



सत्यमेव जयते

File No.: 482976/33-MINB1/05-2024

Government of India

Ministry of Environment, Forest and Climate Change

(Issued by the State Environment Impact Assessment Authority (SEIAA),
ODISHA)



Dated 13/06/2025



To,

Sri Mahesh Chandra Ray
Jaya Mangala Sahi, Benupur, P.S. – Baliana, Dist – Khordha, Odisha , 752101
maheshchandraray558@gmail.com

Subject: Grant of prior Environmental Clearance (EC) to the proposed Mining Project under the provisions of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application submitted to SEIAA, Odisha vide proposal number SIA/OR/MIN/482976/2024 dated 04/07/2024 for grant of prior Environmental Clearance (EC) to the project of Kuakhai River Sand Quarry, Pandara over 18.62 Ha. or 46.00 Acres in Village- Pandara, Tahasil-Bhubaneswar, District- Khordha, Odisha coming under cluster approach with total (Cluster area 18.62 + 22.26Ha. = 40.88 Ha.) in favour of Sri. Mahesh Chandra Ray, the successful bidder/lessee under the provision of the EIA Notification 2006-and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC24B0107OR5438612N
(ii) File No.	482976/33-MINB1/05-2024
(iii) Clearance Type	Fresh EC
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals Kuakhai River Sand Quarry, Pandara over 18.62 Ha. or 46.00 Acres in Village Pandara under Bhubaneswar Tahasil of Khordha District, Odisha coming under cluster approach with total (Cluster area 18.62 + 22.26Ha. = 40.88 Ha.)
(vii) Name of Project	
(ix) Location of Project (District, State)	KHORDHA, ODISHA
(x) Issuing Authority	SEIAA, Odisha
(xii) Applicability of General Conditions	No

3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-2 (Part A, B and

C), EIA & EMP Reports, Replenishment study report as per ToR, Public Hearing Proceeding were submitted to the SEIAA for an appraisal by the State Level Expert Appraisal Committee (SEAC) under the provision of EIA notification 2006 and its subsequent amendments.

4. The above-mentioned proposal has been considered by SEAC in the meeting held on 19.04.2025. The minutes of the meeting and all the project documents are available on the PARIVESH portal which can be accessed from the PARIVESH portal by scanning the QR Code above. Brief description of the project is as under:
5. Details of the minerals to be mined along with production capacity and the brief on the salient features of the project as submitted by the project proponent in Form 1 (Part A and B) in the reports and as presented during SEIAA are annexed to this EC as Annexure (2).
6. The SEAC, in its meeting held on 19.04.2025, based on information submitted viz: Form 1 (Part A, B and C), EIA & EMP Reports, Replenishment study report as per ToR, Public Hearing Proceeding & clarifications provided by the project proponent and after detailed deliberations on all technical aspects and compliance thereto furnished by the Project Proponent, recommended the proposal for grant of Environment Clearance under the provision of EIA Notification, 2006 and as amended thereof subject to stipulation of Specific and Standard EC conditions as detailed in the point below.
7. The SEIAA, Odisha has examined the proposal in 203rd meeting held on 30.05.2025 in accordance with the provisions contained in the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and based on the recommendations of the SEAC and hereby accords Environment Clearance for the instant proposal of Kuakhai River Sand Quarry, Pandara over 18.62 Ha. or 46.00 Acres in Village- Pandara, Tahasil-Bhubaneswar, District- Khordha, Odisha coming under cluster approach with total (Cluster area 18.62 + 22.26Ha. = 40.88 Ha.) to Sri. Mahesh Chandra Ray, the successful bidder/lessee under the provisions of EIA Notification, 2006 and as amended thereof subject to compliance of the Specific and Standard EC conditions as given in Annexure (1).

Stipulations

Sl.	Descriptions	Stipulation
(i)	Lease Area:	46.00 Acres or 18.62 Ha. (i). The PP shall maintain safety and stability of Riverbanks i.e. 3 meter or 10% of river width whichever is more for protection of river bank and (ii). 7.5-meter safety zone from all sides of lease boundary.
(ii)	No Mining Zone:	(iii). No stream should be diverted for the purpose of sand mining. No natural water course and/ or water resources are obstructed due to mining operations.
(iii)	Maximum Depth of Mining:	1.59 meter as per the Annual Rate of Replenishment Study (ARRS) report
(iv)	Method of Mining:	The method of mining as per approved mining plan
(v)	Permitted Quantity:	63105 cum for one year from the date of lease execution with average depth of mining 1.59 meter subject to modified Mining Plan (approved by the competent authority) and the method of mining shall be as per the approved Mining Plan
(vi)	Validity Period of EC:	The validity of EC is for 5 years from date of lease execution or for validity of lease period whichever is earlier.
(vii)	ARRS report	The Annual Rate of Replenishment Study (ARRS) is to be conducted through ORSAC empanel agency or NABET Consultant as per the prescribed guidelines and the PP shall submit the report latest by 31st December, 2026.

8. The SEIAA, Odisha reserves the right to stipulate additional conditions, if found necessary.

9. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation.

The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

10. The PP is under obligation to implement commitments made in the Environment Management Plan, which forms part of this EC.

11. Validity of EC is for 5 years from date of lease execution or for validity of lease period whichever is earlier.

12. General Instructions:

1. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of SEIAA website where it is displayed.
2. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn must display the same for 30 days from the date of receipt.
3. The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions.
4. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.
5. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
6. The Regional Office of MoEF & CC, Bhubaneswar, SPCB, Odisha and the lease granting Authority shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
7. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

13. This issue with an approval of the Competent Authority.

Copy To

1. Additional Chief Secretary, Forest, Environment & Climate Change Dept., Government of Odisha for information.
2. Member Secretary, State Pollution Control Board, Odisha, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar for information.
3. The Director of Mines, Steel & Mines Dept, Govt. of Odisha Bhubaneswar for information.
4. Additional Principal Conservator of Forests, Integrated Regional Office (IRO), Ministry of Environment & Forests, A-31, Chandrasekharpur, Bhubaneswar for information.
5. Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi-110032 for information.
6. Chairman/Member/Member Secretary, SEIAA for information.
7. Member Secretary, SEAC, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar for information.

8. Collector & DM, Khordha, Sub-Collector, Khordha, Deputy Director of Mines, Khordha, DFO, Khordha, RO, SPCB, Khordha, Tahasildar, Bhubaneswar/Mining Officer, Khordha for Information and necessary action.
9. Guard file for record/Website/Parivesh Portal

Annexure 1

Specific EC Conditions for (Mining Of Minerals)

1. Specific Condition

S. No	EC Conditions
1.1	<ol style="list-style-type: none"> 1. Consent / NoC shall be obtained from the concerned authority if village road is to be used for transportation. The said road shall also be maintained by the lessee. 2. In view of likely revision of DSR the mention of this deposit with final coordinates is to be ensured. 3. The boundary area of the deposit as per the updated DSR defined by geo coordinates based on DGPS survey be superimposed on the cadastral map. 4. Plantation programme to be completed within the first two years and to be maintained in remaining years. 5. The Project proponent shall follow Sustainable Sand Mining Guidelines, 2020. 6. The proponent shall provide Bio- toilet for the workers. 7. Project Proponent shall not disturb the water course during mining
1.2	<p>1. ENVIRONMENTAL CONDITIONS AND SAFEGUARDS WHICH NEED TO BE COMPLIED WITH BY THE TAHASILDAR/MINING OFFICER BEFORE LEASE AGREEMENT:</p> <ol style="list-style-type: none"> 1. Boundary Demarcation: - The boundary of the lease area shall be demarcated on ground at the project cost, by erecting 1.20 meter (4 feet approx.) high reinforced concrete pillars above ground, each inscribed with its serial number, distance from pillar to pillar and GPS co-ordinates by any empanelled agency of ORSAC. 2. Digital Map: -A digital map (in KML format as well as PDF version) showing GPS coordinates of all boundary pillars duly countersigned by the Tahasildar/Mining officer shall be submitted to SEIAA, Odisha through email at seiaaodisha@gmail.com. 3. Intimation of EC: -The copies of the EC shall be sent to the Sarpanch (s) of the concerned Gram Panchayat (s), Urban Local Bodies and relevant other Offices of the Government with a request to display the same for 30 days from the date of receipt. The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board and web site of the Ministry of Environment, Forest and Climate

S. No	EC Conditions
	<p>Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF&CC Regional Office for compliance and record.</p> <p>4. State EMF Fund: - An amount equal to five percent (5%) of the royalty payable shall be collected from the lessee by the Tahasildar/Mining Officer and deposited to the State Environment Management Fund, which will be utilized as per provisions of Rule 49(3) of the OMMC Rule, 2016 preferably, in and around the areas where mining activities are undertaken.</p> <p>5. Condition by Collector: - Any other condition(s) the Collector & Chairman, District Environment Impact Assessment Authority (DEIAA), may impose in the interest of protection and safeguarding the local environment.</p> <p>6. Compliance report for Transfer of EC: - Any transfer of EC to a PP/Lessee shall be considered by SEIAA, Odisha only after receipt of the full compliance report through Tahasildar/Mining Officer concerned of the above environmental conditions and safeguards.</p> <p>7. Other conditions/NOC:- Consent / NoC shall be obtained from the concerned authority if village road is to be used for transportation. The said road shall also be maintained by the lessee.</p>
1.3	<p>B. ENVIRONMENTAL CONDITIONS AND SAFEGUARDS WHICH NEED TO BE COMPLIED ON FIELD AFTER THE LEASE AGREEMENT</p> <p>1. Maximum permissible depth: This Environmental Clearance is given with the condition that maximum depth of digging of sand shall be 1.59 m as per approved mining plan. Any flouting of this restriction shall make this EC liable to cancellation.</p> <p>2. Maximum permissible quantity: Maximum yearly quantity of extraction from the quarry shall not exceed the annual limit as specified above under stipulation in Table 'A stipulations'-sl. A(v) i.e. 63105 cum/annum as per ARRS report for one year from the date of lease execution with average depth of 1.59 meter subject to modified Mining Plan (approved by the competent authority) and the method of mining shall be as per the approved Mining Plan. Any flouting of this quantitative restriction shall make this EC liable to cancellation.</p> <p>3. Annual Replenishment Rate Study of Sand: -The Project Proponent shall carry out Annual Rate of Replenishment study of sand by ORSAC empanel agency or NABET Consultant as per prescribed drone method of MoEF & CC, Govt. of India by collecting pre monsoon & post monsoon data from the field to know the quantum of volume of sand deposited/replenished & extracted in the mining lease area by 31st December, 2026. The detailed comparison of both pre-monsoon and post-monsoon elevation data shall be included in the study report. The detailed methodology for finding the rate of replenishment study of sand is laid down in the Enforcement & Monitoring Guidelines for Sand Mining, 2020 issued by the MoEF & CC, Govt. of India. The finding of the study shall be submitted to SEIAA to assess the actual rate of replenishment of mined out sand in the lease area. PP shall carry out Annual Rate of Replenishment Study (ARRS) through ORSAC empanel agency in every year and submit the report to SEIAA, Odisha during submission of EC compliance with attaching real-time geo-coordinating photographs both pre and post monsoon data collection time.</p> <p>4. No change in the mining plan without prior approval of SEIAA: - Any change in the</p>

S. No	EC Conditions
	<p>calendar plan, change in production quantity or method of mining shall not be made without prior approval of the SEIAA. Mining activity shall adhere to the working parameters of the approved mining plan prepared for this project. The detailed production of sand from the lease area of each year shall be submitted in tabular form during submission of compliance report.</p> <p>5. Environmental Management Plan: EMP shall be implemented by PP to ensure compliance with the environmental conditions specified above. The year wise funds earmarked for environmental protection measures shall be kept in a separate account and shall be spent according to the plan proposed in EMP. The PP will implement the EMP with a budgetary allocation of Rs. 6.0 Lakh/annum and Rs.13.50 Lakh budget provision for CSR activities as per commitment during Public Hearing. Year wise progress of implementation of EMP shall be reported to the SEIAA, Odisha and OSPCB along with the compliance report. The Tahasildar/Mining Officer shall ensure the compliance of this condition along with all leaseholders of his jurisdiction.</p> <p>6. Common Forum for EMP:- All the individual quarry lessee holders coming under the Tahasil may create a common forum in coordination with the Tahasildar/ Mining Officer and contribute funds to it for grading, compaction and maintenance of haulage road, provision of water spray on the village road to control particulate matter (dust particles) pollution in surrounding air during transportation from the quarry, and provision of thick, multilayer and a continuous green belt around the lease area excluding the entry and exit gate for prevention of environmental pollution and noise during mining activity</p>

Standard EC Conditions for (Mining of minerals)

1. Statutory Compliance

S. No	EC Conditions
1.1	The Project Proponent shall inform the SEIAA, Odisha for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred. PP needs to apply for transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.
1.2	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
1.3	The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
1.4	The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.
1.5	The Project Proponent shall follow the mitigation measures provided in MoEFCC's Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining

S. No	EC Conditions
	activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area.“
1.6	A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.
1.7	State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.
1.8	The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.
1.9	The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.
1.10	The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
1.11	This Environmental Clearance (EC) is subject to orders/ judgment of Honble Supreme Court of India, Honble High Court, Honble NGT and any other Court of Law, Common Cause Conditions as may be applicable.
1.12	The Project proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &Ors before commencing the mining operations.

2. Air Quality Monitoring And Preservation

S. No	EC Conditions
2.1	The project proponent use leak proof trucks/dumpers carrying ore and other raw materials and cover them with tarpaulin.
2.2	Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEFCC/ Central Pollution Control Board.
2.3	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points

S. No	EC Conditions
	including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
2.4	The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986. 9) The project proponent shall install system to carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g., PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120 each). covering upwind and downwind directions.

3. Noise Monitoring And Prevention

S. No	EC Conditions
3.1	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.
3.2	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

4. Noise And Vibration Monitoring And Prevention

S. No	EC Conditions
4.1	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.
4.2	The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.
4.3	The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.

5. Energy Conservation Measures

S. No	EC Conditions
5.1	Provide LED lights in their offices and residential areas.

S. No	EC Conditions
5.2	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;

6. Mining Plan

S. No	EC Conditions
6.1	<p>Other Environmental Conditions: -The Project Proponent shall follow all the provisions of Sand Policy of Govt. Of Odisha dated 02.09.2021 for this sand mining project.</p> <ul style="list-style-type: none"> • The Tahasildar/ Mining Officer shall take adequate measures to prevent unauthorized mining; • The project proponent should carry out river bed sand mining manually by engaging local laborers to check over exploitation of sand at the source; • The lessee shall ensure safety of human life and livestock from accidents in case the village / any habitation is very near the mining lease area. • At the end of mine closure, the proponent shall immediately remove all the sheds put up in the quarry and all the equipment in the area before closure of the quarry.
6.2	<p>No Working Zone: - The lessee shall ensure that no sand mining is carried out in the areas as specified below: -</p> <ul style="list-style-type: none"> • During the rainy season; • Within the water channel or stream flow area throughout the year; • Mining shall not be undertaken in a mining lease located in 200-500 meter of bridge, 200 meter upstream and downstream of water supply/irrigation scheme, 100 meter from the edge of National Highway and railway line, 50 meter from a reservoir, canal or building, 25 meter from the edge of State Highway and 10 meter from the edge of other roads except on special exemption by the Sub-Divisional level Joint Inspection Committee. • The mining or any ancillary activity shall not in any way disturb the flow pattern of the river water during the non-monsoon period. • No stream shall be diverted for the purpose of sand mining and no natural water course shall be obstructed. • Sand mining operations shall not affect the existing sources for irrigation / drinking water / industrial purposes. • The natural sand dunes, if any, near or surrounding the lease area shall not be disturbed.

7. Waste Management

S. No	EC Conditions
7.1	The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.

S. No	EC Conditions
7.2	Kitchen waste shall be composted or converted to biogas for further use.(to be decided on case to case basis depending on type and size of plant)

8. Transportation

S. No	EC Conditions
8.1	No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers. [If applicable in case of road transport].
8.2	<p>Transport Safeguards:</p> <ul style="list-style-type: none"> • No transportation of the minerals shall be allowed on any road passing through villages/habitations without prior explicit permission. • Transportation of minerals through existing rural roads can be allowed only by the concerned Govt. Department/ Gram Panchayat/BDO after required strengthening such that the carrying capacity of the road is increased to handle the mineral carrying truck traffic. The project proponent shall bear the cost towards the widening and strengthening of existing public roads in case the same is proposed to be used for the project. • Project proponents shall ensure that the transport of minerals will be as per IRC Guidelines with respect to complying with traffic congestion and traffic density. • Vehicles hired for transportation of minor minerals from the site should be in good condition and should have pollution check certificates and should conform to applicable air and noise emission standards and should be operated only during non-peak hours. Speed of vehicle be regulated and in no case >30 Kms / hr be allowed. • The vehicles shall not be overloaded and shall be covered with Tarpaulin. The Tahasildar/ Mining Officer may collect an appropriate additional road maintenance levy from the lessee as part of the lease conditions on the basis of quantum of mineral transported, and utilize the proceeds of the levy for proper maintenance of the extraction paths and roads to prevent their degradation on account of plying of mineral carrying trucks. • Water spraying should be made on the village road to control particulate matter (dust particles) pollution in surrounding air during transportation from the quarry. Garland drain shall be constructed on the hill slope to arrest downward flow of particulate matter with rainwater.

9. Green Belt And Emp

S. No	EC Conditions
9.1	The PP shall plant 1000 nos. of tree species like Banyan (Ficus benghalensis), Peepal(Ficus religiosa), Neem (Azadirachta indica), Jamun(Syzygium cumini), Mango(Mangifera indica), Karanj(Pongamia pinnata), Arjun(Terminalia Arjuna), Jackfruit (Artocarpus heterophyllus), Siris (Albizia lebbeck), etc.. as part of tree plantation campaign " Ek Ped Maa Ke Naam " and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in).The PP shall submit the status of plantation during every six-months (06) compliance of EC conditions with geo-coordinating photographs.
9.2	The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.
9.3	The PP shall implement the EMP with a budgetary allocation of Rs.6.0 Lakh/annum , Budget for CER activities during Public Hearing Commitment of Rs. 13.50 Lakh as proposed in the EMP report during EC application.

10. Public Hearing And Human Health Issues

S. No	EC Conditions
10.1	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
10.2	The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
10.3	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 drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
10.4	Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.

11. Corporate Environment Responsibility

S. No	EC Conditions
11.1	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
11.2	Self-environmental audit shall be conducted annually. Every three years third party environmental

S. No	EC Conditions
	audit shall be carried out.
11.3	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest I wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
11.4	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Mineral Beneficiation plants shall be implemented.
11.5	The Project Proponent shall submit the time- bound action plan to the concerned regional office of the Ministry within 6 months from the date of issuance of environmental clearance for undertaking the activities committed during public consultation by the project proponent and as discussed by the EAC, in terms of the provisions of the MoEF&CC Office Memorandum No.22-65/2017-IA.III dated 30 September, 2020. The action plan shall be implemented within three years of commencement of the project.

12. Miscellaneous

S. No	EC Conditions
12.1	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
12.2	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
12.3	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
12.4	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
12.5	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponents website permanently.
12.6	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

S. No	EC Conditions
12.7	The project proponent shall monitor the criteria pollutants level namely; PM10, S02, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
12.8	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/High Court and any other Court of Law relating to the subject matter.
12.9	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
12.10	No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA, Odisha.
12.11	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
12.12	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
12.13	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
12.14	In pursuant to Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Honble Supreme Court on 8.01.2020 in W.P. (Civil) No 114/2014 in the matter Common Cause vs Union of India, the mining lease holder shall after ceasing mining operations, undertake regrassing the mining area and any other area which may have been disturbed due to other mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
12.15	The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.
12.16	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/High Court and any other Court of Law relating to the subject matter.
12.17	The SEIAA, Odisha or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
12.18	Concealing factual data failure to comply with any or submission of false/ fabricated data and of the

S. No	EC Conditions
	conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
12.19	The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information / monitoring reports.
12.20	The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
12.21	The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.

13. Corporate Environment Responsibility (Cer)

S. No	EC Conditions
13.1	The Project Proponent shall submit the time- bound action plan to the concerned regional office of the Ministry within 6 months from the date of issuance of environmental clearance for undertaking the activities committed during public consultation by the project proponent and as discussed by the EAC, in terms of the provisions of the MoEF&CC Office Memorandum No.22-65/2017-IA.III dated 30 September, 2020. The action plan shall be implemented within three years of commencement of the project.

Additional EC Conditions

1. The extraction quantity of sand shall be limited to **63105 cum for one year** from the date of lease execution with average depth of mining **1.59 meter** subject to modified Mining Plan (approved by the competent authority) and the method of mining shall be as per the approved Mining Plan.
2. The Annual Rate of Replenishment Study (ARRS) is to be conducted through ORSAC empanel agency or NABET Consultant as per the prescribed guidelines of MoEF & CC on Enforcement and Monitoring Guidelines for Sand Mining 2020 and the PP shall submit the report latest by **31st December, 2026**.
3. The PP shall maintain 500 meter as no mining zone from the downstream of the river bridge. The Mining Officer shall ensure that no sand shall be extracted from the river bridge within 500 meters distance during mining operation
4. The EC is valid for 5 years from date of lease execution or for the lease period whichever is less.
5. The PP shall implement the EMP with a budgetary allocation of **Rs.6.0 Lakh/annum, Rs. 13.50 Lakh CER Cost** as proposed in the EMP report during EC application.
6. The PP shall plant **1000 nos. of tree species** like Banyan (Ficus benghalensis), Peepal(Ficus religiosa), Neem (Azadirachta indica), Jamun(Syzygium cumini), Mango(Mangifera indica), Karanj(Pongamia pinnata), Arjun(Terminalia Arjuna), Jackfruit (Artocarpus heterophyllus), Siris (Albizia lebbeck), etc.. as part of tree plantation campaign "**Ek Ped Maa Ke Naam**" and the details of the same shall be uploaded in the MeriLiFE Portal (<https://merilife.nic.in>).The PP shall submit the status of plantation during every six-months (06) compliance of EC conditions with geo-coordinating photographs.

7. The compliance of EC conditions of said quarry shall be monitored by DEIAA, concerned lease granting Authority either Mining Officer or Tahasildar, RO, SPCB, Odisha and Integrated Regional Office of MoEFCC, Bhubaneswar as per MoEF & CC, Govt. of India S.O. 141(E) in EIA Notification dated 15.01.2016.
8. The project proponent shall ensure that the biological clock of the villagers is not disturbed. The floodlights should be oriented away from the villagers and the noise levels should be kept within the prescribed limit for day light/night hours.
9. No natural water course shall be obstructed or diverted for the purpose of sand mining
10. The PP is required to upload/submit the six (06) monthly compliance on the environmental condition stipulated in the EC letter in a timely manner on or before 1st June and 1st December of each calendar year in Parivesh Portal 2.0 only failing which the EC is liable to be revoked.



1. Proposal in brief:

The highlights of the proposal as ascertained from the application and as revealed from proceedings/discussion held during the meeting of SEAC/SEIAA are given as under.

1. This proposal is for Environmental Clearance for Kuakhai River Sand Quarry, Pandara over 18.62 Ha. or 46.00 Acres in Village Pandara under Bhubaneswar Tahasil of Khordha District of Sri Mahesh Chandra Ray – EC (Cluster area 18.62 + 22.26Ha. = 40.88 Ha.).
2. **Category:** As per EIA Notification, 2006 and its subsequent amendments, the proposed project falls under Category B in Schedule in item 1(a) - Mining of Minerals.
3. **Cluster Certificate** - As per the certificate from Tahasildar, Bhubaneswar there is another mine i.e. Kushabhadra River Sand Quarry, Bhubanpur over an area 22.26Ha. or 55.00 Acres in village Bhubanpur under Baliana Tahasil of Khordha District within 500 meters of proposed quarry. This sairat source has not been auctioned yet.
4. The Kuakhai River Sand Quarry, Pandara mining lease is granted in the name of Sri Mahesh Chandra Ray, (Successful Bidder) vide letter no.28 on dated 04.01.2022 by the Tahasildar Bhubaneswar for a period of 5 years.
5. The Mining plan has been approved by the Director of Geology, Govt of Odisha, Bhubaneswar, Odisha vide memo no. 5511/DG on dated 16.09.2021 for Kuakhai River sand Quarry for a period of 5 years.
6. Kuakhai River Sand Quarry, Pandara Mining lease has been identified sairat source in DSR of Khordha District, Annexure – I, Sl.No. 2, and Kushabhadra River Sand Quarry, Bhubanpur in Annexure – I, Sl.No. 9.
7. Both quarries Kuakhai River Sand Quarry, Pandara and Kushabhadra River Sand Quarry, Bhubanpur are existing/running mines as per DSR.
8. **TOR details:** Terms of Reference (ToR) for Kuakhai River Sand Quarry, Pandara was issued by SEIAA, Odisha vide Letter no. - SIA/OR/MIN/79663/2022 dated 31.03.2023.
9. **Public hearing details:** Public hearing for both quarries Kuakhai River Sand Quarry, Pandara and Kushabhadra River Sand Quarry, Bhubanpur were conducted on 24.12.2023 at 11.00 AM at U.G.M.E School, Pandara under Bhubaneswar Tahasil of Khordha district, Odisha. The total budget allocated for implementation of public hearing issues in a time bound action plan is 16.700 Lakhs. The main issues raised during public hearing were:
 - Development of road condition from river embankment to Village Road & finally up to main road for easy movement of vehicle.
 - Suppression of fugitive dust emission during transportation of sand carrying vehicles.
 - Attention to be given for restoration of Ground Water level and soil erosion should be checked near embankment river site.
 - Efforts to be taken for protection of Water, Air and Soil quality around the periphery of the mining area.
 - The lessee should develop thick green belt all along the road and river embankment site.
 - During movement of sand carrying vehicle attention should be given for safe driving within limited speed nearby the school and hospital areas.
 - Also, during transportation of the vehicle of sand the driver should drive within the recommended limit of Noise
 - The sand carrying truck, tractors/hywa should not run within village road.
10. **Location and connectivity:** The Kuakhai River Sand Quarry, Pandara lease area is located in Khata No.1352, Plot No.-2414, village Pandara Bhubaneswar. The KISSAM of land is Nadi. The geo coordinates of the lease is - Latitude: 20°18'16.94'' N to 20°18'40.89''N & Longitude: 85°52'35.86'' E to 85°52'55.29''E. The lease area can be traced in Survey Map of India in Topo-Sheet no. F45T15. The topography is Undulated (River bed). The nearest Railway station is Vani Vihar at 3 Km distance, NH 16 is at 0.2Km, SH-60 is at 4.60 Kms. Nearest Airport (Bhubaneswar

Airport) is at 9 Km, Nearest approach road is Puri-Canal Road-0.80 Km, Nearest Canal is Puri canal is at 0.70 Km, Gangua Nala is at 0.70km, Cuttack-Puri Bypass Road is at 0.50 Km. Nearest Major District Road is at Hansapal Road at 0.24km, Nearest other Roads is at Hi-Tech Hospital Road at 0.40Km. Defense Installation (CRPF Bhubaneswar) is at 8.50Km, Interstate Boundary – Jharkhanda is at 200 Km, West Bengal - 212Km. Nearest Embankment is at 0.16 km, nearest Road Bridge on Kuakhai River is at 0.20 Km, Nearest Sanctuaries are Nandankanan Zoological Park-11Km, Chandaka Elephant Sanctuary-14 Km, Nearest Hospital – Hi tech - Medical college & Hospital 0.5 Km, Mahanadi river is at 15.50 Km. There is no ecological sensitive area located within the 10 Km radius of the project site.

11. The land schedule for Kushabhadra River Sand Quarry, Bhubanpur is Khata no. 336, plot no. 58/p. over an area of 22.26Ha. The geo coordinates for the project is Latitude- 20°18'07.30"N to 20°18'27.42" N and Longitude- 85°52'47.04"E to 85°53'12.24"E.
12. As per Enforcement & Monitoring Guidelines for Sand Mining by MoEF&CC Jan - 2020 there shall be a “No Working Zone” minimum distance of 250meters from the River Bridge on the upstream and 500meters on the downstream side. The Kuakhai river road bridge on NH 16 is located at a distance of 200meters from the Kuakhai River Sand Quarry, Pandara. So, an additional 300m will be left as no mining zone within the lease area. The project falls on the downstream of Kuakhai River Bridge so the project proponent has left total 500m as ‘No Mining zone’ and has calculated the safe workable area.
13. Proposed Land Use Plan during plan period:

Type of land use	Kuakhai River Sand Quarry (Ha)	Kushabhadra River Sand Quarry (Ha)	Total Area (Ha)
Water channel area	Nil	2.7	2.7
Left over area adjacent to water channel	Nil	0.74	0.74
Quarry Safety zone area	2.42	1.21	3.63
Potential Mineable surface area within the plan period	16.2	17.61	33.81
Total	18.62	22.26	40.88

14. **Total Reserves and Proposed Production:** The maximum production proposed for Kuakhai River Sand quarry, Pandara is 175014 cum/Annum
Cluster Production: 333524 cum/Annum.

Sl no	Name of the Quarry	Geological Resources (m ³)	Mineable Reserve (m ³)
i)	Kuakhai River Sand Bed, Pandara	1656000	875070
ii)	Kushabhadra River Sand Quarry, Bhubanpur	1486065	792553
Total		3142065	1667623

YEAR WISE PRODUCTION DETAILS

Sl. No.	Year	Kuakhai River Sand Quarry, Pandara Production in m ³	Kushabhadra River Sand Quarry, Bhubanpur Production in m ³	Total Production in m ³ (Cluster)
i)	1 st	175014	158510	333524
ii)	2 nd	175014	158510	333524
iii)	3 rd	175014	158510	333524
iv)	4 th	175014	158510	333524
v)	5 th	175014	158510	333524

Total	875070	792550	1667620
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15. **Replenishment study details of Kuakhai River Sand Quarry, Pandara:** The Study was carried out for pre-monsoon data on 12.06.2023 and post monsoon data on 05.12.2023 by using UAV/ Drone method as per the SSMG, 2020. According to the approved mining plan, the annual production: 175014 Cu.m/ Annum. As per the replenishment study: Geological Replenishment volume: 82127cum and Mineable replenishment volume: 75175cum. Recommended mineable replenishment volume: 75175Cum.
16. **Mining method:** The method of excavation of sand from Sand Quarry will be open cast Semi mechanized method. The mode of the deposit, geomorphology of the area and its hydrological condition are some of the factors that favour the open cast method of mining. Benching pattern is not feasible in case of sand, as the angle of repose of sand is 35°, based on this the Ultimate pit slope Limit has been taken as 35°.
17. **Water requirement:** For the Kuakhai River Sand Quarry 3 KLD of water will be required. Water requirement for drinking & domestic purpose will be 1KLD, for green belt development will be KLD and for dust suppression will be 1 KLD.
18. **Greenbelt development:** Area under plantation is 200m along both side of the river bank and no of saplings to be planted is 500 nos. Proposed plantation species are Teak, Mango, Jammu, Neem, Karanja.

Sl. No.	Year	No. of Saplings proposed for Kuakhai River Sand Quarry, Pandara	No. of Saplings proposed for Kushabhadra Sand Quarry, Bhubanpur	Total (Cluster)	Area covering in Ha.	Type of saplings
1.	1 st	500	500	1000	Plantation will be carried out safety zone of the Lease Cluster (River Bank)	Teak, Mango, Jammu, Neem, Jhaun etc.
Total		500	500	1000		

19. **Baseline study details:** Baseline study of the study area was conducted during March to May 2023.
- a) **Air quality:** The AAQ analysis was conducted at 6 locations and indicates that the concentration of PM₁₀ varied from 48.7 to 81.6 µg/m³, PM_{2.5} from 25.8 to 38.60 µg/m³, SO₂ from 5.1 to 11.1 µg/m³, NO_x from 9.1 to 20.6 µg/m³.
- b) **Surface water quality:** The surface water analysis for all the 4 sampling stations shows that pH varied from 7.7 to 8.0, Dissolved Oxygen – 7.2 to 7.4 mg/l, Biochemical Oxygen Demand – 1.5 to 2.5 mg/l, Chemical Oxygen demand – 6 to 10 mg/l.
- c) **Ground water quality:** The ground water analysis for all the 4 sampling stations shows that pH varied from 6.8 to 7.2, Total Hardness varied from 148 to 172 mg/l, Chloride - 8 to 28 mg/l, Fluorides – 0.6 to 0.63 mg/l, TDS – 220 to 330 mg/l & Heavy metals: BDL (Cd <0.001, As <0.01, Hg<0.0001) mg/l.
- d) **Noise study:** Noise level monitored at 5 locations and varies from 44.7 dB (A) Leq to 48.4 Leq dB (A) during Day time and 33.2 dB (A) Leq to 35.4 Leq dB (A) during Night time, which are below the prescribed limits of CPCB.
- e) **Soil quality:** All soil samples monitored at 3 locations and indicate pH value ranging from 6.5 to 6.8. Potassium –61 to 94 kg/Ha., Phosphorous –22.5 to 32 kg/Ha, Total Organic Carbon % –0.74 to 1.05, Electrical Conductivity- 110 to 160 (µs/Cm).
20. **Manpower requirement:** Total 201 nos of manpower will be required for the proposed project.
21. **Project cost:** The project cost is ₹10lakhs and EMP cost is as follows:

Sl. No.	Particulars	Cost/ Annum (in Lakhs)
i)	Environmental Monitoring: Air, Noise 3 Point each and Water 2 points (Twice yearly)	Rs. 1.20
ii)	Water sprinkling on the haul road	Rs.1.70
iii)	Green belt development in river bank	Rs. 1.60
iv)	Occupational health	Rs. 1.50
Total		Rs. 6.00

22. **Environment Consultant:** The Environment consultant M/s **Kalyani Laboratories Pvt Ltd, Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee on 26.07.2024.

23. The SEAC in its meeting held on dated **26-07-2024** decided to take decision after receipt of the following information and documents from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	Detailed note on the mining process involved.	A detail notes on mining process involved is given as Annexure - 1 .	The mining will be carried out by semi mechanized method as mentioned by PI
	The Replenishment Study Report submitted is not acceptable as the average height of the replenished sand deposited on the riverbed the elevation height is not mentioned & GCP points of pre & post monsoon are different. The GCP points need to be fixed as per the standard operating procedure (SOP) for study of rate of replenishment of sand using drones prepared for SEIAA, Odisha by Odisha Space Application Centre (ORSAC), Bhubaneswar. The project proponent shall submit the revised Replenishment Study Report after carrying out proper pre and post monsoon surveys.	The revised replenishment study report is attached as Annexure 2	Revised replenishment study report is submitted
	Maintain safety distance from the nearby habitation. Specific protection measures to be taken to protect the river embankment.	A safety zone of 7.5m has been demarcated along the lease area. Further a safety distance of 500m (including 300m within the lease from the nearby river bridge has been demarcated as safety zone and no mining activity will be carried out in the safety zone. The nearest habitation is at a distance of 200m from the lease area. For river bank protection following measures will be carried out: 1. Stone pitching along the bank side of the lease	-

		<p>2. Plantation along both side of the lease area</p> <p>3. Grass development in the stone patching to control bank erosion.</p> <p>4. Safety zone of 50m will be maintained for mining from the river bank.</p>		
	Separate EMP budget for both the quarries.	Separate EMP budget for both mines is given as Annexure 3	Complied	
	The RL of the riverbanks and the river water level.	The RL of the river bank is 21 mRL and the river water level is at 13 mRL. River bank is at a height of 8m from the river bed.	As per the approved mining plan (Para e. Reserve) the maximum RL of the surface sand zone is around 13 m. 13 mRL of the river water surface indicates that there is hardly any depth of riverbed sand available for mining without encountering the ground water level.	
	An undertaking to carry out replenishment study as per the ORSAC guidelines/SOP.	Undertaking attached as Annexure4	Undertaking submitted.	
	UAV / drone survey needs to be carried out as per the SOP for study of rate of replenishment of sand using drones prepared for SEIAA, Odisha by ORSAC and the replenishment study report also to mention the details as prescribed in above-mentioned SOP. as per Elevation points, points of deposition and points of erosion as per the RSR.	Revised replenishment study report as per the SOP for study of rate of replenishment of sand using drones prepared for SEIAA, Odisha by ORSAC is attached as Annexure 2	-	
	The RL of surface of sand bed, river water surface & river bank.	The RL of the river bank is 21 mRL and the river water level is at 13 mRL. River bank is at a height of 8m from the river bed.	As per the approved mining plan (Para e. Reserve) the maximum RL of the surface sand zone is around 13 m. 13 mRL of the river water surface indicates that there is hardly any depth of riverbed sand available for mining without	

			encountering the ground water level.
	Lease area begins at a distance of 200m from Kuakhai bridge of NH and location is in the downstream. Southern side lease area is about 30m from Hitech Medical college and Hospital with habitation. Sand extraction may endanger the existing development. Medical riverside riverbank needs protection.	A safety zone of 7.5m has been demarcated along the lease area. Further a safety distance of 500m (including 300m within the lease from the nearby river bridge on NH has been demarcated as safety zone and no mining activity will be carried out in the safety zone. The hi-tech medical college is located at a distance of 100m from the river bank. The river sand mining will be carried out in the river bed protective measures will be undertaken by the lessee for protection of river bank.	-
	Average length of lease area is 650m along the river flow direction, so only 3m is available for extraction considering safety zone. Sand deposit is assumed that 3m without any relevant data which to be revisit. Hence, sand extraction may be permitted from the lease area after earmarking safety zone.	Average length of lease area is 650m along the river flow direction. After leaving the safety zone of 300m from the lease area a stretch of 350m is available for sand extraction. The calculation of sand deposit is done leaving the safety zone of 350m and present calculated sand deposit is 40519 cum from the lease area. The lease map showing the lease area and safety zone is attached as Annexure 5	-

24. The SEAC observed the following:

- i) How the facts and figures like post monsoon reserve, GCP, Error etc has been changed in the same replenishment report of 12.6.23(pre monsoon and 5.12.23 (post monsoon) is not clear. No elevation data is available. A complete and correct replenishment study may be submitted after carrying out pre and post monsoon surveys as per MoEF&CC Guidelines and ORSAC SOP.
- ii) As per documents submitted mining method is manual as mentioned in EIA/EMP (2.4.1) so how this EMP serves purpose of Semi Mechanized mining. Need a clarification.
- iii) The approved mining plan mentions the area of the potential zone (Under the mineable reserve) to be 1,62,050 m² excluding the safety zone. The approved mining plan also mentions that the available sand resource is 1, 75,200 cum based on estimated 3 m mineable depth of sand over 58,400 m² mineable riverbed sand surface. Para 17. Mine Closure Plan (a) (I) states that there is no water channel inside the ML area.
- iv) The revised replenishment study report, submitted in ADS, indicates that considerable portion of the ML area has presence of water body as shown in photographs of the ML area during the pre-monsoon survey (Page 17 under para 7.2) and at the time of post monsoon survey (Page 26 under para 7.3). Pre-monsoon survey (Para 7.2) states average 1 m depth of sand availability over the reported mineable area of 54,570 m² and the average RL of the riverbed sand surface is stated to be 13.86 m. The post monsoon survey (Para 7.3) has reported average RL of the riverbed sand surface to be 15.29 m and the thickness of sand bed is reported to be 1.5 m. Water free mineable area is reported to be 76872 m². As per the revised replenishment study report the riverbed sand surface RL has increased by 1.43 m (15.29 – 13.8) during post-

monsoon whereas the thickness of the sand bed has gone by 0.5 m. However, the report has no mention of the number of grid points used in the study and their elevation readings.

v) The fixed GCPs, used in the pre and post monsoon surveys, are noted to be having different latitude / longitude and elevation readings. (Photographs of the fixed GCPs in Page 16 and 25). The elevation of fixed GCP used in pre-monsoon survey is mentioned to be 12.47 m with accuracy of ± 3.45 m whereas the fixed GCP used in the post monsoon survey is stated to be having elevation of 16.32 m with accuracy of ± 3.35 m. The fixed GCPs are not as per the procedure stipulated in the ORSAC SOP. (Sub para 1 of Para “Ground control point establishment and monumentation” of ORSAC SOP. The reported errors are also higher than the stipulated horizontal and vertical coordinate accuracy of ± 10 mm and ± 20 mm respectively. (Sub para 2 of para “Ground control point establishment and monumentation” of ORSAC SOP.

vi) In view of above, the revised replenishment study report submitted in ADS is not considered to have been prepared based on survey as per ORSAC SOP as well as the same is not in conformity with relevant stipulations of the “Enforcement & Monitoring Guidelines for Sand Mining, Ministry of Environment Forest and Climate Change, January 2020.” The findings of the replenishment study also need to be reconciled with the approved mining plan regarding presence water channel inside the ML area, depth of sand to be mined etc.

25. The SEAC in its meeting held on dated **05-10-2024** decided to take the decision on the proposal after a site visit by sub-committee of SEAC and satisfactory compliance to observations at para 24. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	How the facts and figures like post monsoon reserve, GCP, Error etc. has been changed in the same replenishment report of 12.6.23(pre monsoon and 5.12.23 (post monsoon) is not clear. No elevation data is available. A complete and correct replenishment study may be submitted after carrying out pre and post monsoon surveys as per MoEF & CC Guidelines and ORSAC SOP.	The replenishment study has been carried out again for the lease area for the year 2024 during pre-monsoon and post monsoon surveys as per MoEF & CC Guidelines and ORSAC SOP. A copy of the report is attached as Annexure 1 .	Annexure - 1 is attached.
2.	As per documents submitted mining method is manual as mentioned in EIA/EMP (2.4.1) so how this EMP serves purpose of Semi Mechanized mining. Need a clarification.	As per approved mining plan submitted the method of mining proposed is Semi mechanized open cast method. In the EIA/EMP report (2.4.1) the method mentioned is a typographical error. However, in the Impact assessment and the EMP is being prepared for the semi mechanized method of mining. Portion of the EMP for semi mechanized method of mining is attached for reference. Annexure 2	Portion of EMP is attached as Annexure - 2.
3.	The approved mining plan mentions the area of the potential zone (Under the mineable reserve) to be 1,62,050 m ² excluding the safety zone. The approved mining plan also mentions	The proposed mineable depth of mining 3 m. The mining area proposed for the project is 58400 sq.m and the production	Complied

	<p>that the available sand resource is 1, 75,200 cum based on estimated 3 m mineable depth of sand over 58,400 m² mineable riverbed sand surface. Para 17. Mine Closure Plan (a) (I) states that there is no water channel inside the ML area.</p>	<p>proposed as per mining plan is 1,75,000 cum. The water channel within the lease area as shown in the replenishment study report is due to the change in flow pattern of river. During the preparation of mining plan (2020-2021) the river water channel was outside the lease area. However as per the present new replenishment study carried out in the year 2024 the replenished sand from the lease area will be 63105 cum. The replenishment study has been carried out taking into account the water channel within the lease area and the safety zone.</p>	
<p>4.</p>	<p>The revised replenishment study report, submitted in ADS, indicates that considerable portion of the ML area has presence of water body as shown in photographs of the ML area during the pre-monsoon survey (Page 17 under para 7.2) and at the time of post monsoon survey (Page 26 under para 7.3). Pre-monsoon survey (Para 7.2) states average 1 m depth of sand availability over the reported mineable area of 54,570 m² and the average RL of the riverbed sand surface is stated to be 13.86 m. The post monsoon survey (Para 7.3) has reported average RL of the riverbed sand surface to be 15.29 m and the thickness of sand bed is reported to be 1,5 m. Water free mineable area is reported to be 76872 m². As per the revised replenishment study report the riverbed sand surface RL has increased by 1.43 m (15.29 – 13.8) during post-monsoon whereas the thickness of the sand bed has gone by 0.5 m. However, the report has no mention of the number of grid points used in the study and their elevation readings.</p>	<p>The replenishment study has been Carried out again for the lease area for the year 2024 during pre-monsoon and post monsoon surveys in which safe workable area for pre-monsoon is 65670sq.mtr and safe workable area for post-monsoon is 68900sq.mtr. The common safe workable area is 66148sq.mtr and the difference in elevation is 1.59101m. Hence Replenished reserve is 105175 cum and proposed quantity of extraction is 60% of the replenished reserve, i.e., 63105cum. Now grid interval of 20m showing grid value mentioned in page no- 42 and 43 for pre-monsoon and post monsoon respectively.</p>	<p>-----</p>
<p>5.</p>	<p>The fixed GCPs, used in the pre and post monsoon surveys, are noted to be having different latitude / longitude and elevation readings. (Photographs of the fixed GCPs in Page 16 and 25). The elevation of fixed GCP used in pre-monsoon survey is mentioned to be 12.47 m with accuracy of ± 3. 45 m whereas the fixed GCP used in the post monsoon</p>	<p>Now Ground control point establishment and monumentation shown in map at page no- 44 and the at intersection points, Northing and Easting along with elevation mentioned in tabular format.</p>	<p>-----</p>

	<p>survey is stated to be having elevation of 16.32 m with accuracy of ± 3.35 m. The fixed GCPs are not as per the procedure stipulated in the ORSAC SOP. (Sub para 1 of Para “Ground control point establishment and monumentation” of ORSAC SOP. The reported errors are also higher than the stipulated horizontal and vertical coordinate accuracy of ± 10 mm and ± 20 mm respectively. (Sub para 2 of para “Ground control point establishment and monumentation” of ORSAC SOP.</p>		
<p>6.</p>	<p>In view of above, the revised replenishment study report submitted in ADS is not considered to have been prepared based on survey as per ORSAC SOP as well as the same is not in conformity with relevant stipulations of the “Enforcement & Monitoring Guidelines for Sand Mining, Ministry of Environment Forest and Climate Change, January 2020.” The findings of the replenishment study also need to be reconciled with the approved mining plan regarding presence water channel inside the ML area, depth of sand to be mined etc.</p>	<p>The replenishment study has been carried out again for the lease area for the year 2024 during pre-monsoon and post monsoon survey. Mining plan was prepared and approved before three years of ago and now the surface area of deposition of sand, water flow direction and area cover under water and soil has been changed which is clearly mentioned in the surface plan attached at page no 28 and 35 of the Replenishment study report. Copy of the report attached as Annexure - 1</p>	<p>Annexure 1 is attached.</p>
<p>26. The proposed site was visited by the sub-committee of SEAC on 15.11.2024. Following are the observations of the sub-committee:</p> <ol style="list-style-type: none"> a) The site is located near bank of Kuakhai river just at the bridge starting over Kuakhai. b) It was observed that plenty of sand is available. c) As the lease area is located about 200 mts from bridge, PP needs to leave another 300 mts as safety zone including required distance from the river bank. d) There is an approach road available which needs to be operated carefully during festival days as there is an area demarcated for ideal immersion nearby. e) The query has another lease area yet to be allotted by Tahasil, thus making it as a Clustered mine. f) PP has explained about semi mechanised mining by use of a loader etc. However, PP may be asked to submit a brief about semi mechanised mining proposed by them. <p>27. The SEAC in its meeting held on dated 03-02-2025 decided to take decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:</p>			

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	As the lease area is located about 200 mts from bridge, PP needs to leave another 300 mts as safety zone including required distance from the river bank and submit a revised conceptual plan accordingly.	Revised conceptual plan is attached as Annexure 1.	Complied
2.	PP has explained during site visit that semi mechanised mining by use of a loader etc. will be carried out. Hence, the PP shall submit a brief note about semi mechanised mining proposed by them.	A brief note on method of mining as approved in mining plan is attached as Annexure 2.	Complied
3.	GCPs look different for Pre and Post Monsoon. Elevation at GCP points is not given.	GCP for pre and post monsoon and elevation at GCP points attached as Annexure 3.	To be checked by members

28. The PP has submitted in ADS to SEAC that the replenishment study has been Carried out again for the lease area for the year 2024 during pre-monsoon and post monsoon surveys in which safe workable area for pre-monsoon is 65670sq.mtr and safe workable area for post-monsoon is 68900sq.mtr. The common safe workable area is 66148sq.mtr and the difference in elevation is 1.59101m. Hence Replenished reserve is 105175 cum and proposed quantity of extraction is 60% of the replenished reserve, i.e., **63105cum**. Now grid interval of 20m showing grid value mentioned in page no- 42 and 43 for pre-monsoon and post monsoon respectively. Average depth of replenishment quantity-**1.59 meter**

29. Any deficiencies/omission have been noticed in the above documents- KML verified. River Bridge is at 200 m.PP has left 500m from bridge as no-mining zone(ADS submitted to SEAC on 11.03.2025)

2. **Deliberation in SEAC Meeting-** The proposal was placed in the SEAC meeting held on 19.04.2025 for consideration of EC. Considering the information / documents furnished by the proponent and presentation made by the consultant M/s Kalyani Laboratories Private Limited, Bhubaneswar on behalf of the proponent, the SEAC recommended for grant of Environmental Clearance valid upto lease period with stipulated conditions in addition to the following specific conditions.

- (i) Amended EIA Notification dated 25th July, 2018, Guidelines for sustainable sand mining, 2016 and Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India shall be adhered to in execution of Mining as per **Annexure- B.**
- (ii) Sand extraction shall be limited to quantity and depth as per replenishment study report for only the first year of mining. Regular replenishment study as per guidelines to be conducted and report to be submitted.
- (iii) Provision of Bio-toilet shall be made at the site.
- (iv) Avenue plantation and plantation on both sides of the haulage road in consultation with/ on the advice of concerned Forest Department, Government of Odisha & W.R. Department Government of Odisha as well.
- (v) Stone patching with plantation in between along the stretch of the bank associated with sand mining and necessary ramp construction shall be made