

**KSK MAHANADI POWER
COMPANY LTD. (6 x 600 MW
Coal Based Thermal Power
Plant) at Nariyara –Village,
Janjgir-Champa - District. ,
Chhattisgarh**

**SIX MONTHLY COMPLIANCE REPORT OF
SPECIFIC CONDITIONS Accorded and Extended
Validity of Environment Clearance [Ref. Letter No-
J13012/44/08 -IA.II (T) Dated 19.10.2009 & [E.C Ref.
Letter No- J-13012/44/2008-IA.II(T), Dated 23.09.2015**



FOR PERIOD:

APR. 2017

TO

SEPT. 2017

| S. No. | Condition | Compliance |
|---------------|--|--|
| 1 | Two tri-flue stacks of 275 m height should be provided. | Two nos. of RCC stacks already been provided for all the six units. The height of both the stacks is 275 meters from the ground level. |
| 2 | COC of 5 shall be maintained | Cycle of Concentration 5 has been maintained. |
| 3 | To utilize fly ash generation from power plant, the proponent should explore the possibility of setting up either its own cement plant /grinding unit and/or a brick manufacturing unit of 50,000/1,00,000 bricks/day capacity, and explore other possibilities of utilizing the fly ash in full form the stipulated period. | <p>During the 1st year of operation 55 % of Fly ash has been utilized (against target of 50%)</p> <p>For the 2nd year of operation 86 % of Fly ash has been utilized (against target of 70%). For the 3rd year of operation 70 % of Fly ash has been utilized (against target of 80 %). For the 4th year of operation 82% of fly Ash has been utilized (against target of 100%).</p> <p>Long term action plan is enclosed as Annexure-I</p> |
| 4 | For post project monitoring, the proponent should set up piezometric monitoring station around the ash pond. | <p>4 Nos. of Piezometric wells have been provided around the ash pond area.</p> <p>Images of Piezometers is enclosed as Annexure-II</p> |
| 5 | From 4 th year onwards, the transportation of coal should be through rail only. | Rail line infrastructure has been made for coal transportation from SECL, Korba. 80% of Raw coal is being transported from the SECL, Korba area to plant head & remaining coal is being transported through road mode |
| 6 | The green belt to be provided should be of canopy type with three tiers. | <p>A green belt of 5/6 tiers, in 100 meter width is being developed, along the periphery of the plant boundary.</p> <p>Species selection has been made on the basis of local Climatological factors and soil characteristics.</p> <p>(i.e. Sisam, Peltiform, Satvan, Karanj, Sirius Simarua, Neem, Ganga imili, Pepal, Kadam, Cassia Siamia, Chinour, Arjuna, Mango, Bargad, Jamun, Amla, Gulmohar are being used in rows to maintain canopy type and strata)</p> <p>Till date total 3,22,000 number of saplings have been planted in 240 hectares of project land and further plantation is in progress. Photos of the Greenbelt developed at site is attached as Annexure-III.</p> |
| 7 | An amount of 64 crore as capital and Rs. 10 crore/annum as recurring should be earmarked for the activities to be taken up under CSR by the above proponent. Details of activities to be undertaken in this regard should be submitted. | As on date Rs. 51.2 Crores had been spent for CSR activities, the detail of the work activities under CSR is enclosed as Annexure-IV . Similarly the report has been communicated to MOEF and Regional Office, Bhopal including CECEB, Raipur on regular basis. |

| S. No. | Condition | Compliance |
|--------|---|--|
| 8 | High efficiency of Electrostatic Precipitator (ESP) with spare fields shall be installed to ensure that particulate emission does not exceed 50 mg/Nm ³ . | <p>High efficiency ESP + Hybrid Fabric Filter combination, with 99.7% efficiency had been installed.</p> <p>Note: ESP +FF combination is commissioned for unit#1& 2 (each of 600MW) and emissions are well within 50mg/m³</p> <p>Average Emission of Particulate Matter from operation of Units #1 & 2 is 20 To 30 mg/Nm³. Details of stack emission are presented in Annexure-V.</p> |
| 9 | Space provision shall be kept for retrofitting of FGD system, if required at a later date. | Space provisions have been made for retrofitting of FGD system in Project lay out. |
| 10 | Adequate dust extraction such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided. | <p>Following provisions have been made to control the Fugitive emissions:</p> <ul style="list-style-type: none"> ➤ Pulse Jet type bag filters have been installed at all the Transfer points and on coal conveyor system meant for Coal transport from CHP area to boiler area. ➤ 44 Nos. of Rain guns with Water spraying system has been installed in the Coal yard area. ➤ 172 Nos. Dust Suppression System & 28 Nos. Dry Fog System has been working in different raw material transfer points and handling section to control fugitive emission at CHP area. <p>Fly ash silo top is mounted with 2 Nos. of Bag filters to arrest fugitive dust, similarly</p> <p>Water spraying system has been provided to mitigate fugitive dust from the dust prone area.</p> |
| 11 | A Sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt/plantation. | <p>STP having capacity of 2 x 25m³/Hr., is under operation, for treating Domestic waste water.</p> <p>The treated waste water is being reused for green belt and horticulture purpose.</p> |
| 12 | Rainwater harvesting should be adopted. Central Ground Water Authority/board is consulted for finalization of appropriate rain water harvesting technology within a period of three months from the date of clearance and details shall be furnished. | <ul style="list-style-type: none"> ➤ Rain water harvesting structures have been constructed as per approved plan of CGWB. ➤ Rainwater harvesting pond has been constructed with a capacity of 60 CUM, abandoned bore wells have been converted in to rain water recharge wells and Percolation structures have been constructed in low lying areas <p>Details are enclosed as Annexure-VI</p> |

| S. No. | Condition | Compliance |
|---------------|--|---|
| 13 | Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. | Adequate provision for dust suppression system-water sprinkling arrangement has been incorporated in the project in all dust vulnerable areas including coal storage yard and being operated regularly to minimize fugitive emissions. All safety measures have been adopted to check/minimize any incidents of fire and especially in summer season. Two full-fledged fire tenders are available at site. |
| 14 | Storage facilities for auxiliary liquid fuel such as LDO/HFO/LSHS shall be made in the plant area where risk is minimum to the storage facilities. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place. Sulphur content in the liquid fuel not exceed 0.5% | On Site Disaster Management Plan has been approved by factory Inspector and the same is being implemented during operation of the power plant. |
| 16 | Regular monitoring of ground water in and around ash pond area including heavy metals (Hg,Cr,As,Pb) shall be carried out, records maintained and six monthly reports shall be furnished to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project. | Regular Monitoring of ground water in and around ash dyke areas is being done to have check the heavy metals into the ground water. |
| 17 | A greenbelt of adequate width and density shall be developed around the plant periphery covering 1/3 rd of the project area with local species. | A green belt of 5/6 tiers, in 100 meter width is being developed, along the periphery of the plant boundary. Species selection has been made on the basis of local Climatological factors and soil characteristics. (i.e. Sisam, Peltraforms, Satvan, Karanj, Siris Simarua, Neem, Ganga emali, Pipal, Kadam, Cassia siamia, Chinour, Kahua, Mango, Bargad, Jamun, Amla, Gulmohar are being used in rows to maintain canopy type strata) Till date total 3,22000 no's of saplings have been planted in 240 hectares of project land and further plantation is in progress. Photos of the Greenbelt developed at site is attached as Annexure-III . |
| 18 | First Aid and sanitation arrangements shall be made available for the drivers and other contract workers during construction phase. | Adequate arrangement for first aid, sanitation and safe drinking water has been provided for all drivers and contractor workers during construction activities. |

| S. No. | Condition | Compliance |
|--------|--|--|
| 19 | <p>Regular monitoring of ground level concentration of SO₂, NO_x, Hg, SPM and RSPM shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately.</p> <p>The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.</p> | <p>Regular ambient air quality monitoring of ground level concentration of SO₂, NO_x, CO, PM10 and PM2.5 is being carried out in the impact zone and the details are being submitted on monthly basis to CECB, Chhattisgarh. The values are well within the prescribed limits</p> |
| 20 | <p>The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality /office of Municipal Corporation/Gram Panchayat concerned and on the company's web site within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in.</p> | <p>The Public Notice of Environmental Clearance has been published in two local newspapers namely- The Haribhumi and Danik Bhaskar on 23.10.09 which are widely circulated in the region.</p> <p>Enclosed as Annexure -VII</p> <p>Complied</p> |
| 21 | <p>A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, ZilaParisad / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.</p> | <p>Complied</p> <p>Environmental Clearance letter has been placed in the website of the company.</p> |
| 22 | <p>The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitoring data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.</p> | <p>Status of compliance of EC conditions has been uploaded as stipulated and is being updated regularly on Six monthly basis.</p> |

| S. No. | Condition | Compliance |
|---------------|--|--|
| 23 | The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well by e-mail) to the respective Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. | Half yearly report for the period of Dec 2016 to May 2017 has been submitted vide Letter No. MoEF&CC/NPUR/CVKP/2500108/1900 Dt: 23.06.2017. Enclosed as Annexure-VIII |
| 24 | The environment statement for each financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MOEF by e-mail. | Environment Statement for the Financial year 2016-17 submitted vide letter no.-CECB,BILAS/SKGT/2500108/1792 Dtd.16.06.2017 Enclosed as Annexure-VIII (A) |
| 25 | A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards. | An Environment Management cell has been setup, headed by Sr. General Manager. |
| 26 | Regional Office of the Ministry of Environment & Forests located at Bhopal will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report, Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. | A complete set of documents has been submitted to Regional Office of the Ministry vide Ref: MOE&F, BHPL/AGRY/1160201/1147 Dated 09.12.2009. |
| 27 | Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry. | As submitted in the EIA report separate amount of Rs. 1246 Cr. has been provided for pollution control, treatment and monitoring systems. |
| 28 | The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and | <ul style="list-style-type: none"> • Date of financial closure: Feb, 2010. • Date of start of land development work Nov, 2009. • Unit No.-1 (1 x 600 MW) is under operation since Sep 2013 |

| S. No. | Condition | Compliance |
|--------|---|--|
| | commissioning of plant. | <ul style="list-style-type: none"> • Unit No.-2 (1 x 600 MW) is under operation since Sep 2014 • Work is in progress on fast track basis for other remaining units. |
| 29 | Full cooperation shall be extended to the Scientists/Officers from the Ministry/Regional Office of the Ministry at Bangalore/the CPCB/the SPCB who would be monitoring the compliance of Environmental status. | Shall be complied as per the requirements of CPCB and CECB Raipur, Chhattisgarh. |
| 30 | The total project area shall comprise of 828.46 Ha as stipulated while issuing the EC | Complied |
| 31 | An amount of Rs 64 crores as capital and Rs 1.83 Crores /annum (or the amount as per the CSR policy of GOI whichever is higher) as recurring costs should be earmarked for CSR activities to be undertaken in this regard shall be submitted. | As on date Rs.51.2 Crores has been spent for CSR activities, the detail of the work activities under CSR is enclosed as Annexure-IV . Similarly the report has been communicated to MOEF and Regional Office, Bhopal including CECB, Raipur on regular basis. |
| 32 | Continuous online monitoring system for stack emissions, ambient air quality and effluent discharge for various relevant parameters shall be put in place at the earliest, if already done and compliance to be reported to this ministry including its RO | <p>Continuous online monitoring system for stack emissions is already installed & working w.r.t operation of Unit No 1 & 2.</p> <p>On line monitoring data is already showing at main gate display board and website-portal of KMPCL.</p> <p>4 CAAQMS have been installed</p> <p>Continuous Effluent Monitoring systems have been installed. Photos attached as Annexure-IX</p> |
| 33 | Harnessing solar power within the premises shall be carried out and the status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report. | Options of Harnessing of Solar power at available roof tops within the premises of is being explored out and details will be submitted shortly |
| 34 | A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through reputed institute and results thereof analyzed every two year and reported along with monitoring reports. Therefore mechanism for an in built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place. | <p>Long term study of radio will be carried out through reputed institute. However, the following measures have been taken to minimiz the leaching if any in coal yard and ash storage systems</p> <ol style="list-style-type: none"> 1. 300mm CC Flooring has been done in Coal yard area. 2. Construction of garland drain, all along the Coal yard, from where waste water is collected and after treatment in ETP, the water is being reused for dust suppression |

| S. No. | Condition | Compliance |
|--------|---|---|
| | | <p>Following measures has been implemented for Ash Dyke area, to check the leaching of Heavy metals into the ground water table :</p> <ol style="list-style-type: none"> 1. Both Bottom & Fly ash Dykes has been floored with 0.75Micron LDPE. 2. Four No's of Pizzo metric Wells have been constructed, along the periphery of ash Dykes, for regular monitoring of Qty & Quality of ground water to assess the contamination or leaching of heavy metals from ash dyke area |
| 35 | Mercury emissions from stack shall be monitored on periodic basis. | Stack Emissions monitoring is being done monthly intervals for SO ₂ , NO _x , CO & Particulate matter. Mercury and other heavy metals and reports submitting to SPCB |
| 36 | Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land. | <p>Following provisions have been made to control the Fugitive emissions:</p> <ul style="list-style-type: none"> ➤ Pulse Jet type bag filters have been installed at all the Transfer points meant for Coal transport from CHP area to boiler area. ➤ 44 Nos. of Rain guns with Water spraying system has been installed in the Coal yard area. ➤ 172 Nos. Dust Suppression System & 28 Nos. Dry Fog System has been working at different raw material transfer points and handling section to control fugitive emission in CHP area. <p>Fly ash silo top is mounted with 2 Nos. of Bag filters to arrest fugitive dust, similarly</p> <p>Water spraying system has been provided to mitigate fugitive dust from the dust prone area.</p> <p>Apart from that a thick green belt is already developed around plant boundary to arrest fugitive emission from non-point sources.</p> |
| 37 | No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up/operation of the power plant. | Adequate measures had been implemented to take care of natural drainage system. |
| 38 | Fly ash shall not be used for agricultural purpose. No Mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such as that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, | Complied |

| S. No. | Condition | Compliance |
|---------------|---|--|
| | prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the state pollution control board. | |
| 39 | Details of 100% Fly ash utilization plan as per latest Fly ash Notification of GOI along with firm agreements/ MOU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method/ mechanism of bottom ash. | <p>During the 1st year of operation 55 % of Fly ash has been utilized (against target of 50%)</p> <p>For the 2nd year of operation 86 % of Fly ash has been utilized (against target of 70%). For the 3rd year of operation 70 % of Fly ash has been utilized (against target of 80 %). For the 4th year of operation 82% of fly Ash has been utilized (against target of 100%).</p> <p>Long term action plan is enclosed as Annexure-I</p> |
| 40 | Green belt shall also be developed around the ash pond and above the green belt around the plant boundary. | <p>For green belt, more than 30000 saplings have been planted all around the ash dyke area, covering area of approx. 25 Ha.</p> <p>A green belt of 5/6 tiers, in 100 mtr width is being developed, along with the periphery of the plant boundary.</p> <p>Species selection has been made on the basis of local Climatological factors and soil characteristics.</p> <p>(i.e. Sisam, Peltiform, Satvan, Karanj, Siras, Simarua, Neem, Ganga emili, Pepal, Kadam, KesiaSamia, Chinour, Arjuna, Mango, Bargad, Jamun, Amla, Gulmohar are being used in rows to maintain canopy type and strata)</p> <p>Till date total 3,22,000 number of saplings have been planted in 240 hectares of project land and further plantation is in progress.</p> <p>Photos of the Greenbelt developed at site is attached as Annexure-III</p> |

| S. No. | Condition | Compliance |
|---------------|---|--|
| 41 | An environment Cell comprising of at least one expert in environment science/Engg. Ecology, occupational health and social science, shall be created preferably at project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the head of the cell shall directly report to the Head of the plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures. | Environment Cell is already established which includes Environment Engineer, Environmental scientist, Ecologist, Horticulturist and socio science experts from inception of project operations. Environmental cell head is directly reporting to plant. EMD cell basic responsibility is to implement environmental compliance conditions of MOEFCC and CFE and CFO and also implement environmental measures. |
| 42 | CSR schemes identified based on public hearing issues and need based assessment shall be implemented in consultation with the village panchayat and the district administration starting for the development of project itself. AS part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programs. | CSR schemes already identified based on public hearing issues and need based assessment & implemented in consultation with the 4 village panchayat and the district administration. Also Company already provided separate budget for community development activities. |
| 43 | For proper and periodic monitoring of CSR activities, a CSR Committee or a social audit committee or suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final | Regular monitoring of CSR activities is being done by Plant authorities and also appraised to District administration. |
| 44 | The project proponent shall formulate a well laid corporate environment policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations. | Corporate Environmental policy will be finalized as per laws and regulations. At present the environmental affairs has been evaluated by the environmental cell headed by Environmental Officer. |
| 45 | All other conditions in this Ministry's letter of even no. dated 19.10.2009 and amendment dated 24.01.2012 shall remain the same. | Agreed & complied. |

ANNEXURE - I

Action Plan for FLY ASH UTILIZATION in KSK Mahanadi Power Company Limited., Nariyara, CG

(in million Tones)

| S. No | Item Description | Sept 2015 – Aug 2016 | Sept 2016 – Aug 2017 | Sept 2017 – Aug 2018 |
|-------|---|----------------------|----------------------|----------------------|
| 1 | <i>Expected Total generation of fly ash in million tonnes per annum</i> | 1.50 | 2.00 | 2.50 |
| a | Use in Stowing and filling up of abandoned coal and other mineral mines | 0.10 | 0.30 | 0.50 |
| b | Use in Filling up of abandoned stone quarry mines | 0.05 | 0.10 | 0.15 |
| c | Use in fly ash in brick manufacturing | 0.05 | 0.05 | 0.05 |
| d | Road development in surrounding areas | 0.10 | 0.10 | 0.10 |
| e | Use in Cement manufacturing | 1.10 | 1.55 | 1.80 |
| 2 | <i>Expected Total Fly Ash Utilization</i> | 1.40 | 2.00 | 2.50 |
| 3 | <i>Expected Fly Ash Utilization (%)</i> | 93.3 | 100.0 | 100.0 |

ANNEXURE - II

PIZZOMETER BOREWELLS AT KSK-MPCL

PZ-1



PZ-2



PZ-3



PZ-4



ANNEXURE - III

GREEN BELT DEVELOPMENT IN M/S KMPCL







ANNEXURE - IV

KSK Mahanadi Power Company Limited

Corporate Social Responsibility – Expenditure from Apr to Sept. 2017

| Si | Focus Area | Till March 2017 | April to September 2017 | Grand Total |
|----|----------------------------------|-----------------------|-------------------------|-----------------------|
| a1 | Education | 30782639.0 | 93725.0 | 30876364.0 |
| a2 | Health Care | 260468776.0 | 2470344.0 | 262939120.0 |
| a3 | Sustainable Development | 21679618.0 | 914798.0 | 22594416.0 |
| a4 | Infrastructure Development | 148272734.0 | 1837442.0 | 150110176.0 |
| a5 | Cultural & Community Support | 17738160.0 | 589687.0 | 18327847.0 |
| a6 | Rehabilitation & Resettlement | 6066550.0 | 0.0 | 6066550.0 |
| a7 | Miscellaneous expenses | 101910.0 | 0.0 | 101910.0 |
| | Sub Total - (a) | 48,51,10,387.0 | 59,05,996.0 | 49,10,16,383.0 |
| b | Cost of Ambulance - (b) | 512710.0 | 0.0 | 512710.0 |
| c | Total - (c) = (a+b) | 48,56,23,097.0 | 59,05,996.0 | 49,15,29,093.0 |
| d | Corporate Donations - (d) | 21000000.0 | 0.0 | 21000000.0 |
| | Grand Total | 50,66,23,097.0 | 59,05,996.0 | 51,25,29,093.0 |

ANNEXURE - V

Annexure V

| Particulate Matter Emissions | | |
|-------------------------------------|---|---|
| Month | Unit # 1 (600 MW) | Unit # 2 (600 MW) |
| | Particulate Matter (mg/Nm³) | Particulate Matter (mg/Nm³) |
| April-17 | 29.7 | 32.4 |
| May-17 | 27.2 | 30.1 |
| June-17 | 29.5 | 31.6 |
| July-17 | 38.6 | 33.4 |
| Aug-17 | 30.2 | 31.1 |
| Sept-17 | 34.1 | 37.2 |
| Average | 31.55 | 32.6 |

ANNEXURE - VI

Images of rain water harvesting measures implemented during project stage:



Figure 1- Recharge Well No 1



Figure 2 Recharge Well No 2



Figure 3 Recharge Well No-3



Figure 4 Recharge Well No-4

Storm water collection well for recharge the ground



Run Off Collection Tank



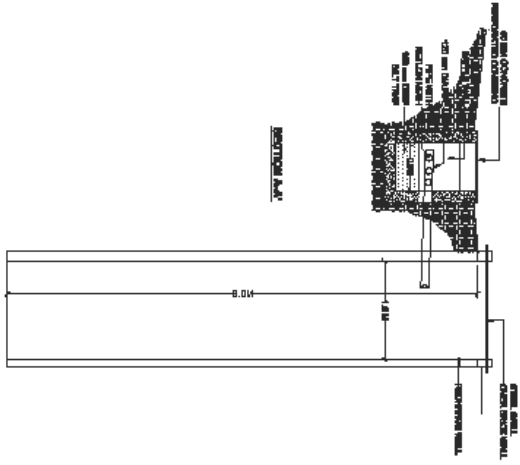
Largest RWH Structure-
Reservoir-3



Image of Project Site- At Present (Source : Google Earth)



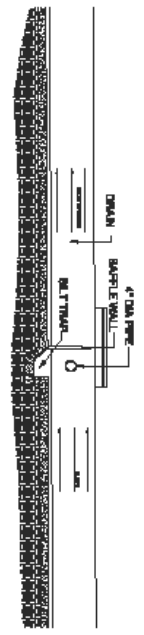
PROPOSED RWH STRUCTURES DURING OPERATION PHASE:



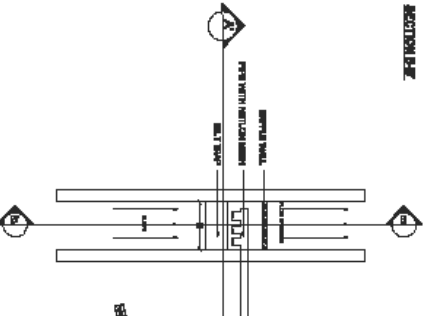
TYPICAL SECTION OF THE STORM WATER DRAIN



TYPICAL SECTION OF THE STORM WATER DRAIN



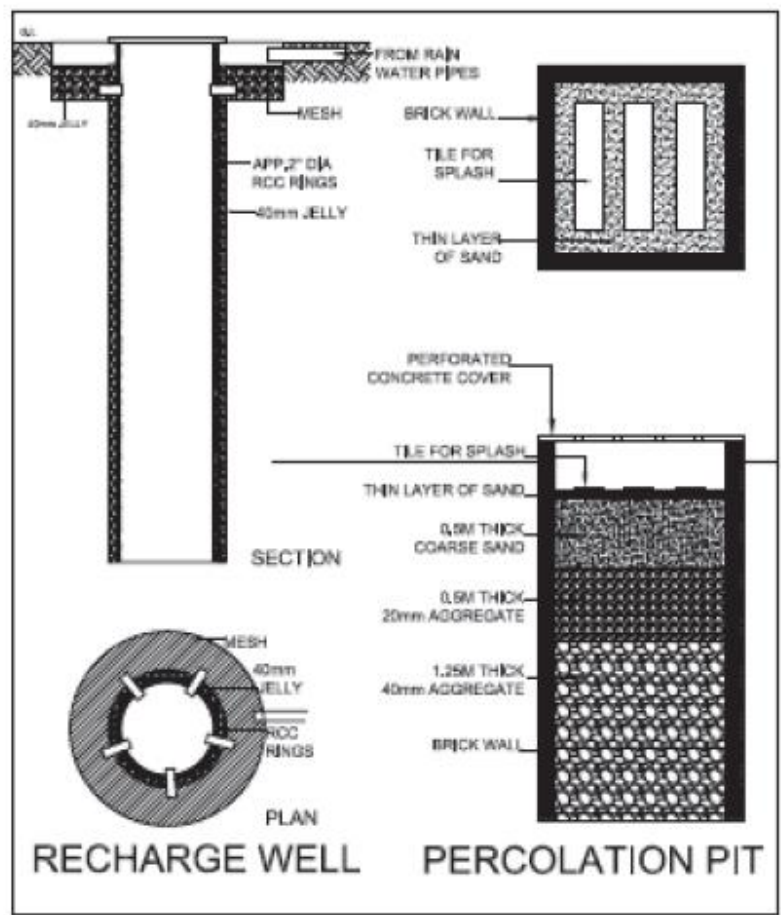
SECTION B-B



PLAN

- NOTE
1. TO RETAIN AND CONSERVE ALL TREES ON SITE.
 2. ALL MEASUREMENT IN METER.
 3. ALL LEVEL AT FINISH FLOOR LEVEL UNLESS OTHERWISE MENTIONED.
 4. ANY DISCREPANCIES SHOULD BROUGHT TO THE ATTENTION OF THE AEPL.

| | | | |
|--|------------|---|-------|
| <p>JSC (100%) PUNJ LLOYD PAPER COMPANY LIMITED 100% PUNJ LLOYD PAPER COMPANY LIMITED 100% PUNJ LLOYD PAPER COMPANY LIMITED</p> | | <p>DENDELORIENT CONSULTANTS PVT. LTD. CONSULTANTS ENGINEERS 100% DENDELORIENT CONSULTANTS PVT. LTD. 100% DENDELORIENT CONSULTANTS PVT. LTD.</p> | |
| <p>JSC (100%) PUNJ LLOYD PAPER COMPANY LIMITED 100% PUNJ LLOYD PAPER COMPANY LIMITED 100% PUNJ LLOYD PAPER COMPANY LIMITED</p> | | <p>DENDELORIENT CONSULTANTS PVT. LTD. CONSULTANTS ENGINEERS 100% DENDELORIENT CONSULTANTS PVT. LTD. 100% DENDELORIENT CONSULTANTS PVT. LTD.</p> | |
| PROJECT NO. | DATE | SCALE | BY |
| 100 | 10/10/2024 | 1:1 | AEPL |
| DESIGNED BY | CHECKED BY | DATE | SCALE |
| AEPL | AEPL | 10/10/2024 | 1:1 |
| PROJECT NO. | DATE | SCALE | BY |
| 100 | 10/10/2024 | 1:1 | AEPL |



The recharge well and a percolation pit

Annual Runoff Calculations:

| Annual Run off Calculations | | | | |
|-----------------------------|----------------|----------------|-------------------------|--------------------------------|
| Catchment | Area (Sq.Mtrs) | Run-Off Coeff. | Av. Annual Rainfall(mm) | Total Run off pers annum (KL) |
| Total Road area | 131753 | 0.9 | 1157 | 137194.3989 |
| Other Open area | 1948247 | 0.6 | 1157 | 1352473.067 |
| Total Site area | 2080000 | | | 1489667.466 |

RECHARGE WELL CALCULATIONS

Volume of one recharge well:

Description Qty units
Diameter 1.5 m
Radius 0.75 m
Depth 6 m
Volume 10.59 cubic meters

Total of 147 recharge wells with a combined volume of 1579.027 cubic meters Over and above this, we can assume a 30% recharge rate.

This means that even while the well is filling up with rainwater, at the same time recharge is happening. Therefore the effective capacity will be 30% more

Effective recharge capacity- 2052.735 cubic meters

ANNEXURE - VII

ANNEXURE - VIII

Courier Details for Letter Dispatch

Annexure-VIII

KSK Group

COMPLETE OUTWARD REPORT FROM 23-Jun-2017 TO 23-Jun-2017



| Sl.No | Outward No / Date of Dispatch | Mode of Dispatch | Letter & Envelope Addressed To Person / Company / Place | Subject | Nature of Doc. | No of Pages | File Ref No | Proof of Delivery Status | |
|-----------------------------|---|------------------|--|---|----------------|-------------|-------------------------------------|-----------------------------|------------------------------------|
| | | | | | | | | Name of Courier / Docket No | Ack Date / Recv By |
| Sender : SANJAY KUMAR GUPTA | | | | | | | | | |
| 1 | MOEF&CC,NPUR/CVKP/2500108/1900 23-Jun-17 | Courier | THE ADDL.PRINCIPAL CHIEF CONSERVATORY OF FOREST / MINISTRY OF ENVIRONMENT & FORESTS CLIMATE CHANGE / NAGPUR | SUBMISSION OF SIX-MONTHLY ENVIRONMENTAL COMPLIANCE REPORT FROM DEC-16 TO MAY-17 | OTHER RE | 46 | KSKMPC/ENVRMT/MOEF BCC/1500108/2372 | FIRST FLIGHT / P991B0689967 | 27-Jun-17 CO. SEAL / SIGN |
| 2 | CECB,BILAS/CVKP/2500108/1901 23-Jun-17 | By Hand | THE REGEIONAL OFFICER / CHHATTISGARH ENVIRONMENT CONSERVATION BOARD / BILASPUR | SUBMISSION OF SIX-MONTHLY ENVIRONMENTAL COMPLIANCE REPORT FROM DEC-16 TO MAY-17 | OTHER RE | 46 | KSKMPC/ENVRMT/CECB /1500108/2364 | N/A | 24-Jun-17 THE REGEIONAL OFFICER |
| 3 | CECB,RPUR/CVKP/2500108/1902 23-Jun-17 | Courier | THE MEMBER SECRETARY / CHHATTISGARH ENVIRONMENT CONSERVATION BOARD / RAIPUR ABHIJIT CHAKRABORTY / KSK MAHANADI POWER COMPANY LTD / RAIPUR | SUBMISSION OF SIX-MONTHLY ENVIRONMENTAL COMPLIANCE REPORT FROM DEC-16 TO MAY-17 | OTHER RE | 46 | KSKMPC/ENVRMT/CECB /1500108/2364 | FIRST FLIGHT / P991B0689968 | 26-Jun-17 SIGN |

ANNEXURE – VIII (A)

Works

Near Nariyara Village,
Akaltara Tehsil,
Janjgir - Champa District,
Chhattisgarh
Tel (Site): 07817-284001

Registered Office

8-2-293/82/A/431/A,
Road No. 22, Jubilee Hills,
Hyderabad - 500033.
Tel: +91-40-23559922-25,
Fax: +91-40-23559930

Date: 16.06.2017

Ref: CECB, RPUR/SKGT/2500108/1794

To
The Member Secretary,
Chhattisgarh Environment Conservation Board,
Kabir Nagar Colony, Raipur, Chhattisgarh.

Sub: - Submission of Environment Statement in Form-V for FY 2016-17-Reg.

Ref: -i) Consent for Operation No. - 763/TS/CECB/2015 Dt. 22.05.2015


ii) Environmental Clearance No. (Amendment & Extended of Validity)-
J13012/44/2008-IA.II(T) Dt.23.09.2015 & J-13012/44/2008-IA.II(T), Dt.19.10.2009

Sir,

This has reference to the captioned subject and cited reference above, we are enclosing herewith the "**Environment Statement**" in '**Form-V**' for the financial year 2016-17 of our Unit-1 & 2 (2 x 600MW)

Submitted for your kind Perusal and records.

Thanking You,
Yours faithfully,
For KSK Mahanadi Power company Limited

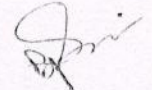


(Authorized Signatory)



Copy to: The Regional Officer, Chhattisgarh Environment Conservation Board, Bilaspur
Chhattisgarh.

Encl: Environmental Statement in Form-V- FY 2016-17



ANNEXURE - IX

ANNEXURE-IX

CEMS –I Installed at KSK- MPCL



CEMS –II Installed at KSK- MPCL



C-EQMS Installed at KSK – MPCL Site :



CAAQMS INSTALLED AT KSK-MPCL





**Installed
at Camp
Office**



**Installed
at Sub
Station**



**Installed
back side
to switch
yard**