



GUJARAT STATE ELECTRICITY CORPORATION LIMITED

Kutch Lignite Thermal Power Station, PO: SK Verma Nagar, Tal: Lakhpat, Dist: Kutch-370601 Ph. 91-2839-262452, 264423
Fax: 91-2839-262431, 264434 e-mail: acekltps@gebmil.com Website: www.gsecl.in
CIN: U40100GJ19935GC019988

No. KLTPS/ACE (G)/Effi./Env/44-Q/2020/E-2015

Date: - 14/08/2020

To,
The Addi Principal Chief Conservator of Forest (C),
Ministry of Env, Forest & Climate Change,
Regional Office, Western Region,
Kendriya Paryavaran Bhavan,
Link Road No.3, E-5, Ravi Shankar Nagar,
Bhopal-462 016 (M.P.)
Email: apccfbhopal@gmeial.com;

Sub: Half yearly compliance report - Environment clearance of KLTPS Unit no.4
Period: Oct'19 to Mar'20

Ref: Environment Clearance (U#4) granted by MoEF, New Delhi vide Notification
No: J-13012/6/2002.IA-II (T), Dt: 31/05/2005

Dear Sir,

With ref. to above subject, kindly find the enclosed compliance statement of
Environment Clearance of KLTPS Unit#4 vide MoEF notification no:J-13012/6/2002.IA-
II(T).Dt:31.05.2005.

This is for your kind information please.

Thanking you,

Encl: As above

For, Gujarat State Electricity Corporation Ltd.,


Add. Chief Engineer (G)
GSECL, KLTPS

Copy to:

1. Member Secretary, CPCB, MoEFCC, Parivesh Bhavan, East Arjun Nagar,
New Delhi - 110 032
Email: mscb.cpcb@nic.in
2. The Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhavan,
Sector-10 A, G'nagar - 382010
Email: kut-uh-gpcb@gujarat.gov.in; uh-gpcb-kutw@gujarat.gov.in;
3. GPCB, Regional office, Katira comm complex-1, manglam char rasta,
Bhuj - 370 001
Email: ro-gpcb-kutw@gujarat.gov.in;
4. Chief Engineer (Gen), HO, GSECL, Baroda. (By email)
5. Chief Engineer (P&P), HO, GSECL, Baroda. (By email)

**The Compliance Statement of Environmental Safe Guards for Effective Implementation of The
Environmental Clearance of 75 Mw Unit-4 Expansion vide MoEF&CC Notification
No: J-13012/6/2002.IA-II (T) DT: 31-05-2005 is as under.
ENVIRONMENT CLEARANCE – UNIT # 4 (EXPANSION)**

Sr. No.	Environmental Safe Guards	Compliance Status / Remarks																								
1.	All the conditions stipulated by Gujarat Pollution Control Board vide their letter no. PC/NOC/Kutch-19(3)/22338 dated 17-07-1999 PC/AIR/Kutch-34(3)/29826, Dt: 17-09-1999 should be strictly implemented.																									
(i)	The quantity of the industrial effluent from the manufacturing process and other ancillary industrial operations shall not exceed 1,88,06,400 Liters/day.	The average quantity of the industrial effluent is 63,05,000.00 ltr/day which is disposed in ash dykes of premises and reuse it in sprinklers to control fugitive emission & reuse in ash slurry making.																								
(ii)	The quantity of the domestic wastewater (sewage), shall not exceed 1,53,800 Liters /day.	Complied. The quantity of the domestic wastewater (sewage), was not exceed 1,53,800 Liters /day.																								
(iii)	<p>The quality of the industrial effluent shall conform to the following standards:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>PARAMETER</u></th> <th style="text-align: left;"><u>PERMISSIBLE LIMIT</u></th> </tr> </thead> <tbody> <tr> <td>PH</td> <td>→ 6.5 to 8.5</td> </tr> <tr> <td>Temperature</td> <td>→ 40 °C</td> </tr> <tr> <td>Total Suspended Solids</td> <td>→ 100 mg/l</td> </tr> <tr> <td>Oil and Grease</td> <td>→ 10 mg/l</td> </tr> <tr> <td>Total Dissolved Solids</td> <td>→ 2100 mg/l</td> </tr> <tr> <td>Ammonical Nitrogen</td> <td>→ 50 mg/l</td> </tr> <tr> <td>BOD (5 days 20°C)</td> <td>→ 100 mg/l</td> </tr> <tr> <td>COD</td> <td>→ 250 mg/l</td> </tr> <tr> <td>Hexavalent Chromium</td> <td>→ 0.1 mg/l</td> </tr> <tr> <td>Total Chromium</td> <td>→ 2 mg/l</td> </tr> <tr> <td>Arsenic</td> <td>→ 0.2 mg/l</td> </tr> </tbody> </table>	<u>PARAMETER</u>	<u>PERMISSIBLE LIMIT</u>	PH	→ 6.5 to 8.5	Temperature	→ 40 °C	Total Suspended Solids	→ 100 mg/l	Oil and Grease	→ 10 mg/l	Total Dissolved Solids	→ 2100 mg/l	Ammonical Nitrogen	→ 50 mg/l	BOD (5 days 20°C)	→ 100 mg/l	COD	→ 250 mg/l	Hexavalent Chromium	→ 0.1 mg/l	Total Chromium	→ 2 mg/l	Arsenic	→ 0.2 mg/l	Complied as per CC&A no. AWH 94499 for all 4 units of the plant. KLTPS not discharge its effluent outside premises as per CCA-94499 but discharge in its own Ash dykes and reuse it in sprinklers to control fugitive emission. However Unit no. 1 & 2 retired on 01.01.20.
<u>PARAMETER</u>	<u>PERMISSIBLE LIMIT</u>																									
PH	→ 6.5 to 8.5																									
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(iv)	The treated effluent conforming to the above standards shall be discharged into Arabian Sea through pipeline.	Effluent is disposed in ash dykes of premises and use it in sprinklers to control fugitive emission as per CC&A no:94499 dtd:13.07.18 & Effluent is reused in ash slurry making as and when required and as per availability.																								

Environmental Safe Guards		Compliance Status / Remarks
(v)	Industry shall have to comply conditions imposed in NOC for pipeline for effluent disposal issued vide letter No. PC/NOC/KUTCH – 19(2)/9380, Dt. 23-03-1999.	Effluent is disposed in ash dykes of premises as per CC&A no:94499 dtd:13.07.18 & use it in sprinklers to control fugitive emission.
(vi)	Sewage shall be treated separately to conform to the following standard and shall be utilized on land for gardening plantation and irrigation. BOD Less than 20 Mg/l Suspended Solids Less than 30 Mg/l Residual Chlorine Minimum 0.5 ppm	Complied. STP is provided at KLTPS township for sewage treatment and treated water is used in gardening & plantation in colony area.
(vii)	Lignite shall be utilized as fuel in the boiler at a rate of 92,160 Mt/Month.	Average lignite consumption for Oct-19 to Mar-20 is 40,188 MT/Month for unit no. 4.
(viii)	Flue gas emission from the stack of 190 mtrs. Height attached to the boiler shall conform to the following standards : <u>PARAMETERS</u> <u>PERMISSIBLE LIMIT</u> Particulate Matter 100 Mg/NM ³ Oxides of Sulphur 100 ppm Oxides of Nitrogen 50 ppm	New stack of 190 mtr height is provided for Unit no.4. Average results of Unit no.4 for Oct-19 to Mar-20 are mention below : PM of Unit is 106.5 mg/Nm ³ SO ₂ of Unit is 3097.5 mg/Nm ³ NO _x of Unit is 94 mg/Nm ³
(ix)	There shall be no process emission through vents/stacks attached to air pollution control system provided with various reactors, process, vessels, storage tanks, etc.	There is no process emission at the unit.
(x)	Following air pollution control system shall be installed for control of flue gas emissions: a) Flue Gas Emission : i) Electrostatic Precipitator ii) Desulphurisation System.	Matter is complied. Electrostatic Precipitator is provided as Air pollution control equipment in all units. CFBC technology is provided as Desulphurisation system in unit no.4.
(xi)	Stack monitoring facilities like porthole, platform/ladder, etc. shall be provided with stacks/vents chimney in order to facilitate sampling of gases being emitted in to the atmosphere.	Stack monitoring facilities are provided at stack and/ or duct for monitoring.

Environmental Safe Guards		Compliance Status / Remarks								
(xii)	<p>Ambient air quality within the premises of the industry shall conform to the following standards:</p> <table border="0"> <tr> <td><u>PARAMETERS</u></td> <td><u>PERMISSIBLE LIMIT</u></td> </tr> <tr> <td>Suspended Particulate Matter</td> <td>500 Micogram/M³</td> </tr> <tr> <td>SO₂</td> <td>120 Micogram/M³</td> </tr> <tr> <td>NOX</td> <td>120 Micogram/M³</td> </tr> </table>	<u>PARAMETERS</u>	<u>PERMISSIBLE LIMIT</u>	Suspended Particulate Matter	500 Micogram/M ³	SO ₂	120 Micogram/M ³	NOX	120 Micogram/M ³	Complied. Six months reports summarized sheet is attached herewith as <u>Annexure- A</u> .
<u>PARAMETERS</u>	<u>PERMISSIBLE LIMIT</u>									
Suspended Particulate Matter	500 Micogram/M ³									
SO ₂	120 Micogram/M ³									
NOX	120 Micogram/M ³									
(xiii)	All measures for the control of environmental pollution shall be provided before commencing production.	ESP is provided for control of emission through stack, CFBC technology is provided as Desulphurization system since commissioning in Unit no.4.								
(xiv)	Solid waste shall be disposed of by incineration or it shall be disposed of by sanitary land filling method at a site approved by the Board.	Solid waste (Ash) is generated and it is dumped in GMDC abandoned mines.								
(xv)	The Applicant shall have to comply following conditions:									
A)	Entire quantity of waste water generated from existing units and proposed expansion project shall be disposed of in the sea through closed pipeline at a points suggested by competent authority. This disposal system shall be commissioned prior to commissioning of proposed forth power generation unit. The disposal point should be located in such manner that it has least impact on marine flora and fauna.	Entire quantity of waste water is disposed in ash dykes of premises as per CC&A no:94499 dtd:13.07.18 & reuse it in sprinklers to control fugitive emission & reuse in ash slurry making.								
B)	No subsoil water shall be used; entire quantity of water requirement for all power generation units shall be generated through reverse osmosis or any other such system. Project is not permitted to use any sub – soil water since it would further enhance the salinity in the area.	GPCB has issued an amendment in NOC vide letter no:PC/CCA/ Kutch-79/2343 dt: 31.01.2005 to use subsoil water for all four units provided that quantity should not be more than 1600cmt/hr & EC amendment vide letter no: J-13012/6/2000-IA.II(T) dt:20.01.2009 to use subsoil/brakish water. GSECL take suitable necessary actions as per directives of MoEF &CC.								
C)	Comprehensive program for alternate use of Fly Ash shall be prepared and implemented in phased manner.	100% use of fly ash by backfilling of abandoned Lignite mines of GMDC. However M/s Sanghi cement lifted-16905.6 MT pond ash from ash dyke from Oct'19 to Mar'20.								

Environmental Safe Guards		Compliance Status / Remarks
D)	Remedial measures to control sulfur dioxide in existing three power generation units shall be identified and implemented with time bound program in such a way that it shall be completed prior to commissioning of proposed power generating unit as SO ₂ level in the emission from existing units is not within permitted norms.	Construction of new combined chimney for unit I & II is completed at a cost of Rs. 10.2 crores and commissioned. Unit#1&2- 230 mtr stack ht. Unit#3 -190 mtr stack ht. However Unit no. 1 & 2 retired on 01.01.20.
E)	Approval from Gujarat Mineral Development Corporation and all other competent authority shall be obtained for disposal of Ash in mines abandoned.	Complied. GMDC has given the assurance for the same vide their letter No: GMDC/LG/6038/2002-03, Dt: 19/06/2002.
F)	Comprehensive EIA shall be prepared study shall also include the impact on wild life and marine flora and fauna.	Matter is complied. EIA was prepared by Desin Pvt. Ltd, Delhi.
G)	Socio-economic development plan shall prepared in close coordination with District Authority and shall be implemented in phased manner. Since G. E. B. has not undertaken such development work in the past, it is recommended that annual allocation should be earmarked for socio-economic activities in the surrounding area.	In the year 2019-20 ,KLTPS done various socio economic activities i.e. construction of prayer hall & compound wall in schools of -Navanagar, Sonalnagar & Panandhro, approach road to Narayan Sarovar Smashan, construction of toilet block in Ektanagar, providing water supply in Khanot & Sonalnagar, providing fodder to cattle of near by villages, Providing Medical facilities to Narayan Sarovar old age home & Health care program for Thalassemia patients at Khanot, etc with the Total expenditure for above CSR activities for 2019-20 are Rs. 65,05,852.00.
H)	Employment to the local population shall be provided as per the prevailing policy of the Government of Gujarat.	Complied as per the prevailing guidelines of GoG. KLTPS employing 85% of local population in contract labours, apprentice and on regular establishment for class-III&IV.
I)	On site and off site disaster management plan shall be prepared and security and safety regulations as specified by the Dist. Magistrate shall have to be observed and implemented	On-Site emergency Plan and Disaster Management Plan is prepared.
J)	Entire industrial effluent should be discharged through pipeline in Estuarine Zone.	Entire quantity of waste water is disposed in ash dykes of premises as per CC&A no:94499 dtd:13.07.18 & reuse it in sprinklers to control fugitive emission & reuse in ash slurry making.

		Environmental Safe Guards	Compliance Status / Remarks
		K) No tapping of sub soil water permitted Entire demand of waste should meet with R O. Plant.	GPCB has issued an amendment in NOC vide letter no: PC/CCA/ Kutch-79/2343 dt: 31.01.2005 to use subsoil water for all four units provided that quantity should not be more than 1600cmt/hr & EC amendment vide letter no: J-13012/6/2000-IA.II(T) dt:20.01.2009 to use subsoil/ brakish water.
		L) Fly Ash/slag should be properly disposed off in waste mines of GMDC/ or alternate concrete proposal for by product like bricks etc. should be undertaken.	Complied. KLTPS acquired Mined out area of GMDC and ash is properly disposed off in it.
		M) SO ₂ emission in proposed project should be maintained by Desulpherisation method. In existing boilers modification should be made to bring down the SO ₂ emission level.	CFBC Boiler is provided in Unit#4 for SO ₂ emission control since commissioning. For better dispersion of flue gas construction of new combined chimney of 230 mtr for unit 1 & 2 is completed at a cost of Rs. 10.2 crores and Unit 3 having stack 190 mtr. Unit no. 1 & 2 retired on 01.01.20.
	(xvi)	Adequate plantation shall be carried out all along the periphery of the industrial premises in such a way that the density of plantation is atleast 1000 trees per acre of land and a green belt of 15 meters width is developed.	About 13000 trees were planted at KLTPS plant by Work order which was granted for this work to Forest department , Bhuj in year 2009 And KLTPS already paid Rs.51,26,975.00 for this work. 3800 trees were planted from 2018 to 2020.
	(xvii)	The applicant shall have to submit the returns in prescribed form regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act –1977.	Matter is complied regularly.
	(xviii)	In case of change of ownership/management, the name and address of the new owners/partners/directors/proprietors should immediately be intimated to the Board.	Matter will be complied accordingly.
	(ixx)	The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gaseous emission or sewage waste from the proposed industrial plant. The applicant is required to make applications to this Board for this purpose in the prescribed forms under the provisions of the Water Act 1974, the Air Act 1981 and the Environment (Protection) Act – 1986.	KLTPS already having GPCB Consolidated consent & Authorization vide no:94499 dt: 13.07.18 . There is no discharge of effluent outside the plant premises. Entire quantity of waste water is disposed in ash dykes of premises & reuse it in sprinklers to control fugitive emission & reuse in ash slurry making. There is no new gaseous emission point at plant.
2.		For the portion of the pipeline passing through CRZ, a separate clearance under the provision of CRZ Notification, 1991 shall be obtained.	Complied Clearance letter is received from MoEF & CC, GOI, New Delhi vide Notification No: J-16011/17/2002-IA.III

Sr. No.	Environmental Safe Guards	Compliance Status / Remarks
3.	Utilization of land for the project should be restricted to 43 ha which is already in possession of the project authorities. No additional will be acquired for the project.	Complied. The project was constructed on existing plant premises land, no addition land is acquired.
4.	CFBC boilers should have sulphur-trapping efficiency of not less than 95%.	CFBC boiler has sulphur-trapping capacity of about 98%.
5.	A single flue stack of 190 m height with an exit velocity of 18m/sec should be provided with continuous on-line monitoring equipments. The data collected should be analysed and submitted to Ministry of Environment & Forests regularly.	<ul style="list-style-type: none"> ➤ Unit#4 190 mtr stack height was commissioned on 15.12.18. ➤ Continuous On-line monitoring equipments are provided. ➤ Stack emission monitoring report is regularly submitted to MoEF&CC.
6.	Construction of 230 m high stacks for units 1 & 2 should be completed prior to the commissioning of the 4 th Unit.	Construction of Flues of Unit 1 & 2 with height of 230 mtr completed in the year of 2006. However Unit no. 1 & 2 retired on 01.01.20.
7.	Close circuit cooling system with cooling towers should be provided.	Close circuit cooling system is provided.
8.	Water requirement for the entire station (existing + expansion) should be met from the sea. Water drawn from the Kori Creek should be treated and reused. Treated effluents from the discharged into the Kori creek at a location identified by the National Institute of Oceanography, based on modeling studies.	GPCB has issued an amendment in NOC vide letter no: PC/CCA/ Kutch-79/2343 dt: 31.01.2005 to use subsoil water for all four units provided that quantity should not be more than 1600cmt/hr & EC amendment vide letter no: J-13012/6/2000-IA.II(T) dt:20.01.2009 to use subsoil/ brakish water. Entire quantity of waste water is disposed in ash dykes of premises & reuse it in sprinklers to control fugitive emission & reuse in ash slurry making.
9.	Lignite having calorific value of at least 2200 Kcal/Kg, ash content of not more than 40% and sulphur content not exceeding 3.5% should only be used.	lignite having Calorific value around 2321 kCal/kg , Ash content around 27.22% & sulphur around 3.21 % used during Oct-19 to Mar-20.
10.	For controlling fugitive dust during transportation of lignite from Gujarat Mineral Development Corporation (GMDC's) mines, dust extraction and suppression system and wet systems should be used.	Complied. KLTPS regularly sprinkle water in lignite handling area and plant area twice a day by mobile sprinkler. Dry fog system and dust extraction systems are also provided on lignite handling belts. Wind breaking wall is constructed. 10 nos of nozzle water sprinklers provided at KLTPS lignite stock yard to control fugitive dusting.

Sr. No.	Environmental Safe Guards	Compliance Status / Remarks
11.	Ash generated (612 TPD approx.) should be used in a phased manner as per provisions of the notification on Fly ash Utilization issued by the Ministry in September, 1997. By the end of 9 th year full utilization of fly ash should be ensured.	100% use of fly ash by backfilling of abandoned Lignite mines of GMDC. However M/s Sanghi cement lifted-16905.6 MT pond ash from ash dyke from Oct'19 to Mar'20.
12.	High efficiency Electrostatic Precipitator (ESP) with 99.9% efficiency should be installed to limit SPM emission within 100 mg/Nm ³ .	Complied. High efficiency Electrostatic Precipitator (ESP) with 99.99% efficiency was installed since commissioning.
13.	An area not exceeding 23 ha should be used for ash disposal. The mined out areas of GMDC should be used for ash disposal.	Complied. New ash dyke D is developed in GMDC mined out area.
14.	Noise level should be limited to 75 dBA. Regular maintenance of equipments should be undertaken. People working in high noise areas should be provided with ear plugs and other protection devices.	Complied. PPE like ear muff and ear plugs are provided to all employees and 9 noise proof cabins are provided in high noise area for employees.
15.	Recommendations contained in the risk analysis report should be fully implemented. A programme of mock drills should be prepared and conducted regularly to train the employees to handle effectively any eventuality, which may arise. Safety alarm devices should be installed at strategic points including main gate, assembly points, first aid center etc.	Complied. Regular mock drill taken for awareness of employees. Safety alarm device already installed.
16.	A greenbelt of adequate width (20-25 m) and density (1500-2000 trees/ha.) should be developed around the proposed unit. Plantation should also be undertaken along the conveyor belt.	About 13000 trees were planted at KLTPS plant as per work order in the year 2009 & and 3800 trees were planted from 2018 to 2020.
17.	The predicted GLC values near the nearest boundary of Narayan Sarovar Sanctuary based on the post monsoon meteorological data and taking into consideration all the four stacks should be recomputed in consultation with the India Meteorological Department and results communicated to this Ministry at the earliest but within 6 months at the latest.	Complied in past.
18.	Regular monitoring of the air quality should be carried out in and around the power plant and records maintained. The monitoring station should be suitably selected taking into account, the wind direction and sensitive receptors. Periodic (six monthly) report should be submitted to this Ministry.	Regular monitoring of AAQ in and around the power plant is done through the GPCB approved agency and records maintained. Monitoring reports are regularly submitted to GPCB, CPCB & CEA. Six monthly reports for the period Oct'19 to Mar'20 are attached herewith as <u>Annexure A</u> .

Sr. No.	Environmental Safe Guards	Compliance Status / Remarks
19.	For controlling fugitive dust, regular sprinkling of water in vulnerable areas of the plant should be ensured.	Complied. KLTPS regularly sprinkle water in lignite handling area and plant area twice a day by mobile sprinkler. Dry fog system and dust extraction systems are also provided on lignite handling belts. Wind breaking wall is constructed. 10 nos of nozzle water sprinklers provided at KLTPS lignite stock yard to control fugitive dusting.
20.	A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.	Environment cell set up is there and one of the members is qualified Environment engineer.
21.	A half yearly report on the status of implementation of the stipulated conditions and environmental safeguards should be submitted to this Ministry/Regional Office/CPCB/SPCB.	Half yearly compliance report is regularly submitted.
22.	Regional Office of the Ministry of Environment & Forests located at Bhopal will monitor the implementation of the stipulated conditions. Complete set of Environmental Impact assessment Report and Management Plan should be forwarded to the Regional Office for their use during monitoring.	Complied. CE (P&P), CO has submitted the same to MoEF&CC, Bhopal vide CO letter No: PP /PMI /PI.3 /KL.IV /MoEF /1689, Dt: 10/08/2005.
23.	Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. These cost should be included as part of the project cost. The funds earmarked for the environment protection measures should not be diverted for other purposes and year-wise expenditure should be reported to Ministry.	Complied. Expenditure incurred for environment management of KLTPS for the year 2019-20 are Rs.2,46,33,719.00 . However the item wise breakup of expenditure attached here as <u>Annexure-B</u> .
24.	Full cooperation should be extended to the Scientists/Officers from the Ministry/ Regional Office of the Ministry at Bhopal/the CPCB/the SPCB who would be monitoring the compliance of environmental status.	Matter will be fully complied.
25.	The project proponent should advertise at least in two local newspapers widely circulated in the region around the project, one of which should be in the vernacular language of the locality concerned, informing that the project has been accorded environmental clearance and copies of clearance letters are available with the available the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://www.envfor.nic.in .	Matter is complied by HO, GSECL, CE (P&P). Advertisement was published in English language in leading New papers "The Times of India", Ahmedabad Edition, Dt: 21/06/2005 and in Gujarati in local News paper "Kutch Mitra", Bhuj Edition, Dt: 21/06/2005.

**ANNEXURE-A
GSECL-KLTPS**

Ambient air quality monitoring results by Schedule-II Auditor									
Month	Location	Ambient Temperature	RH	Wind Direction	Wind Speed km/Hr	PM2.5 NOx			SO2
		Max/Min (°C)	Max/Min (%)			PM10 (µg/m ³) 100	60 (µg/m ³)	80 (µg/m ³)	80 (µg/m ³)
Oct.19	Nr Security Main gate	31.00	41.3	NE-SW	7.1	53.8	22.6	18.4	22.5
	Nr Unit#4 cooling tower	31.00	41.3	NE-SW	7.1	60.2	25	21.1	23.7
	Nr FO/LDO station	31.00	41.3	NE-SW	7.1	56.2	24.3	17.1	20
	Nr reservoir of plant	31.00	41.3	NE-SW	7.1	61.9	26.8	22	23.4
	Vermanagar colony	28.10	78.5	WSW-ENE	29.1	56.1	22.7	20.4	16.7
Nov'19	Nr Security Main gate	25.6	59.2	W-E	12	56.2	21.8	19	23.2
	Nr Unit#4 cooling tower	25.6	59.2	W-E	12	62	23.2	22.4	24.5
	Nr FO/LDO station	25.6	59.2	W-E	12	54.2	26.9	20.1	23.5
	Nr reservoir of plant	25.6	59.2	W-E	12	62.9	28.7	22.2	24.8
	Vermanagr colony	25.6	59.2	W-E	12	53.1	24.7	15.6	11
Dec.19	Nr Security Main gate	21.90	39.4	N-S	9.2	59.1	26.3	20.2	22.4
	Nr Unit#4 cooling tower	21.90	39.4	N-S	9.2	64.8	28.7	23.9	25.2
	Nr FO/LDO station	21.90	39.4	N-S	9.2	57.4	27.2	22.8	24.7
	Nr reservoir of plant	21.90	39.4	N-S	9.2	60.2	29.5	25.4	27.1
	Vermanagar colony	21.90	39.4	N-S	9.2	63.4	21.7	12.8	14.4
Jan'20	Nr Security Main gate	18.6	48.9	NW-SE	14.3	62.2	27.1	22.4	19.2
	Nr Unit#4 cooling tower	18.6	48.9	NW-SE	14.3	67.1	29.5	26.3	22.7
	Nr FO/LDO station	18.6	48.9	NW-SE	14.3	55.4	25.9	21	23.8
	Nr reservoir of plant	18.6	48.9	NW-SE	14.3	59.5	28.9	24.4	26
	Vermanagr colony	18.6	48.9	NW-SE	14.3	61	19.8	12.9	16.7
Feb'20	Nr Security Main gate	27.00	33.8	W-E	12.9	60.0	25.9	20.8	17.4
	Nr Unit#4 cooling tower	27.00	33.8	W-E	12.9	65.8	27.4	24.9	20.5
	Nr FO/LDO station	27.00	33.8	W-E	12.9	53.8	24.1	22.6	21.2
	Nr reservoir of plant	27.00	33.8	W-E	12.9	61.3	28.5	25.9	23.4
	Vermanagar colony	27.00	33.8	W-E	12.9	63.5	21.4	14.8	18.9
Mar'20	Nr Security Main gate	22.9	42	W-E	18.8	61.7	26.4	21.9	18.5
	Nr Unit#4 cooling tower	22.9	42	W-E	18.8	66.8	28.3	25.2	21
	Nr FO/LDO station	22.9	42	W-E	18.8	54.2	26.1	23.4	21.8
	Nr reservoir of plant	22.9	42	W-E	18.8	60.3	29.9	25.1	23
	Vermanagr colony	22.9	42	W-E	18.8	58.7	18.3	10.9	14.6

Annexure-B

Gujarat State Electricity Corporation Ltd.

Kutch Lignite Thermal Power Station

Details of Recurring Expenditure on Environmental Management (In Rupees)

For the year 2019-20 (From Apr 19 to Mar-20)

Sr. No.	Expenses on	Total Amount Rs.	Remarks, if any
1	Salaries & Wages of staff of Env.Cell	1009618.00	
2	Payment to Contractors for monthly monitoring	204511.00	
3	Fees to Environment Auditors.	351760.00	
4	Consent / Audit / Other Fees to GPCB	100000.00	
5	Payment to GPCB for sampling and analysis	3020.00	
6	Inhouse sampling and analysis	0.00	
7	Payment of Water Cess to GPCB	0.00	
8	Maintenance costs for Ash Handling	11880305.00	
9	Purchase / Maintenance of Equipments for Environment laboratory	0.00	
10	Gardening and Plantation	850000.00	
11	Ashdyke construction, area grading, maintenance of bunds	50000.00	
12	Maintenance of ESPs and spares apart from electric power consumption	6110248.00	
13	Misc. Civil Works for Environment	410000.00	
14	Maintenance of On-line Monitors	1097000.00	
15	Attending of Coal Mill / Pipe leakages and Duct leakages	850000.00	
16	Maintenance of Neutralising Pits / Cost of chemicals used	46182.00	
17	Maintenance cost of water spraying, DSS / DES / control of fugitive dust.	709903.00	
18	Maintenance of SILOs	0.00	
19	Expenses / Maintenance of ETP	25698.00	
20	Expenses / Maintenance of STP	515746.00	
21	Participation in Environment related Seminars / Conferences / Training programmes/ World Environment Day	10000.00	
22	Waste Oil, Resin and Battery management	44350.00	
23	Bio-medical wastes management	131378.00	
	GRAND TOTAL (Recurring) Rs.--	24399719.00	
Note : The costs of power consumption in the ESPs and the salaries and wages of Civil Ashdyke and Ashplant sections and departmentally used manpower and operation costs are not included			
In addition to above, the Capital expenditure done for Environment upgradation is as under			
1	R&M of Ash handling Plant	0.00	
2	Capital expenditure on Dry Fog D.S.S.	234000.00	
3	Shed for Waste oil	0.00	
4	R&M of ESP for Microprocessor controls	0.00	
5	Online Opacity monitors	0.00	
	Total Capital Expenditure	234000.00	