

No: KPCL/CE(O&M)YCCPP/ 584

Date: 08.06.2020  
07

RPAD

To,  
Chief Environmental Officer-2  
Karnataka State Pollution Control Board  
Parisara Bhavana, 2<sup>nd</sup> floor  
No.49, Church Street,  
Bengaluru-56001

Sir,

**Sub:** Half yearly status report on the conditions stipulated in the environmental clearance of 1x370MW Yelahanka Combined Cycle Power Plant (YCCPP) by KSPCB – Reg.

**Ref:** Environmental clearance issued by SEIAA vide No: SEIAA 20IND 2014 Dtd 01/09/2015.

\*\*\*\*

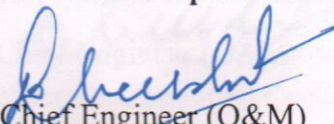
With reference to the above subject and as per the environmental clearance issued by the State Level Environment Impact Assessment Authority – (SEIAA), Karnataka for 1X370 MW Yelahanka Combined Cycle Power Project, the status report on compliances for the conditions stipulated in EC in respect of said Project for a period from October-2019 To March-2020 is furnished as follows:

1. The progress report of the project indicating present status of the construction of the project is enclosed herewith.
2. The compliances report along with connected documents in respect of those conditions relating to environmental aspects pertaining to the said project including only those applicable during construction stages are furnished in Annexure -1.
3. KPCL, being Government of Karnataka undertaking is putting best possible efforts to comply with all the conditions stipulated in EC and also highly committed to meet the environmental norms laid down by the SEIAA during construction as well as operation of the plant.

This is for your kind information

Thanking you,

For Karnataka Power Corporation Limited

  
Chief Engineer (O&M)

1x 370MW Yelahanka Combined Cycle Power Plant  
Bengaluru-560064.

Encl: A/a

Cc: SE(M)Y – For information.

✓ EE(E,P&S) – For information.

PCTP – For information.

**COMPLIANCE PERIOD: OCTOBER-2019 TO MARCH-2020**  
**ANNEXURE-1**

**PART –A -----SPECIFIC CONDITIONS**

Sl.No.	CONDITIONS	REPLIES/COMPLIANCES
1.	A stack of 45 M height shall be provided with continuous online monitoring equipments for SO <sub>x</sub> , NO <sub>x</sub> and RSPM.	<p>A stack height of 60M has been erected and online monitoring equipments for SO<sub>x</sub>, NO<sub>x</sub> and RSPM will be installed before putting the plant into operation.</p> <p>The height of stack has been increased to 60 M from 45 M as safeguard measure with surrounding environment. The details were submitted vide our earlier report No:KPCL/CE(GSW)/1848 dtd 17/01/2019.</p>
2.	Auxiliary Cooling Water System (ACW) shall be provided. The effluents shall be treated as per the prescribed norms.	<p>Auxiliary Cooling Water System (ACW) have been installed for cooling primary cooling system of all systems.</p> <p>The effluents are proposed to be treated through Zero Liquid Discharge Plant comprising of main components like HRSCC (High Rate Solid Contract Clarifier), HRO Plant (High Recovery osmosis Plant) and Evaporator crystallizer and sludge generated is proposed to be disposed through TSDF Facility.</p>

3.	The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant.	<p>It is proposed to implement Zero Liquid Discharge Plant (ZLD) wherein effluents treated to prescribed standards is recycled and reused within the plant. LOA was placed on M/s Arvind Envisol Ltd, Ahmedabad Gujarat for implementation of dedicated ZLD Plant on EPC basis at an approximate cost of Rs 70 Crores.</p> <p>The Consent For Establishment (CFE) for installation of ZLD Plant was issued by KSPCB.</p> <p>The construction works of ZLD Plant are under progress.</p>
4.	Rain water harvesting should be adopted. Central Groundwater authority / Board shall be consulted for finalisation of appropriate rain water harvesting technology within a period of three months from the date of clearance and details shall be furnished.	The work of design, engineering on rain water harvesting system at site has been completed. The award of the work to the agency for implementation of Rain Water Harvest System at the plant is in progress. Details were submitted vide our earlier report No: KPCL/CE(GSW)/1848 dtd 17/01/2019.
5.	Adequate safety measures shall be provided in the plant area to check / minimize spontaneous fires. Copy of these measures with full details along with location plant layout shall be submitted to the SEIAA.	The details of the firefighting measures provided in the site were furnished vide our earlier report dtd. 08/12/2018. Fire hydrant system as per TAC/LPA and IS standards at plant site has been installed and Fire extinguishers are being provided as per TAC/LPA norms & IS standards. The plant layout showing installed hydrant system has been furnished vide our earlier report No.

		KPCL/CE(GSW)/1848 dtd: 17.01.2019
6.	Storage facilities for the fuel shall be made in the plant area in consultation with Department of Explosives, Nagpur. Disaster management plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of fuel.	Not applicable.
7.	Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers.	No open well are existing in the plant premises.
8.	Green belt consisting of 3 tiers of plantations of native species around plant and at least 100 m width shall be raised. Wherever 100 m width is not feasible a 50 m width shall be raised and adequate justification shall be submitted. Tree density shall not be less than 2500 per ha with survival rate not less than 70%. Heavy foliage indigenous tree species such as Mahagoni, Honge, Neem, Akashmallige, Kadamba, Ficus, Ashoka, etc shall be planted. The plantation area shall not be less than 33 % of the total project area.	<p>In the first phase, the plantation of 1000 No's trees in the plant has been completed at an approximate cost of Rs.12 Lakhs.</p> <p>In the second phase ,the work order for plantation of 1000 No's trees has been placed for covering 2 more Acre in other areas of the plant at an approximate cost of Rs.11 Lakhs and the agency has started the plantation works.</p> <p>The plantation covering six (6) acres of land in total will be completed in both phases.</p> <p>The plantation will be taken up in a phased manner within plant premises so as to cover the 33% of project area.</p>
9.	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Required sanitation facilities for workers within the plant as well as in the labour colony have been provided for labours.



10.	Noise level emanating from turbine shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplug/ear muff etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy /less noisy areas.	<p>Gas Turbine and auxiliaries' are housed in Acoustic Enclosure as Noise attenuation measure so that noise levels in the work zones will be controlled within the prescribed limits.</p> <p>The real time noise levels during actual running of other heavy equipments like air compressors, BFP will give the correct picture on noise generation with respect to prescribed limits so that decision on providing the Acoustic enclosures to these equipments can be taken.</p> <p>The required PPE will be issued to working personnel in these areas periodically.</p>
11.	Regular monitoring of ground level concentration of SO <sub>2</sub> , NO <sub>x</sub> , RSPM(PM <sub>10</sub> &PM <sub>2.5</sub> ) and Hg 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. The location of the monitoring station and frequency of monitoring shall be decided in consultation with KSPCB. Periodic reports shall be submitted to the Regional Office of MOEF. The data shall also be put on the website of the company.	<p>Power Plant is still under construction stage. The air and bore well water quality is being monitored regularly. Regular monitoring reports will be submitted after commissioning of the power plant.</p> <p>Earlier period test reports on ambient air &amp; Bore well water were submitted vide our earlier report No: KPCL/CE(GSW)/2052 Dt: 16.01.2020</p> <p>The latest reports of ambient air and bore well water quality for the period October – 2019 to March - 2020 are enclosed.</p>
12.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinker water, medical health care, crèche etc. The housing may be in the form of	Labours colony has been established with all necessary amenities.

	temporary structures to be removed after the completion of the project.	
13	The proponent shall upload the status of compliance of the stipulated EC condition, including result of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF at Bangalore /KSPCB/CPCB/the Department of Ecology & environment, government of Karnataka, Bangalore and Regional Director (environment), Department of Ecology and Environment, Government of Karnataka. The criteria pollutant level namely, RSPM, SO <sub>2</sub> , NO <sub>x</sub> (ambient level as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.	Action will be initiated to upload the status of compliance of the stipulated EC conditions on company website periodically. The reports are being submitted to said offices periodically.  The display of ambient level RSPM SO <sub>2</sub> NO <sub>x</sub> as well as stack emissions near the main Gate will be done once the plant put into operation.
14	The project proponent shall also submit half yearly report on the status of compliance of the stipulated EC conditions including result of monitored data (both in hard copies as well as e-mail) to the respective Regional Office of MoEF at Bangalore /KSPCB/CPCB/the Department of Ecology & Environment, Government of Karnataka, Bangalore and Regional Director (Environment), Department of Ecology and Environment, Government of Karnataka, Belgaum.	The half year reports of status compliances are being submitted to the respective offices.
15	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rule, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliances of EC conditions and shall also be sent to the respective Regional Offices of the Ministry	Power Plant is still under construction stage. This condition will be complied with during operation of plant/after commissioning of the plant.

	by e-mail.	
16	Project proponent shall up-load the compliance status in their website and up-date the same from time to time at least six monthly basis criteria pollutant level including NOx (from stack & ambient air) shall be displayed at the main gate of the power plant.	Action will be initiated to upload the status of ambient level RSPM, SO2, NOX as well as stack emissions in the company website for every six months once the plant put into operation.
17	The project proponent shall submit half yearly report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forest, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliances of the environment of the environmental clearance condition on their website and update the same periodically and simultaneously send the same by e-mail to the Regional office, Ministry of Environment and Forest.	The half yearly reports of status implementations of the stipulated environmental safeguards such as rainwater harvesting, Zero Liquid Discharge Plant (ZLD), Green belt development are being submitted to Ministry of Environment and Forest, its Regional Office, Central Pollution Control Board and State Pollution Control Board. Action will be initiated to upload the same on company website periodically.
18	Separate funds shall be allocated for implementation of environmental protection measured 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 purpose and year wise expenditure should be reported to the ministry.	Separate Funds are being allocated exclusively for implementation of environment protection measures such as afforestation, rain water harvesting, Construction of STP in the yearly capital budget of the project under the head of Civil works.
19	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and financial approval of the project by the concerned authorities and the dates of start of land development works and commissioning of plant.	The information pertains to progress report of the project are being furnished to regional offices of Ministry periodically along with the half yearly reports of status implementation of the stipulated environmental measures.

20	Full cooperation shall be extended to the Scientists/Officers from the Ministry/Regional Office of the Ministry at Bangalore/CPCB/KSPCB who would be monitoring the compliance of environmental status.	This is being complied with.
21	The Project authorities shall commence the construction activity only after obtaining required approval from the competent authority for supply of water for the project.	BWSSB has allocated utilization of 15MLD Tertiary treated water from Jakkur STP for the project on 02/02/2015. The works of supply of water to the project have been completed. The BWSSP Tertiary treated water plant at Jakkur is already supplying water to the plant.  The document pertaining to above work were submitted vide our earlier report No:KPCL/CE(GSW)/1504 dtd 23/10/2018.
22	The project Authorities should conduct regular health check-up of the people living in the villages within a radius of 10KM from the industry.	Not applicable/ will be carried out whenever required.
23	No additional land shall be used/ acquired for any activity of the project without obtaining proper permission.	Not applicable.
24	For controlling fugitive natural dust, regular sprinkling of water and wind shields at appropriate distances in vulnerable areas of the plant shall be ensured. Necessary arrangement shall be made to adequate safety and ventilation arrangement in turbine and Generator area.	The dust suppression is being done regularly by way of sprinkling water during construction of the project and will be continued during of operation of the plant.
25	Occupational health surveillance of the workers shall be done on a regular basis and record maintained as per Factories Act.	EPC contractor M/S BHEL has established Occupational Health Centre. Records are maintained as per factories Act. The records were



		<p>submitted vide our earlier report No: KPCL/CE(GSW)/1848 dtd: 17/01/2019.</p> <p>KPCL also has established Occupational Health Centre at the plant premises as per the Factory Act. The records are being maintained as per the Factory Act.</p>
26	<p>Adequate safety measures shall be provided to limit the risk Zone within the plant boundary, in case of an accident. Leak detection devices shall also be installed at strategic places for early detection and warning.</p>	<p>Adequate safety measures in case of fire such as Co<sub>2</sub> based fire protection system for Gas Turbine, Heat rise detectors mounted inside enclosures and smoke detectors and microprocessor based addressable control panel for fire protection system have been installed at strategic places within the plant.</p>

## PART-B. GENERAL CONDITIONS:

1	A separate Environment Management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	Separate Environment Management Cell headed by Chief Engineer of the project comprising engineers of different discipline such as Civil, Chemical, Mechanical and Instrumentation with supporting staff has been set up for implementation of the stipulated environmental safeguards. The official Memo issued in this regard is enclosed herewith.  The minutes of Meeting of Environment Management Cell of the Plant held on 16.01.2020 is enclosed herewith.
2	The project authorities shall strictly adhere to the stipulations made by the Karnataka State Pollution Control Board (KSPCB).	The stipulations made by KSPCB in their CFE are being complied strictly and report on the same has been submitted vide our earlier report No: KPCL/CE(GSW)/3292 dtd 29/01/2018.
3	At no time, the emissions shall exceed the prescribed limits. In the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	Management has taken note of this aspect and this condition will be complied with during Operation Of the plant.
4	No further expansion or modification in the plant shall be carried out without prior approval of the SEIAA/Ministry of Environment and Forests as the case may be. In case of deviations or alterations in the project proposal from those submitted to this Authority of clearance, a fresh reference shall be made to the Authority to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Noted this aspect and comply with same if applicable in future.

5	<p>The project authorities shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules.1989 as amended in October 1994 and January 2000. Authorization from the KSPCB shall be obtained for collection, treatment, storage and disposal of Hazardous wastes.</p>	<p>This is not applicable since Storage capacities of chemicals proposed to be used in RODM plants are below the threshold quantities specified in the CIMAH (Karnataka) rules. Disposal method in respect of Hazardous waste generated during operation will be finalized and implemented in consultation with KSPCB.</p>
6	<p>The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Waste (Management and Handling) Rules, 2003. Authorisation from the KSPCB must be obtained for collection /treatment/storage/disposal of hazardous wastes.</p>	<p>The annual estimated quantity of very few Hazardous waste generations (Eg: Cotton waste, used spent oil) envisaged during operation of plant very less. However disposal mode of Hazardous waste so generated during operation will be finalized and implemented in consultation with and due authorization from KSPCB .</p>
7.	<p>Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrid system or fully solar system for lighting and heating should be provided. Details in this regard should be submitted to SEIAA.</p>	<p>It is proposed to install the Solar Roof Top Panels on the buildings after completion of construction works to harness solar energy effectively for meeting electricity requirements of lighting for gardens, and street lighting Etc.</p>
8	<p>The overall noise levels in and around the plant area shall be kept well within the standards (85dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (protection) Act, Rules, 1989 viz.,75 DBA (day time) and 70 dBA (night time).</p>	<p>The Noise levels at Plant boundaries during EIA Studies were measured to be in the range of 51-60 DBA and near the security main gate I.e Doddaballapura Main Road is found to be in the range of 68-76 DBA.</p> <p>The plant is under construction stage and Noise levels are monitored regularly.</p>

		<p>Previous period test report was submitted vide our earlier report No. KPCL/CE(GSW)/2052 Dt: 16.01.2020</p> <p>Latest Noise level monitoring report for the period October-2019 to March-2020 is enclosed.</p> <p>There is no impact on ambient noise levels during construction stages as could be seen in the above reports.</p> <p>However, actual impact on ambient noise levels at the plant boundaries during Plant Operation will be assessed by taking up real time noise level measurement.</p> <p>The real time noise levels measurement during actual running of all the heavy equipments (considering all the Sources of Noise) like air compressors, BFP together will envisage correct picture on noise generation at the plant boundaries with respect to prescribed limits so that decision on installing the Acoustic enclosures to these equipments can be taken.</p> <p>As of now, the action has been initiated to install the acoustic enclosure to Gas Booster Compressor (GBC) as part of efforts to bring down the noise levels at the plant boundaries in compliance with the prescribed standards. The tendering process for the same is under progress. (Tender Notification is enclosed)</p>
--	--	--

9.	The project proponent shall also comply with all the environmental protection measures and safeguards as per the information provided.	This is being complied with.
10	The implementation of the project vis-à-vis environmental action plans shall be monitored of MoEF, Regional Office at Bangalore/KSPCB/CPCB and the Department of Environment & ecology, Bangalore. A six monthly compliances status report shall be submitted to monitoring agencies.	This is being complied with.
11.	The project proponent shall inform the public that the project has been accorded environment clearance by the SEIAA and copies of the clearance letter are available with the KSPCB and may also be seen at Website of the State Ecology and Environment department at <a href="http://seiaa.kar.nic.in">http:// seiaa.kar.nic.in</a> . or <a href="http://seiaa.karnataka.gov.in">http:// seiaa.karnataka.gov.in</a> . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional Office of MoEF at Bangalore /KSPCB/ CPCB/ the Department of Ecology & Environment, Government of Karnataka, Bangalore and Regional Director (Environment), Department of Ecology & Environment, Government of Karnataka, Belgaum.	Copies of advertisement published in the Newspaper in this regard were furnished vide earlier report No: KPCL/CE(GSW)/1848 dtd: 17/01/2019.
12.	The project authorities shall inform the Regional Office of MoEF at Bangalore/ KSPCB / CPCB / the Department of Ecology & Environment, Government of Karnataka, Bangalore and Regional Director (Environment), Department of Ecology & Environment, Government of Karnataka, Belgaum, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	The information's have been submitted to respective statutory authorities/offices.



13.	The SEIAA, Karnataka may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted and All the conditions are being complied with.
14.	The SEIAA, Karnataka reserves the right to stipulate additional conditions, if found necessary. The company in a time bond manner will implement these conditions.	Noted this aspect and will comply with same if applicable in future.
15	The above conditions will be enforced, inter-Alia under the provisions of the water (Prevention & Control of the Pollution) Act,1981the environment(protection) Act,1986 Hazardous Waste (Management of handling) Rules, 2003 and the Public liability Insurance Act,1991 along with their amendments and rules.	Noted and Project Management is putting best efforts to comply with all the stipulated conditions under the said acts /Rules.
16.	The issue of Environment Clearance doesn't confer any right to the project proponent to operate/ run the project without obtaining statutory clearances / sanction form all other concerned Authorities.	All applicable clearances have been obtained from the respective statutory authorities for the project.
17.	Concealing factual data or submission of false /fabricated data and failure to comply with any of the condition mentioned above may result in withdrawal of the clearance and attract action under the provisions of Environmental (Protection ACT, 1986).	Noted and all the data furnished pertaining to project are true and based on the facts.
18.	Any Appeal against the environment clearance shall lie with the National Environment Appellate Authority ,if preferred, within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act,1997	Not applicable.
19.	Officials from the Department OF Environment and Ecology, Bangalore /Regional Office of MoEF, Bangalore who would be monitoring the implementation of Environmental safeguards should be given full cooperation, facilities and documents/ data by the project proponents during their inspection. A complete set of all the	This is being complied with.

	documents submitted to MoEE/SEIAA should be forwarded to the Regional Office of MoEF at Bangalore /KSPCB/CPCB/ the Department of Ecology & Environment, Government of Karnataka, Bangalore and Regional Director (Environment), Department of Ecology & Environment, Government of Karnataka, Belgaum.	
20.	In the case of any change (s) in the scope of project, the project would require a fresh appraisal by this Authority.	Not applicable.
21.	The authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provisions of the Environment (Protection) Act,1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.	Noted this aspect and comply with same if applicable in future.
22.	All other statutory clearances such as approvals for storage of diesel from chief controller of explosives ,fire department ,civil aviation department ,Forest Conservation Act,1980 and wild life (Protection Act),1974 the air pollution act,1972 shall be obtained ,as applicable by project proponents from the competent authorities .	All applicable clearances obtained from the respective statutory authorities for the project were already submitted vide our earlier report No:KPCL/CE(GSW)/3292 dtd 29/01/2018.
23.	These stipulations would be enforced among others under the provisions of water (Prevention and Control of pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.	Noted this aspect and is being complied.
24.	Under the provisions of Environment (protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started without obtaining environmental clearance.	Not applicable as Environmental Clearance from SEIAA and Consent For Establishment from KSPCB has been obtained for the project.

