if applicable)

2. Quantity in stock at the beginning of the year -

3. Quantity recycled or co-processed or used -

4. Quantity of products dispatched (wherever applicable) -
5. Quantity of waste generated -
6. Quantity of waste disposed -
7. Quantity re-exported (wherever applicable)-
8. Quantity in storage at the end of the year -

Date: 29.06.2017.

Place: Totangally.



Signature of the Occupier

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FORM - 13
(See Rule 21 (1))
Hazardous Waste Manifest
(Information of hazardous waste for disposal)

1. Occupier's Name & Mailing Address (Including Phone No.) <p align="center">JSW Energy Ltd Toranganagallu</p>	2. Occupier's Registration No. PCB/HWM/560/2015-16/90770/327 3. Manifest Document No. 091 6. Transport's Registration No. 7. Vehicle Registration No. 9. Facility's Registration No. PCB/HWM/560/2015-16/H613 10. Facility's Phone 9448183792 12. Total Quantity of Waste <p align="center">3480 Liters</p>
4. Transport's Name & Address : Type of Vehicle (Including Phone No.) Truck Tanker Special Vehicle	
8. Designated Facility Name & Site Address M.P. INDUSTRIES No. 2, Behind Bindu Mill Ground Markandeshwara Nagar, BANGALORE-560 023.	

Waste Description <p align="center">waste oil</p>	13. Consistency : Solid <input type="checkbox"/> Semi Solid <input type="checkbox"/> Sludge <input type="checkbox"/> Oily <input checked="" type="checkbox"/> Tarry <input type="checkbox"/> Slurry <input type="checkbox"/>
-------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

14. Transport Description of Waste	15. Container		16. Total Quantity	17. Unit Wt./Vol	18. Waste Category
	No.	Type			
Tanker	18	Drum	3480	ltr	5.1

19. Special Handling Instructions & Additional Information

20. **OCCUPIER'S CERTIFICATE** : I hereby that the contents of the consignment are fully and actually described above by proper shipping name and are categorised, packed, marked and labelled and are in all respects in proper condition for transport by road according to applicable national government regulations.

Typed Name & Stamp	Signature		Month	Day	Year
			05	09	2016

21. Transporter's Acknowledgement of Receipt of Material

Typed Name & Stamp	Signature		Month	Day	Year
			05	09	2016

22. Discrepancy Note Space :

23. Facility of owner of Operator's Certification of Receipt of Hazardous waste

Typed Name & Stamp	Signature		Month	Day	Year
			05	09	2016

Second Copy - To be retained by occupier after taking Signature from transporter

FORM - 13
(See Rule 21 (1))
Hazardous Waste Manifest
(Information of hazardous waste for disposal)


1. Occupier's Name & Mailing Address (Including Phone No.) Jsw Energy Ltd. Toranagally.	2. Occupier's Registration No. PCB/HWM/SE0/15-16/H12/90770/327
4. Transport's Name & Address : (Including Phone No.) Type of Vehicle Truck Tanker Special Vehicle	3. Manifest Document No. 002
8. Designated Facility Name & Site Address No. 2, Behind Binny Mill Ground Markandeshwara Nagar, BANGALORE-560 023.	6. Transport's Registration No.
	7. Vehicle Registration No.
	9. Facility's Registration No. PCB/HWM/SE0/15-16/H1613
	10. Facility's Phone 9448183792
	12. Total Quantity of Waste 2100 Liters

11. Waste Description Waste oil	13. Consistency : Solid Semi Solid Sludge Oily <input checked="" type="checkbox"/> Tarry Slurry
-------------------------------------------	-------------------------------------------------------------------------------------------------------------------

14. Transport Description of Waste	15. Container		16. Total Quantity	17. Unit Wt./Vol	18. Waste Category
	No.	Type			
TRUCK	10	DRUM	2100	LITERS	5.1

19. Special Handling Instructions & Additional Information

20. OCCUPIER'S CERTIFICATE : I hereby that the contents of the consignment are fully and actually described above by proper shipping name and are categorized, packed, marked and labelled and are in all respects in proper condition for transport by road according to applicable national government regulations.

Typed Name & Stamp Signature  Month Day Year

21. Transporter's Acknowledgement of Receipt of Material

Typed Name & Stamp Signature Month Day Year

22. Discrepancy Note Space :

23. Facility of owner of Operator's Certification of Receipt of Hazardous waste

Typed Name & Stamp Signature  Month Day Year

Second Copy - To be retained by occupier after taking Signature from transporter

FORM - 13
(See Rule 21 (1))
Hazardous Waste Manifest
(Information of hazardous waste for disposal)

1. Occupier's Name & Mailing Address (Including Phone No.) JSW Energy Ltd. (2601111) Taranagalla	2. Occupier's Registration No. PCB/11111/SEO/205-16/111/90770/327
4. Transport's Name & Address : (Including Phone No.) Type of Vehicle Truck Tanker Special Vehicle	3. Manifest Document No. 005
8. Designated Facility Site Address M.R. INDUSTRIES No. 2, Behind Binny Mill Ground Markandeshwara Nagar, BANGALORE-560 023.	6. Transport's Registration No.
	7. Vehicle Registration No.
	9. Facility's Registration No. PCB/11111/SEO/93949/15-16/11613
	10. Facility's Phone 9448183792
	12. Total Quantity of Waste 1470 Ltrs.

11. Waste Description	13. Consistency : Solid Oily Semi Solid Tarry Sludge Slurry
-----------------------	----------------------------------------------------------------------

14. Transport Description of Waste	15. Container		16. Total Quantity	17. Unit Wt./Vol	18. Waste Category
	No.	Type			
Truck	8	Barrels	1470	Ltrs	5.1

19. Special Handling Instructions & Additional Information

20. OCCUPIER'S CERTIFICATE: I hereby that the contents of the consignment are fully and actually described above by proper shipping name and are categorised, packed, marked and labelled and are in all respects in proper condition for transport by road according to applicable national government regulations.

Typed Name & Stamp _____ Signature _____

Month Day Year

21. Transporter's Acknowledgement of Receipt of Material

Typed Name & Stamp _____ Signature _____

Month Day Year

22. Discrepancy Note Space :

23. Facility of owner of Operator's Acknowledgement of Receipt of Hazardous waste

Typed Name & Stamp _____ Signature _____

Month Day Year

Second Copy - To be retained by occupier after taking Signature from transporter

FORM - 13
(See Rule 21 (1))
Hazardous Waste Manifest
(Information of hazardous waste for disposal)

1. Occupier's Name & Mailing Address (Including Phone No.) JSL ENERGY Ltd. (260007) 123/45/67/89		2. Occupier's Registration No. PCR/HW/2015/SC/2015-16/110/90770/327 3. Manifest Document No. CCS 6. Transport's Registration No. 7. Vehicle Registration No. 9. Facility's Registration No. PCR/HW/2015/SC/93947/16/116/13 10. Facility's Phone 9442183793 12. Total Quantity of Waste <table style="width:100%; border: none;"> <tr> <td style="border: none; text-align: right;">1470</td> <td style="border: none; text-align: left;">115.</td> </tr> </table>			1470	115.						
1470	115.											
4. Transport's Name & Address (Including Phone No.) Type of Vehicle Truck Tanker Special Vehicle		8. Designated Facility Name & Site Address M.R. INDUSTRIES No. 2, Behind Binny Mill Ground Markandeshwara Nagar, BANGALORE-560 023.										
11. Waste Description		13. Consistency : Solid Oily Semi Solid Tarry Sludge Slurry										
14. Transport Description of Waste Ferrous	15. Container <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>No.</th> <th>Type</th> </tr> <tr> <td align="center">2</td> <td align="center">Drum</td> </tr> </table>	No.	Type	2	Drum	16. Total Quantity 290	17. Unit Wt./Vol lit	18. Waste Category S1				
No.	Type											
2	Drum											
19. Special Handling Instructions & Additional Information												
20. OCCUPIER'S CERTIFICATE : I hereby that the contents of the consignment are fully and actually described above by proper shipping name and are categorized, packed, marked and labelled I are in all respects in proper condition for transport by road according to applicable national government regulations.												
Typed Name & Stamp		Signature		Month Day Year <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td align="center">0</td><td align="center">2</td> <td align="center">0</td><td align="center">2</td> <td align="center">2</td><td align="center">0</td><td align="center">1</td><td align="center">7</td> </tr> </table>	0	2	0	2	2	0	1	7
0	2	0	2	2	0	1	7					
21. Transporter's Acknowledgement of Receipt of Material												
Typed Name & Stamp		Signature		Month Day Year <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td align="center">0</td><td align="center">2</td> <td align="center">0</td><td align="center">2</td> <td align="center">2</td><td align="center">0</td><td align="center">1</td><td align="center">7</td> </tr> </table>	0	2	0	2	2	0	1	7
0	2	0	2	2	0	1	7					
22. Discrepancy Note Space :												
23. Facility of owner of Operator's Certification of Receipt of Hazardous waste												
Typed Name & Stamp		Signature		Month Day Year <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td align="center">0</td><td align="center">2</td> <td align="center">0</td><td align="center">2</td> <td align="center">2</td><td align="center">0</td><td align="center">1</td><td align="center">7</td> </tr> </table>	0	2	0	2	2	0	1	7
0	2	0	2	2	0	1	7					

Second Copy - To be retained by occupier after taking Signature from transporter

FORM 10
[See rule 19(1)]
MANIFEST FOR HAZARDOUS AND OTHER WASTE

1.	Sender's Name & Mailing Address (including Phone No. & E-mail)	M/S. ISW Energy Ltd. Post Box No. 09, Toranagalli, Bellary - 583275.
2.	Sender's Authorisation No	
3.	Manifest Document No.	
4.	Transporter's Name & Address (Including Phone No. & E-mail)	GORE INDRACO No. 3, 4 & 5, 1st Phase, KIADB Industrial Area, Kumbalgauda, Mysore Road, Bangalore - 560 060
5.	Type of Vehicle	(Truck / Tanker / Special Vehicle)
6.	Transporter's Registration No.	
7.	Vehicle Registration No.	KA 25 A 11821
8.	Receiver's Name & Mailing Address (Including Phone No. & E-mail)	GORE INDRACO No. 3, 4 & 5, 1st Phase, KIADB Industrial Area, Kumbalgauda, Mysore Road, Bangalore - 560 060
9.	Receiver's Authorisation No	PCB/HWM/Sec/ H.O. No. 629/15-16/ENG.
10.	Waste Description	Oil Soaked cotton waste.
11.	Total Quantity No. of Containers	110.169 m ³ or MT Nos
12.	Physical form	(Solid / Semi-Solid / Sludge/Oily/Tarry/Slurry/Liquid)
13.	Special Handling Instruction & Additional information	
14.	Senders Certificate	I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorised, packed, marked, and labeled, and are in all respects in proper condition for transport by road according to applicable national government regulations.
Name & Stamp		Signature
		06 13 20 17
15.	Transporter Acknowledgement of Receipt of Wastes	
Name & Stamp		Signature
		06 13 20 17
16.	Receiver's Certification of Receipt of Hazardous and other Waste	
Name & Stamp		Signature
		06 13 20 17
1.	White	To be Forwarded by the sender to the State Pollution Control Board after signing all the seven copies.
2.	Light Yellow	To be retained by the sender after taking signature on it from the transporter and the rest of the five signed copies to be carried by the transporter.
3.	Pink	To be retained by the receiver (Actual user or treatment storage & disposal facility operator) after receiving the waste & the remaining four copies are to be duly signed by the receiver.
4.	Orange	To be handed over to the transporter by the receiver after accepting waste.
5.	Green	To be sent by the receiver to the State Pollution Control Board.
6.	Blue	To be sent by the receiver to the sender.
7.	Grey	To be sent by the receiver to the State Pollution Control Board of the sender in case the sender is in another State.



ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ
Karnataka State Pollution Control Board

"ಪರಿಸರಭವನ", 1 ರಿಂದ 5ನೇ ಮಹಡಿಗಳು, ನಂ.49, ಚರ್ಚ್‌ಸ್ಟ್ರೀಟ್, ಬೆಂಗಳೂರು - 560 001, ಕರ್ನಾಟಕ, ಭಾರತ
"Parisara Bhavana", 1st to 5th Floor, # 49, Church Street, Bengaluru - 560 001, Karnataka, INDIA

FORM-2
[SEE RULE 5(4)]

AUTHORIZATION FOR HANDLING HAZARDOUS WASTE

No. PCB/HWM/SEO/H.D. Reg. No.87527/2015-16/HH76

Dated 3 AUG 2015

1. The Chief Executive Officer of M/s. **Gomti Incinco.**, No.3-B-2, 1st Phase, KIADB Industrial Area, Kuribalgodu, Mysore Road, Bangalore-560 074 is hereby granted an authorization under Rule 5(4) of Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008 as amended upto 2010 for handling Hazardous Waste in the manner indicated below while carrying on the activity of incineration of hazardous waste collected from other industries.

Waste Category	Hazardous Waste Generated	Quantity	Method of Handling
5.2	Residue containing oil	900 MT/A	Stored in a secured manner as per the guidelines given in Annexure-1 and incinerate in an incinerator. The ash generated after incinerator shall be stored in a shed and sent to TSDF for disposal
20.3	Distillation residue		
21.1	Waste residue of paints, pigments, lacquers, varnishes inks.		
23.1	Waste varnishes of adhesives and resins		
28.1	Residues and waste		
28.2	Spent carbon		
28.3	Off specification products		
28.4	Date expired, discarded and off-specification drugs/medicines		
36.2	Ash from incinerator of hazardous waste	90 MT/A	Stored in secured manner and disposed to TSDF.

2. This authorization is issued with reference to the application dated: 25.02.2015 and will be in force for a period from **01.07.2015 to 30.06.2020** unless cancelled or suspended.


SENIOR ENVIRONMENTAL OFFICER

Name & Address of the Customer: JSW STEELS LIMITED Vijayanagaram works, Toranagallu, BELLARY, Karnataka		Test Report No.: BALPL/16-17/ITD-0077/16	
Sample Particulars: Used Oil – CPP-2-JSW		Issue Date : 14.01.2017	
Qty : 1No.x 1 Liter.		Your Ref : Nil	
Method of test: IS: 1448 &USEPA SW-846 Method 8082 (GC-MS)		Date : 18.12.2016	
Test Required: As given below		Date of Registration	: 18.12.2016
		Date of commencement of testing	: 19.12.2016
		Date of completion of testing	: 27.12.2016
		Sample condition at receipt	: Found ok
		Sample tested as received	
Sampling Method: Sample collected and submitted by the customer			Page: 1 of 1

Test Results

Sl. No.	Test Parameters	Unit of measurement	Results	Schedule V (Part A) Hazardous Waste Rules, 2008
1.	Lead	ppm	< 1	100
2.	Arsenic	ppm	< 1	5
3.	Cadmium + Chromium + Nickel	ppm	1.4	500
4.	Polychlorinated biphenyls (PCBs)	%	BDL	<2 ppm
5.	Polyaromatic Hydrocarbons (PAHs)	%	BDL	6%

Note: BDL – Below Detectable Limit; MDL – Minimum Detectable Limit for PAHs & PCB's – 0.01ppm

Remarks: The above sample complies with specifications of used oil suitable for Reprocessing/recycling as per CPCB schedule V (Part A) with respect to the above tested parameters for which the limit has been mentioned in the report.

Authorized Signatory

P. B. No. 9, Toranagalli
Dist. Bellary - 583 123, Karnataka, India
CIN. : L74999MH1994PLC077041
Phone : 08395 - 252 124
Fax : 08395 - 250 757
Website : www.jsw.in

Ref. No. JSWEL/ Ash/ Auth/ 6557
Date. : April 24, 2017

To

The Addl. Principal Chief Conservator of Forests (C),
Ministry of Environment, Forests and Climate Change,
Regional Office (South Zone),
Bangaluru.

**Sub: Fly Ash Notification S.O. 2804(E), 3rd November, 2009- Statutory Compliance
Report of 2 x 130MW JSW Energy limited for the period 01.04.2016 to 31.03.2017.**


Dear Sir,

We hereby submit the compliance report of fly ash generation and utilization for the year
2016 - 2017 in the prescribed format.

Kindly acknowledge the receipt of the same.

Thanking you.

Yours faithfully,
for JSW Energy Limited


K Surya Prakash 25/4
Vice President & Plant In charge

Copy to:
KSPCB, Divisional office, Ballari
CPCB, Bangaluru
CPCB, New Delhi.
Director, MoE&FCC, New Delhi.



Part of O. P. Jindal Group

Regd. Office : JSW Centre,
Bandra Kurla Complex,
Bandra-(East), Mumbai - 400 051

Phone : +91 22 4286 1000
Fax : +91 22 4286 3000

**Statutory Compliance Report for the period 01.04.2016 to 31.03.2017
of 2 X 130 MW JSW Energy Limited Thermal Power Plant**

Note: Last Date of Receipt by Ministry of Environment and Forests: 30.04.2017.

Fly Ash Notification S.O.763 (E) Dates 14th September 1999-Statutory Compliance Report for the period 1.04.2016 to 31.3.2017.

Sl. No	Item	
1	Name of the Thermal Power Station	JSW Energy Limited (2X130 MW)
2	Full Address including pin code	Post Box.9, Toranagallu, Bellary, Karnataka-583 123
3	E mail address	surya.prakash@jsw.in
4	Name of the Nodal Officer(Not below the rank of DGM/Dy.CE/or equivalent) dealing with ash management and Designation	Mr. K Surya Prakash Vice President & Plant In Charge
5	Telephone No	08395-250767
6	Fax No.	08395-250757
7	Capacity of Thermal power station(MW)	260 MW
8	Details of number of units and capacity of each units	2 x 130 MW
9	Coal / Lignite Consumption in 2016-2017 (Million tons)	0.44
A. Ash Generation in 2016-2017 (in tonnes)		
10	Bottom Ash	3469
11	Fly Ash	51127
	Total A (10 and 11)	54596
B. Ash Unutilized (in tonnes)		
12	Ash Pond disposal	0
13	Ash yard	0
14	Ash dump	0
	Total B (12 to 14)	0

C. Ash Utilization in FY 2016-2017 (in tones)

	Purpose for which ash is utilizes	Target (as per action plan)	Actual			Total
			From ESP Dry Ash	From Pond wet Ash	From Bottom Ash	
15	Ash Pond dyke rising	-	-	-	-	-
16 *	Cement Industry	-	20893	-	-	20893
17	Land Fill	-	-	-	-	-
18	Own Brick unit	-	-	-	-	-
19 *	Outside brick unit other than Brick Kilns	-	11551	-	-	11551
20*	Brick Kilns	-	-	-	-	-
21	Own ash based products (other than brick)	-	-	-	-	-
22	Ash based products (outside)	-	-	-	-	-
23 *	Road and fly over embankments	-	-	-	-	-
24 *	Back filling of mines	-	-	-	-	-
25	Agriculture	-	-	-	-	-
26	Ready mix concrete	-	-	-	-	-
27	Asbestos	-	-	-	-	-
28 *	Exports	-	-	-	-	-
29	Others (Slime pond bund construction)	-	18683	-	3469	22152
	Total C (15 to 27)		51127		3469	54596

D. REASONS FOR VIOLATION			
NA			
E. Remedial measures taken- NA			
F. Quantity in ash pond (For Both JSW Energy Limited (2x130 MW and 2x300 MW)			
30	Estimated quantity of pond ash in active ash pond as on 31.3.2016 in million tonnes. (For Both JSW Energy Limited (2x130 MW and 2x300 MW))	0.18	
G. Ash Pond Details (Ash Pond is common for both JSW Energy Limited (2x130 MW and 2x300 MW)			
31	Total area ear marked for ash pond (ha)	Forest area	Non forest area
		Not Applicable	3.495
			Total
			3.495
32	Ash pond already filled up and reclaimed (ha)		
33	Ash pond already filled up but yet to be reclaimed (ha)		
34	Ash pond in use (ha)(Active ash pond)		
35	Area earmarked for ash ponds but ash ponds yet to be constructed (ha)		
H. Dry ash collection facilities			
36	Dry Fly Ash Collection Facility Available	Yes / No	
37	If yes, for how many units	YES	For both units
I. Dry Ash storage Area			
38	Daily Ash Generation (tpd)	Capacity of storage as on 31.03.17 (Tonnes)	Capacity proposed if any in 2016- 17 (tonnes)
	150	2 X 155	--
J. Capital Expenditure (Rs. Lakhs)			
	Item	Expenditure in 2016-17(Rs. Lakhs)	Budgetary provision in 2016-17(Rs. Lakhs)
39	Dry Fly ash collection	--	--
40	Dry Fly ash Storage	--	--
K. Dispute settlement Committee: <u>So far there has not been any incident of dispute w.r.t. providing, loading and transportation of ash for utilisation.</u>			
41	No. of meetings held in 2016-17	If No Meetings Were Held Reason For The Same	
	Monthly meeting were held for discussing better utilization of	NA	

L. Provision regarding supply to the brick kilns				
42	Whether the Thermal Power Station is maintaining month- wise records of ash made available to each brick - Kiln	Yes		
43	If yes, how many brick kilns have been supplied with fly ash	10		
	Mode of Transportation of ash; truck/trailer/closed container/ covered with tarpaulin/open			
44	Dry ash:	Dry Ash in closed container & covered with tarpaulin		
45	Wet ash	Not Applicable		
M. Promotional Measures				
		No of meetings/ workshops exhibition held during 2016-17	Amount spent in 2016-17 (Rs.Lacs)	Outlay for 2016-17 (Rs.Lacs)
46 - 50	Public Awareness Campaign	-		
	Exhibition	-		
	Seminars/workshops	-		
	Advertisements in news papers	-		
	TV/Radio Advertisement	-		
51	Others (please specify)	-		
	Total M (44 to 49)			
52	Administrative measures taken			
S.N	Administrative Measures	Out come		
(i)	Meeting with brick manufactures	More brick Manufactures & Cement industries came forward to lift the fly ash.		
(ii)	Meeting with state government /agencies	Meeting with Government bodies and agencies, regularly being conducted for better utilization of fly ash.		
(iii)	Any other measure (please specify)			

FORMAT FOR ANNEXURES

Annexure -1

Name of the Brick Units/brick kilns to which fly ash supplied between 01.04.2016 and 31.03.2017

Sl.No	Name of the unit and address	Tel.No.if any	Quantity Supplied(T)
A.Brick Kilns - Not Applicable			
B.Brick Units			
1	Anjini bricks, Bellary	9945952985	3418.22
2	Abhi Suppliers	9986194714	1774.08
3	HiTech brick industries, Bellary	9448050435	1446.03
4	Lingeswara industry		28.30
5	Kirtana bricks	9480503739	771.87
6	Raghavendra Toranagallu	9900230337	727.69
7	S..B.C bricks,	7353946933	1109.16
8	Vigneswara bricks,	9845375799	1129.38
9	Choudeswari bricks	7353901110	704.73
10	T Jeelan	9448632360	441.04
Total			11550.5

Annexure -II

Name of cement units to which fly ash supplied between 01.04.2016 and 31.03.2017

Sl. No	Name of the cement unit	Tel.No.if any	Quantity supplied (Tonnes)
1	ACC Cement Ltd	-	18625.32
2	SAIR	-	478.81
3	Raghavendra	-	556.54
4	Other Industries	-	1232.73
	Total:		20893.4

Annexure -III

Name of road projects to which fly ash supplied between 01.04.2016 and 31.03.2017

Sl.No	Name of road project	Quantity supplied (Tonnes)
1	In-house Road and Land Filling	NA

Annexure -IV


Name of the Hydropower projects to which fly ash supplied between 01.04.2016 and 31.03.2017

Sl.No	Name of Hydro power project	Quantity supplied (Tonnes)
I	NA	NA

Annexure -V

Name of abandoned mines where fly ash are back filled between 01.04.2016 and 31.03.2017

Sl.No	Name of the Mines	Opencost/underground	Quantity utilized for back filling (Tonnes)
	NA	NA	NA


K Surya Prakash
Vice President & Plant In Charge

25/19

P. B. No. 9, Toranagallu
Dist. Bellary - 583 123, Karnataka, India
CIN. : L74999MH1994PLC077041
Phone : 08395 - 252 124
Fax : 08395 - 250 757
Website : www.jsw.in

Ref. No. JSWEL/ Ash/ Auth/ 6558
Date. : April 24, 2017

To

The Addl. Principal Chief Conservator of Forests (C),
Ministry of Environment, Forests and Climate Change,
Regional Office (South Zone),
Bangaluru.

**Sub: Fly Ash Notification S.O. 2804(E), 3rd November, 2009– Statutory Compliance
Report of 2 x 300MW JSW Energy limited for the period 01.04.2016 to 31.03.2017.**

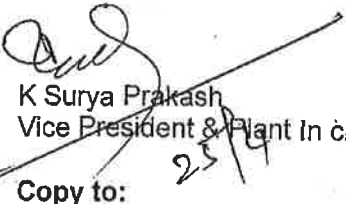
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2016 - 2017 in the prescribed format.

Kindly acknowledge the receipt of the same.

Thanking you.

Yours faithfully,
for **JSW Energy Limited**


K Surya Prakash
Vice President & Plant in charge
25/4

Copy to:
KSPCB, Divisional office, Ballari
CPCB, Bangaluru
CPCB, New Delhi.
Director, MoE&FCC, New Delhi.



Part of O. P. Jindal Group

Regd. Office : JSW Centre,
Bandra Kurla Complex,
Bandra (East), Mumbai - 400 051
Phone : +91 22 4286 1000
Fax : +91 22 4286 3000

**Fly Ash Notification S.O. 2804(E), 3rd November, 2009 –
Statutory Compliance Report for the period 01.04.2016 to 31.03.2017
of 2 X 300 MW JSW Energy Limited Thermal Power Plant**

Note: Last Date of Receipt by Ministry of Environment and Forests – 30.04.2017.

Fly Ash Notification S.O.763 (E) Dates 14th September 1999- Statutory Compliance Report for the period 1.04.2016 to 31.3.2017.

Sl.No	Item	
1	Name of the Thermal Power Station	JSW Energy Limited (2X300 MW)
2	Full Address including pin code	Post Box.9, Toranagallu, Bellary, Karnataka-583123
3	E mail address	surya.prakash@jsw.in
4	Name of the Nodal Officer(Not below the rank of DGM/Dy.CE/or equivalent) dealing with ash management and Designation	Mr. K Surya Praksh Vice President and Plan In Charge
5	Telephone No	08395-250767
6	Fax No.	08395-250757
7	Capacity of Thermal power station(MW)	600 MW
8	Details of number of units and capacity of each units	2 X 300 MW
9	Coal / Lignite Consumption in 2016-2017 (Million tonnes)	1.08
A. Ash Generation in 2015-2016 (in tonnes)		
10	Bottom Ash	6522
11	Fly Ash	93198
	Total A (10 and 11)	99720
B. Ash Unutilized (in tonnes)		
12	Ash Pond disposal	-
13	Ash yard	-
14	Ash dump	-
	Total B (12 to 14)	-

C. Ash Utilization in FY 2016-2017 (in tonnes)

	Purpose for which ash is utilizes	Target(as per action plan)	Actual			
			From ESP Dry Ash	From Pond Ash	From Bottom Ash	Total
15	Ash Pond dyke rising	-	-	-	-	-
16 *	Cement Industry	-	91699	-	-	91699
17	Land Fill	-	-	-	-	-
18	Own Brick unit	-	-	-	-	-
19 *	Out side brick unit other than Brick Kilns	-	-	-	-	-
20*	Brick Kilns	-	-	-	-	-
21	Own ash based products (other than brick)	-	-	-	-	-
22	Ash based products (out side)	-	-	-	-	-
23 *	Road and fly over embankments	-	-	-	-	-
24 *	Back filling of mines	-	-	-	-	-
25	Agriculture	-	-	-	-	-
26	Ready mix concrete	-	-	-	-	-
27	Asbestos	-	-	-	-	-
28 *	Exports	-	-	-	-	-
29	Others (Slime pond construction)	-	1499	-	6522	8021
	Total C (15 to 27)		93198	-	6522	99720

NA				
E. Remedial measures taken- NA				
F. Quantity in ash pond (Ash Pond is common for both JSW Energy Limited (2x130 MW and 2x300 MW))				
30	Estimated quantity of pond ash in active ash pond as on 31.3.2016 (in million tonnes) (For Both JSW Energy Limited 2x130 MW and 2x300 MW))			0.18
G. Ash Pond Details (Ash Pond is common for both JSW Energy Limited (2x130 MW and 2x300 MW))				
31	Total area ear marked for ash pond (ha)	Forest area	Non forest area	Total
		Not Applicable	3.495	3.495
32	Ash pond already filled up and reclaimed (ha)			
33	Ash pond already filled up but yet to be reclaimed (ha)			
34	Ash pond in use (ha)(Active ash pond)			
35	Area earmarked for ash ponds but ash ponds yet to be constructed (ha)			
H. Dry ash collection facilities				
36	Dry Fly Ash Collection Facility Available	Yes / No		
37	If yes, for how many units	YES	For both units	
I. Dry Ash storage Area				
38	Daily Ash Generation (tpd)	Capacity of storage as on 31.03.17 (Tonnes)	Capacity proposed if any in 2016- 17 (tonnes)	
	272	2 X 700	--	
J. Capital Expenditure (Rs. Lakhs)				
	Item	Expenditure in 2016-17 (Rs. Lakhs)	Budgetary provision in 2016-17(Rs. Lakhs)	
39	Dry Fly ash collection	--	--	
40	Dry Fly ash Storage	--	--	
K. Dispute settlement Committee: <u>So far there has not been any incident of dispute w.r.t. providing, loading and transportation of ash for utilisation.</u>				
41	No. of meetings held in 2016-17	If No Meetings Were Held Reason For The Same		
	12 meetings were held for discussing better utilization of flyash	NA		

42	Whether the Thermal Power Station is maintaining month- wise records of ash made available to each brick - Kiln	NA		
43	If yes, how many brick kilns have been supplied with fly ash	0		
	Mode of Transportation of ash; truck/trailer/closed container/ covered with tarpaulin/open			
44	Dry ash:	Dry Ash in closed container & covered with tarpaulin		
45	Wet ash	Not Applicable		
M. Promotional Measures				
		No of meetings/ workshops exhibition held during 16-17	Amount spent in 16-17 (Rs.Lacs)	Outlay for 16-17 (Rs.Lacs)
46 - 50	Public Awareness Campaign	-		
	Exhibition	-		
	Seminars/workshops			
	Advertisements in news papers	-		
	TV/Radio Advertisement	-		
51	Others (please specify)	-		
	Total M (44 to 49)			
52	Administrative measures taken			
S.N	Administrative Measures	Out come		
(i)	Meeting with brick manufactures	NA		
(ii)	Meeting with state government /agencies	Meeting with Government bodies and agencies, regularly being conducted for better utilisation of fly ash.		
(iii)	Any other measure (please specify)	-		

Annexure -I

Name of the Brick Units/brick kilns to which fly ash supplied between 01.04.2016 and 31.03.2017

Sl.No	Name of the unit and address	Tel.No.if any	Quantity Supplied(T)
A. Brick Kilns - Not Applicable			

Annexure -II

Name of cement units to which fly ash supplied between 1.4.2016 and 31.3.2017

Sl.No	Name of the cement unit	Tel.No.if any	Quantity supplied (Tonnes)
1	ACC Wadi Cement Works, Gulbarga dist, Karnataka	08476202250	88311
2	SIAR		1625
3	Ragvendra		651
4	United Transport		1112
	Total:		91699

Annexure -III

Name of road projects to which fly ash supplied between 1.4.2016 and 31.3.2017

Sl.No	Name of road project	Quantity supplied (Tonnes)
1	In-house Road and Land Filling	NA

Annexure - IV


Name of the Hydropower projects to which fly ash supplied between 1.4.2016 and 31.3.2017

Sl.No	Name of Hydro power project	Quantity supplied (Tonnes)
1	NA	NA

Annexure -V

Name of abandoned mines where fly ash is back filled between 1.4.2016 and 31.3.2017

Sl. No	Name of the Mines	Opencost/underground	Quantity utilized for back filling (Tonnes)
	NA	NA	NA


 K. Surya Prakash
 Vice President & Plant In Charge

25/4

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CERTIFICATE OF SAMPLING AND ANALYSIS OF SHIPMENT OF COAL

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Certificate No. : 201612-0611		Date: 20/12/2016	
Ash Constituents (Dry)			
Silicon Dioxide (SiO ₂)	%	ASTM D3682-01	46.62
Aluminium Oxide (Al ₂ O ₃)	%	ASTM D3682-01	32.29
Ferrous Oxide (Fe ₂ O ₃)	%	ASTM D3682-01	4.26
Calcium Oxide (CaO)	%	ASTM D3682-01	8.62
Magnesium Oxide (MgO)	%	ASTM D3682-01	1.84
Titanium Dioxide (TiO ₂)	%	ASTM D3682-01	1.36
Potassium Oxide (K ₂ O)	%	ASTM D3682-01	0.68
Sodium Oxide (Na ₂ O)	%	ASTM D3682-01	0.15
Sulphur Trioxide (SO ₃)	%	ASTM D5016-08	2.72
Phosphorus Pentoxide (P ₂ O ₅)	%	BS 1016 Part 14:1963	1.20
Ultimate Analysis (Dry)			
Carbon	%	ISO 29541:2010	71.09
Hydrogen	%	ISO 29541:2010	3.98
Nitrogen	%	ISO 29541:2010	1.71
Sulphur	%	ISO 19579:2006	0.62
Ash	%	ISO 1171:2010	16.17
Oxygen (By Difference)	%		6.43

Nominal Topsize 50mm

RESULTS REPORTED RELATE ONLY TO ITEMS TESTED

Issued at Loading Port By
 SGS South Africa (Pty) Ltd



Technical Signatory

 **sgs**
 Testing Laboratory

T0289

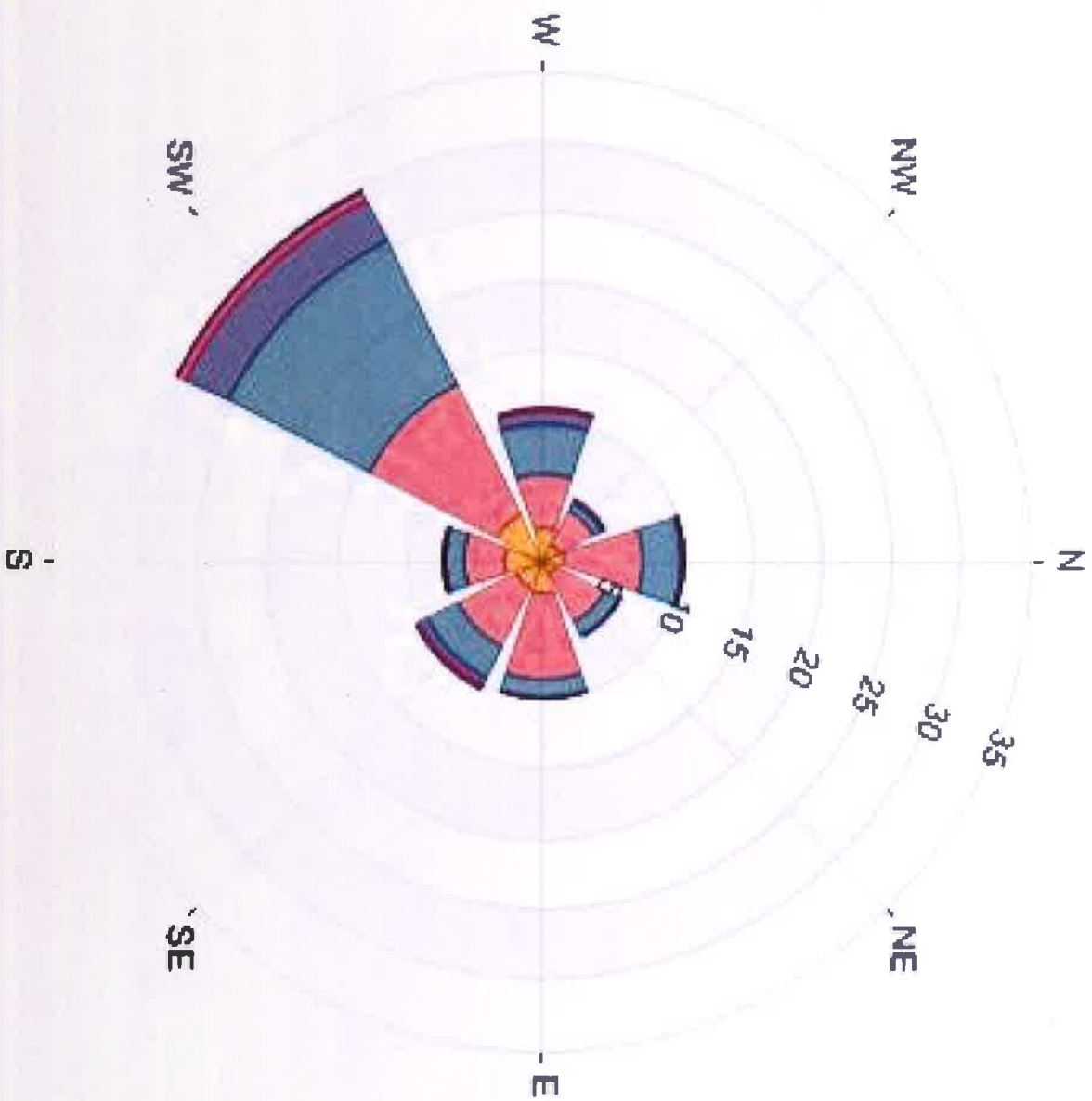
All services are rendered in accordance with SGS General Terms and Conditions of Business available on request at <http://www.sgs.com/terms-and-conditions>

Sample ID : Harsco Micro Pellet Special Raw Material Sample Analysis

Sample Collected at Harsco Micropelletisation Plant by M/s Harsco. Hence the analysis pertains to that particular sample only

Sl No	Sample Collection Date	Sample ID	%Chemical Analysis (Indicative Values Only)															
			Fe(T)	As Fe (M)	As FeO	C	S	SiO2	Al2O3	CaO	MgO	MnO	TiO2	P2O5	Na2O	K2O	SO3	ZnO
1	08.03.2016	SMS-II SLUDGE SAMPLE	61.78	32.12	10.87	1.40	0.012	5.34	3.71	10.676	3.017	0.835	0.585	0.237	0.186	0.116	0.030	0.000
2	08.03.2016	IRON SLUDGE SAMPLE	1.31	0.00	0.00	8.03	0.685	8.28	0.56	57.53	19.03	0.112	0.028	0.610	0.519	0.057	1.705	0.036
3	08.03.2016	POND SLUDGE	62.24	18.41	35.14	1.35	0.119	2.49	0.56	12.77	2.668	1.127	0.069	0.237	0.055	0.227	0.296	0.105
4	08.03.2016	DRI SLUDGE	69.77	40.14	35.48	2.18	0.092	4.69	2.98	7.32	1.974	0.629	0.197	0.229	0.069	0.112	0.230	0.034

Vidyanagar 01-04-2016 00:00 - 31-03-2017 23:45 Calm: 10.7%



% Icon Classes (m/s) 17 0.5-1.2 40 1.2-2.4 25 2.4-3.6 5 3.6-4.8 1 4.8-6.0 0 >6.0