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Combined Consent order No: KSPCB/HPI/074/UDUPI/2011

Dated: 09.12.2011

Consent for discharge of effluents under the Water (Prevention and Control of Pollution) Act 1974 and Emissions under the Air (Prevention and Control of Pollution) Act 1981.

Ref:

- 1) Board office consent order No.KSPCB/SEO-17Cat/CFO/UPCL/2010-11/421, dt:18.8.2010.
- 2) Proceedings of Personal Hearing held on 7.03.2011, No.KSPCB/HPI/074/UPCL/2010-11/43, dt: 6.4.2011.
- 3) Your letter No UPCL/B02/2011/3363 dt 13.04.2011.
- 4) The notice issued to the industry by R.O., Udupi on 11.04.2011.
- 5) Your letter No. UPCL/Plant/O&M/ENV/11-12/0122 dt 30.04.2011
- 6) Inspection of the industry by the Hon'ble Chairman on 17.05.2011.
- 7) Notice No.PCB/UDUPI/LR/2011-12/147, dated 31.05.2011.
- 8) Your letter No UPCL/Plant/O&M/ENV/11-12/0643 dt 9.06.2011
- 9) Your letter No UPCL/B02/2011/3698, dated 25.06.2011.
- 10) Your letter No. UPCL/Plant/O&M/ENV/11-12/0815 dt 27.06.2011
- 11) T.O. letter No PCB/HPI/074/UPCL/2011-12/1794, dated 02.07.2011.
- 12) Your letter No.UPCL/B02/2011/3742, dated 4.07.2011.
- 13) R O., Udupi letter No. PCB/UDUPI/LR/2011-12/R.No.6390/317, dated 7.7.2011.
Enclosing the consent application submitted by the industry for the period upto 30.6.2012
- 14) Inspection report of CEO vide No.KSPCB CEO/2011-12/2334, dated 25.7.2011 for the inspections made on 18.7.2011 and on 19.07.2011.
- 15) T.O. Show Cause Notice No.KSPCB/HPI/074/UDUPI/2011-12/2944, dated 6.8.2011.
- 16) Proceedings of Personal Hearing held on 16.08.2011, No.KSPCB/HPI/074/UPCL/2011-12/3369 dt 26.08.2011.
- 17) Your letter No UPCL/B02/2011/3941, dated 18.08.2011.
- 18) SEO, Mangalore inspection report No PCB/SEO-MNG/2011/141, dated 11.8.2011.
- 19) Your letter No UPCL/B02/2011/4004 dated 6.09.2011.
- 20) SEO, Mangalore inspection report No.PCB/SEO-MNG/2011/200, dated 17.10.2011.

Consent is granted to **The Director Technical, M/s. Udupi Power Corporation Ltd. Yellur Village, Nandikuru post, Udupi dist. 574138**, authorizing him to operate the industrial plant at **"the above said premises"** and to make discharge of effluents and emissions from the premises as mentioned above

Discharge of effluents under the Water Act:

Sl. No	Description	Permitted Quantity of discharge	Place of discharge
1	Trade effluent	1,70,352 KLD but restricted to the operation of Unit-1 only	<ul style="list-style-type: none"> • Cooling tower blow down of quantity 5680 m³/hr and Reverse osmosis plant reject of quantity 1418 m³/hr to be discharged to sea through guard pond after confirming with standards stipulated in Annexure-I. • The other trade effluent shall be utilized for secondary purposes viz., green belt and dust suppression after treatment in the Central ETP to the standards stipulated in Annexure-II During monsoon the excess treated effluent shall be discharged into guard pond.
2	Domestic effluent	300 KLD	The domestic effluent shall be treated as per Annexure III and recycled in the plant area for other uses. Till the design flow is achieved, industry shall treat the sewage in septic tank and soak pit.

Discharge of air emissions under the Air Act from the following stacks etc.

Sl No.	Description of chimney/ outlet	Limits specified refer schedule
As per Annexure V		

The consent is valid for

Sl. No	Products/activity	Maximum Capacity
1	Thermal Power Plant – Unit-1	1 X 600 MW (Unit-1)

THE CONSENT IS GRANTED FOR THE PERIOD from 01.07.2011 to 30-06-2012.

Note: This consent is issued subject to the limitations to the time limit stipulated and compliance made to the conditions in Environmental Clearance of MOEF No J-13011/23/1996-IA II(T), dated 1.9 2011

For and on behalf of the
Karnataka State Pollution Control Board
Sd/-

SENIOR ENVIRONMENTAL OFFICER

To
**The Director Technical,
M/s. Udupi Power Corporation Ltd,**

SCHEDULE

TERMS AND CONDITIONS

(To accompany consent No: KSPCB/HPI/074/UDUPI/2011 Dated:

A. TREATMENT AND DISPOSAL OF EFFLUENTS UNDER THE WATER ACT.

I. Quantity of the water use & Specification of Coal.

1. Total Sea water quantity usage shall not exceed 10000 m³/hr for industrial and domestic purpose.
2. The Applicant shall use imported coal with ash and Sulphur content as specified in the Comprehensive Environmental Clearance dated 01.09.2011.

II. Treatment and disposal of trade and sewage effluent:

1. The discharge from the effluent treatment plants of the applicant shall pass through terminal manhole/manholes where from the Board shall be free to collect samples at any time in accordance with the provisions of the Act or Rules made there under.
2. The applicant shall treat the trade effluent & sewage as per Annexure I, II & III of this order
3. The applicant shall provide flow measuring devices at both inlet and outlet of ETP & STP along with separate energy meter for the ETP & STP and maintain logbooks for hourly recording for verification by inspecting officers.
4. The Applicant shall not change or alter either the quality or the quantity or the rate of discharge or temperature or the route of discharge without the previous written permission of the Board.
5. The applicant shall not allow the discharge from the other premises to mix with the discharge from his premises. Storm water shall not be allowed to mix with the effluents on the upstream of the terminal manhole where the flow measuring devices are installed.
6. All the treatment units of STP of 300 KLD shall be totally impervious.

10 The applicant should recycle the treated trade effluent to the extent possible. The RO reject, Cooling tower blow down, unutilized treated effluents from ETP/SIP (during monsoon) shall be discharged into the Guard pond before the same is further discharged into sea at a distance of 670 meters inside the sea off Yermal shore and 4.99 meters below the surface with diffuser arrangement, as identified by National Institute of Oceanography, Goa. The effluent discharged into sea shall meet the standards as stipulated in Annexure - I. The water balance/waste water balance shall be as per the flow sheet enclosed as Annexure – IV, but restricted to the extent needed for operating Unit-I

11 (a) The Boiler blow down effluent shall meet the standards stipulated below before the same is discharged into guard pond.

Boiler blow down	Suspended Solids mg/l.Max.	100
	Oils and Grease mg/l. Max.	20
	Copper (Total) mg/l. Max	1.0
	Iron (Total) mg/l. Max	1.0

(b) The cooling tower blow down shall meet the standards stipulated below before the same is discharged into the guard pond.

Cooling tower blow down	Free available Chlorine mg/l. Max	0.5
	Zinc mg/l. Max	1.0
	Chromium (Total) mg/l. Max	0.2
	Phosphate mg/l. Max	5.0

(c) There shall not be any overflow from the ash pond. During monsoon overflow if any, shall conform to the standards shown below and discharged into sea through guard pond

Ash Pond Effluent	pH	6.5-8.5
	Suspended Solids, mg/l. Max	100
	Oils and Grease mg/l. Max.	20

12. The applicant shall provide a sufficient capacity treated effluent storage tank/guard pond before discharging the effluent into sea. The quality of the treated effluent shall be

15. The applicant shall operate the integrated flow measuring/recording devices on the effluent line leading to sea. A record of daily effluent discharge shall be maintained.
16. The industry shall install an on-line monitoring system at the outlet of the Guard Pond for pH level, Dissolved Oxygen and temperature of discharged water. The results shall be displayed on real time basis in company web site.
17. The industry shall maintain alternate power supply to the ETP for its continuous operation.

B. SPECIFIC CONDITIONS AND TIME LIMITS:

1. Industry shall comply with the conditions and time schedules stipulated in the Comprehensive Environmental Clearance issued by MOEF vide dated 1.9.2011. Industry shall submit monthly reports on the progress achieved.
2. Company shall submit a detail plan for spending Rs 5 Crores for CSR activity as specified in the EC on priority.
3. Action shall be taken to constitute a monitoring committee as specified in the EC at the earliest.
4. Industry shall install Alarms and Systems to shut down the pumping of water in case of any leakage of the sea water from the sea water pipeline along with proper risk mitigation measures. There shall be a risk analysis study report in place.
5. Industry shall undertake a scientific study on Risk Assessment for the ash dyke and submit report.
6. The revised EEMP shall be submitted by engaging experts in the field which should also include civil works to prevent impact of civil works/ over burdens by the end of January, 2012.
7. Industry shall conduct drift analysis test before and after the installation of drift eliminators and submit report to the Board.
8. The drift eliminators shall be installed within January, 2012.

11.
 - a) Industry shall provide adequate garland canal all around the coal area storage to arrest all the run offs from the coal yard and also restrict the height of the coal dump to avoid any fugitive dust being carried away to surrounding areas due to wind. The coal yard runoff shall be collected
 - b) The industry shall provide barricade of suitable height around the coal stock immediately to avoid fugitive emissions during wind blow.
12. Industry shall take all necessary measures to improve the house keeping and greenery in the premises. Action shall be initiated to plant suitable species of trees in consultation with Forest Department.

C. WATER CESS:

1. The applicant shall provide water meter at all the intake points as under Section (5) of Water Cess Act, 1977 and shall file the Water Cess returns regularly and also pay the Cess Assessment with the time stipulated

D. EMISSIONS:

1. The discharge of emissions from the premises of the Applicant shall pass through the stacks/chimneys mentioned in **Annexure-V** where from the Board shall be free to collect the samples at any time in accordance with the provisions of the Act and Rules made there under. The stacks/chimneys heights shall be as per **Annexure-V**.
2. The hourly rate of emissions discharged and the tolerance limits of the constituents forming the emissions in each of the chimneys/stacks shall not exceed the limits laid down in **Annexure-V**.
3. The applicant shall provide port holes for sampling the emissions, access platforms for carrying out stack sampling, electrical points and all other necessary arrangements in being laid out.
4. The applicant shall operate the Air pollution control equipment as specified in the Annexure continuously so as to ensure that the emission does not exceed the limits specified. The operation of the control equipment shall be synchronized with the operation of the emission source.

- 8 Applicant shall provide adequate number of rows of trees all round the ash pond.
- 9 Applicant shall provide water sprinkling system to suppress dust for coal unloading from the conveyors, coal handling area, and coal yard at all the time.
10. The applicant shall operate continuously, the Flue Gas Desulphurisation plant to control SO₂ emission.
11. The coal transportation from new Mangalore port shall be by rail and during the transportation en-route to power plant site, there shall not be any fugitive emissions. Proper devices shall be provided to prevent the same. During transportation there shall not be any coal spillages.
- 12 Coal storage yard and ash management areas should be suitably lined with impervious lining to avoid toxic leaching in to the groundwater.
- 13 The applicant shall provide adequate dust control measure for coal handling area and coal transport points.
14. The applicant shall use low NO_x burner.
15. The applicant shall monitor Mercury content on monthly basis in the ash generated and as well as in the emissions and submit monthly report to the Board.
16. All efforts shall be made to control fugitive emissions.

II. Self Monitoring and Reporting

A) Air Pollution Control:

1. The treated trade effluent shall be analyzed for the parameters stipulated in **Annexure-I**, 15 days before utilising for green belt/discharge to sea. Similarly, the sewage effluent shall be analysed for the parameters in **Annexure-III** before utilising for other purposes. Board Empanelled Labs.
2. A record of daily effluent discharge shall be maintained and once in a month the extract shall be submitted to Regional Officer, Udupi.

4. The applicant shall check the submarine pipeline for any damage, anchorage, etc., through the Government of Goa or any competent agency once in a year and report should be furnished to the Board by November/December every year.

B) Air Pollution Control:

1. The applicant apart from providing the porthole and plat form for the stack shall also provide the following meters/continuous monitoring systems with proper calibration for the continuous monitoring of the emissions.
2. The emission monitoring shall be recorded in the proper formats in a log book and the monitoring results shall be submitted to the Regional office of the Board once in a month.
3. The applicant shall establish adequate number of ambient air quality monitoring stations both in the core zone and in the radius of impact a representative station to monitor the air quality in the predominant wind-ward direction. The report of analysis shall be submitted in both soft and hard format and monthly extract sent the Regional office. Once in a year the analysis shall be statistically evaluated for all the stations and the results as required under the National Ambient Air Quality Standards shall be submitted to the Regional Office of the Board. The monitoring shall be carried out for the period as stipulated in the MoEF notification dated 16.11.2009.
4. The applicant shall monitor the noise levels at the boundary of the industry at 5 m distance and shall submit the monitoring reports to the Regional Office as per annexure -
5. The applicant shall provide and maintain at its own cost a meteorological station to continuously monitor wind velocity, direction, temperature, humidity, rainfall etc., and the data shall be recorded and shall be stored in soft copy and a monthly average data in hard copy format shall be submitted to Regional Office, Udipi.
6. Salinity shall be regularly monitored through Fisheries College and submit report to Regional Office.
7. The applicant shall submit results of online AAQM to the Regional Office. The industry shall be required to post the results on real time in their website.

D. ENVIRONMENTAL STATEMENT

F. FLY ASH & SOLID WASTE (OTHER THAN HAZARDOUS WASTE) DISPOSAL:

1. The applicant shall adhere to the directions contained in the fly ash utilization Notification issued by Ministry of Environment and Forest Government of India vide No S O 763 (I) dated 14.9.1999 and its amendments dated 27.8.2003 & 3.11.2009
2. The applicant shall provide with water sprinkling arrangement in ash pond area to avoid any fugitive emission due to wind.
3. The Ash & solid waste shall be handled & disposed as indicated below

Sl. No.	Category	Quantity (*)	Disposal details
1.	Slag	165 TPD	Collected in dry form in water impounded hopper and this ash after grinding should be dewatered and transported in trucks (dumper trucks) to ash dump area.
2.	Fly ash	650 TPD	Collected in dry form in ash silo and made available for Cement plants, brick manufacturing industries etc , for utilisation. Excess fly ash if any, shall be transported to ash dump area in closed trucks without causing any spillages/ fugitive emissions.
3.	Gypsum	85 TPD	Collected in Silos in dry form and made available for Cement plants and plaster Board manufacturers.

4. The Industry shall submit compliance report to the above conditions once in a month to Board.
5. The solid waste collected in the Factory premises as sweepings wastage packaging, empty containers, residual sludge including those from air pollution control equipments shall be disposed scientifically to the satisfaction of the Board so as not to cause fugitive emissions or air problems or water pollution problems through leaching etc., of any kind.

G. NOISE & VIBRATION CONTROL:

2. The Board reserves the right to review, impose additional conditions, revoke, change or alter terms and conditions of this consent.
3. This consent for discharging sewage and/or Trade effluents from the factory shall not be taken or construed as the Board's permission to continue to discharge the sewage and/or Trade effluents from the factory into the place (as mentioned in this consent Order) which pollutes the water and therefore endangering the life and property of the persons using the said water before and during or after the periods indicated in the Terms and Conditions of this Consent Order.
4. The Applicant shall not change or alter either the quality or quantity or rate of emission or install or alter the air pollution control equipment, change in raw material or manufacturing process resulting in change in quality and/or quantity of emissions without the prior approval of the Board.
5. The industry shall not change or alter (a) raw materials or manufacturing process, (b) change in products or product mix (c) the quality, quantity or rate of discharge/ emission (d) install/replace/alter the water or air pollution control equipments without the prior approval of the Board.
6. The applicant shall promptly comply with all orders and instructions issued from time to time by the Board or by other officers of the Board duly authorized in this behalf.
7. The Applicant shall forthwith keep the Board informed of any accidental discharge of emission or pollutants into the atmosphere in excess of the standards laid down by the Board. The Applicant shall also take corrective steps to mitigate the impact.
8. The applicant shall not store any raw materials/ chemicals drums on naked ground.
9. The applicant shall display flow diagram of the pollution control system at the site.
10. The applicant shall comply with the guidelines under Corporate Responsibilities for Environment issued in 2003 issued by Ministry of Environmental Forests and CPCB.
11. The applicant shall maintain register recording the ambient air quality, stack monitoring and analysis of treated effluents. The register shall be open for inspection by the Board at all time. All the monitored data, compliance to EC and consent

14. The entire premises shall be always kept clean. The effluent holding area, inspection chambers, gutters, flow measuring points should be made easily approachable. The applicant shall display the consent granted in a prominent place for perusal of the inspecting officers of the board.
15. The applicant, his heirs, legal representatives or assigns shall have no claims whatsoever to the consent or renewal of this consent after expiry of the period of consent.
16. The industry shall transport and store the raw materials in a manner so as not to cause any damage to the environment, life and property. The applicant shall be solely responsible for any damage to the environment.
17. The applicant shall plant and maintain adequate number of trees in and around the industry to offset the dust emissions escaping into the surrounding area and improve the environmental and aesthetic appearance of the industry and the surrounding.
18. The applicant shall use only imported crushed coal.
19. The applicant shall make an application for consent at least 120 days before expiry of this consent.
20. Industry shall comply with all the consent conditions and furnish report within 30 days to the Regional Office.

For and on behalf of the
Karnataka State Pollution Control Board

SENIOR ENVIRONMENTAL OFFICER

ANNEXURE-I

GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS

Sl No	Parameter	Marine coastal areas
1.	Colour and odour	All efforts should be made to remove colour and unpleasant odour as far as practicable.
2.	Suspended solids mg/l, max	a. For process waste water -100 b. For cooling water effluent 10 percent above total suspended matter of influent.
3.	pH value	5.5 to 9
4.	Temperature	Shall not exceed 5°C above the receiving water temperature.
5.	Oil and grease mg/l max.	20
6.	Total residual Chlorine mg/l max	1.0
7.	Biochemical Oxygen demand (BOD ₅ at 27°C) mg/l, max.	100
8.	Arsenic (As) (mg/l) max.	0.2
9.	Mercury (mg/l) max.	0.01
10.	Lead (as Pb) (mg/l) max.	2.0
11.	Cadmium (as Cd) (mg/l) max.	2.0
12.	Hexavalent Chromium (as Cr +6), mg/l max.	1.0
13.	Total Chromium (as Cr) mg/l, max.	2.0
14.	Copper (mg/l) max.	3.0
15.	Cobalt (mg/l) max.	15
16.	Zinc (mg/l) max.	0.05
17.	Nickel (mg/l) max.	5.0
18.	Manganese (Mn) (mg/l) max.	0.2
19.	Vanadium (mg/l) max.	15
20.	Chloride (mg/l) max.	5.0
21.	Acute toxicity	5.0
22.	Chronic toxicity	90% survival of fish after 96 hours in 100%

ANNEXURE-II

STANDARDS FOR USING THE TREATED SEWAGE EFFLUENT FOR GARDENING/IRRIGATION

Sl. No.	Characteristics	Tolerance limits
1	Colour and odour	See Note
2	Suspended Solids, mg/l. Max	200
3	Conductivity, micro ohms/cm max	2250
4	pH value	6.5 to 8.5
5	Oil and Grease, mg/l, Max	10
6	Bio-chemical Oxygen Demand, mg/l. (5 days at 20°C) max	100
7	Chemical Oxygen Demand mg/L. Max	250
8	Chloride (Cl ⁻) mg/l. Max	350
9	Sulphate (SO ₄ ²⁻) mg/L. Max	1000
10	Total Dissolved Solids (Inorganic) mg/L. Max	2100
11	Zinc (Zn) mg/l. Max	2.0
12	Fluoride (F ⁻) mg/l. Max	2.0
13	Mercury (Hg) mg/l. Max	0.01

Note: All efforts should be made to remove colour and unpleasant odour as far as practicable.

ANNEXURE – III

STANDARDS FOR USING THE TREATED SEWAGE EFFLUENT FOR GARDENING/IRRIGATION

SL. NO.	Parameters	Tolerance limits
1	pH	6 to 9
2	Total Dissolved Solids mg/l. Max	30
3	Bio-chemical Oxygen Demand, mg/l. (3 days at 27°C) max.	20

ANNEXURE-IV

Chim No.	Chimney attached to	Minimum chimney height to be provided above ground level/roof level (AGL/ARL)	Rate of emission Nm ³ /hr	Constituents to be controlled in the emission	Tolerance limits mg/ Nm ³	Air pollution Control equipment to be installed, in addition to chimney height as per Col.(3)
1	2	3	4	5	6	7
1	1 no. of 2028 TPH Boiler	275 m AGL with twin flue and ESP and FGD	-	Particulate matter	50	Electrostatic Precipitator & FGD
2	1250 KV MDG Set 2 nos	Individual chimney of 30m AGL or 6m above the building if generator set is installed whichever is higher	-	NOx NMHC PM CO	710 ppmv 100 75 150	Acoustic enclosures
<p>Note: The applicant shall provide best extraction and dust suppression systems in coal crusher plant and transfer points.</p> <p>The ambient noise levels shall not exceed 75 dB(A) leq. and 70 dB(A) leq. during day time and night time respectively.</p>						

SENIOR ENVIRONMENTAL OFFICER