

Semi Annual Environmental Monitoring Report

Reporting Period: July-December2021

ADB Project Number: 46462-003

Loan Number: 3539-IND

India: Odisha Skill Development Project

April 2022

ABBREVIATIONS

BMC	- Bhubaneswar Municipal Corporation
BDA	- Bhubaneswar Development Authority
CGWA	- Central Ground Water Authority
CO	- Carbon Monoxide
DG	- Diesel Generator
DPR	- Detailed Project Report
DTET	- Directorate of Technical Education & Training
EHS	- Environment, Health & Safety
EMP	- Environmental Management Plan
ESMC	- Environment and Social management Cell
Gol	- Government of India
GoO	- Government of Odisha
GRC	- Grievance Redressal Committee
IT	- Information Technology
ITC	- Industrial Training Centre
ITES	- Information Technology Enabled Service
ITI	- Industrial Training Institute
LPG	- Liquid Petroleum Gas
MoEFCC	- Ministry of Environment, Forest and Climate Change
MoSDE	- Ministry of Skill Development and Entrepreneurship
MSME	- Micro Small and Medium Enterprises
NCVT	- National Council for Vocational Training
NOC	- No Objection Certificate
NOx	- Oxides of Nitrogen
OSDA	- Odisha Skill Development Authority
OSDP	- Odisha Skills Development Project
OSDS	- Odisha Skill Development Society (now known as OSDA)
OSEM	- Odisha State Employment Mission
OSPCB	- Odisha State Pollution Control Board
RPL	- Recognition of Prior Learning
RSPM	- Respirable Suspended Particulate Matter
SDTED	- Skill Development and Technical Education Department
SDEC	- Skill Development and Employment Centre
SEIAA	- State Environment Impact Assessment Authority
SO ₂	- Sulphur dioxide
SPCB	- State Pollution Control Board
SPM	- Suspended Particulate Matter
SPS	- Safeguard Policy Statement
STP	- Sewage Treatment Plant
ToT	- Training of Trainers
WSC	- World Skill Center

CURRENCY EQUIVALENTS

(As of December 31 2021)

Currency unit	–	Indian rupee (₹)
Re1.00	=	\$0.013
\$1.00	=	₹74.51

WEIGHTS AND MEASURES

µg	–	microgram
dB(A)	–	weighted decibel
km	–	kilometer
km ²	–	square kilometer
m	–	meter
m ²	–	square meter

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I. INTRODUCTION

A. Background

1. At the request of the Government of India (GOI) and the Government of Odisha (GoO), the Asian Development Bank (ADB) has provided \$85 million in loan assistance to modernize and reform Odisha's Technical and Vocational Education and Training (TVET) programs and scale up training capacity. The Skill Development and Technical Education Department (SDTED) in GoO is the executing agency for the Odisha Skill Development Project (OSDP) currently under implementation. The Odisha Skill Development Authority (OSDA) is the Implementing Agency (IA) for the OSDP. The OSDA also functions as the project management unit (PMU) for the project.

2. The impact of OSDP will be increased employability and productivity of Odisha's working age population. The outcome will be increased skills and employment in priority sectors for males and females. With minor change of scope, now the OSDP will set-up and operationalize World Skill Center (WSC) in an existing 18 Story building of the Government known as "Idco Tower 2010" at Bhubaneswar. The WSC will have hostel facility, house classrooms, laboratories, libraries, and other associated utilities. The WSC is in Bhubaneswar while it will act as a hub for Technical and vocational education and training institutions spread all over the state. The WSC will be set up and operated by OSDA with support from an international knowledge partner. There are four outputs of the OSDP project:

- Output 1: Equitable access to market-responsive skills development programs increased.
- Output 2: Quality and relevance of skills development programs improved.
- Output 3: Skills ecosystem strengthened.
- Output 4: Institutional capacity strengthened.

3. Output 1 of the project will involve establishing a WSC and supporting a network of WSC as hub and all government ITIs as spokes under a hub-and-spoke model. The network will support changes in the skill ecosystem covering WSC training (19,000), ITI training (60,000), polytechnic training (32,000), Self-employment initiative (15,000) and RPL certification (25,000) across the state of Odisha. This output has four sub-outputs: (i) increased access to quality training through a hub-and-spoke model, with the provision of already constructed building usage for WSC and hostels, workshops, and laboratory equipment for WSC and all government ITIs¹ (ii) improved access to training for women and disadvantaged social groups; (iii) market-responsive training programs delivered for the state's priority sectors in collaboration with key industry players; and (iv) RPL systems established.

4. Since OSDP is ADB funded so the project planning and implementation has to comply with Asian Development Bank Safeguard Policy Statement 2009 (ADB SPS 2009) in addition to regulatory requirements of GOI and GoO. an Environmental Assessment Review Framework (EARF) has been prepared under the project. The EARF compliance has been reflected in semi- annual environmental monitoring report (EMR).

¹The Government of Odisha will finance hostels, workshops and ITIs including hostel at WSC.

B. Project Profile

5. The retrofitting works in 'Idco Tower 2010' for WSC establishment have been classified as Category B according to the Safeguard Policy Statement (SPS), 2009 of ADB as no significant impacts are envisioned. An Environmental Management Plan (EMP) which addresses the potential impacts and risks identified by the environmental assessment has been prepared. The level of details and complexity of the EMP and the priority of the identified measures and actions are commensurate with the Project's impact and risks. The EMP is part of bidding and contract documents to comply with ADB's SPS, 2009.

6. Details of retrofitting activities taken up at the end of December 2021 are presented in **Table 1**.

Table-1: Retrofitting Activities under Implementation at 'Idco Tower 2010' for WSC Establishment

Sl. No.	Retrofitting Activities Details	Physical Progress	Percentage Completion
1	Dismantling work of wall and floor	Completed	100
2	Brick work	Completed	100
3	Plastering work	Completed	100
4	Fixing of tile work	Work in progress	100
5	M.S Strengthening work	Completed	100
6	FRP Strengthening work	Completed	100
7	Partition work	Completed	100
8	False flooring work	Work in progress	80
9	Roller and vertical blinds	Work in progress	80
10	Plumbing work (Toilet)	Work in progress	90
11	painting work	Work in progress	80
12	Door & door fittings	Work in progress	75
13	Epoxy flooring	Completed	100
14	Furniture work	Work in progress	50
15	False ceiling work	Work in progress	80
16	Graphics and Signage Work	Work in progress	50

Note: No construction works were in progress at Precision Engineering and Hostels subproject as well as installation and upgradation of laboratories and workshops at four ITIs (Bhubaneswar, Cuttack, Puri and Barhampur)

7. This Environment Monitoring Report for July 01 to December 31, 2021 duration presents the status of the project implementation, details of compliance with environmental regulations of the Government of India and or /Odisha State and ADB SPS 2009, loan covenants, details of complaints received, if any and their redress and the status of EMP compliance.

II. ENVIRONMENTAL ASSESSMENT AND REVIEW PROCEDURE

A. Environmental Legal Requirements

8. Following Regulations are currently in force in India that deals with environmental issues that could apply to infrastructure development. Acts and Rules pertaining to monuments and archeological sites are also listed herein.

- i. The Water (Prevention and Control of Pollution) Act, 1974, amended 1988
The Water (Prevention and Control of Pollution) Rules, 1975
The Water (Prevention and Control of Pollution) Cess Rules, 1971
- ii. The Air (Prevention and Control of Pollution) Act, 1981, amended 1987.
The Air (Prevention and Control of Pollution) Rules, 1982
- iii. The Environmental (Protection) Act, 1986, amended in 1991 and 2006 and including the following Rules/Notification issued under this act.
 - The Environmental (Protection) Rules, 1986, including amendments.
 - The Solid Waste Management Rules, 2016
 - The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016
 - The Bio-Medical Wastes (Management) Rules, 2016
 - Noise Pollution (Regulation and Control) Rules, 2000
 - Environmental Impact Assessment Notification, 2006 and amended thereof.
 - Environmental Standards of Central Pollution Control Board (CPCB)
- iv. The Indian Wildlife (Protection) Act, 1972, amended thereof.
The Wildlife (Protection) Rules, 1995
- v. The Indian Forest Act, 1927
- vi. Forest (Conservation) Act, 1980, amended thereof.
Forest (Conservation) Rules, 1981 amended thereof.
Guidelines for diversion of forest lands for non-forest purpose under the Forest (Conservation) Act, 1980
- vii. Ancient Monuments and Archaeological Sites and Remains Act, 1958
- viii. Ancient Monuments and Archaeological Sites and Remains Rules, 1959
- ix. Government of India Notification 1992 under the above stated Rules
- x. Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010
- xi. Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation), Rules, 2011.

B. Compliance with Environmental Regulations

9. The requisite environmental clearance (EC) for the tower 2010 (WSC Building) had been obtained by the Odisha Industrial Infrastructure Development Corporation (IDCO) from the State Environmental Impact Assessment Authority (SEIAA), Odisha in April 2014. Further, the requisite application for revalidated EC due to change of proposed utilization of the WSC building from commercial to institutional activities has been submitted by IDCO to SEIAA Odisha in June 2019, and revalidated EC has been obtained in February 2021 (**Annexure-1**).

C. Compliance of Environmental Loan Covenants

10. **Table-2** shows the environmental safeguard related loan covenants and their compliance status in implementation. All the covenants are being complied with during project implementation.

Table-2: Compliance of Environmental Loan Covenants

Reference	Details Covered	Status / Compliance
Para 4, Schedule -5 of Loan Agreement	1-The Borrower shall ensure, or cause the EA to ensure, that the preparation, design, construction, implementation, operation and decommissioning of the Project, and all Project facilities comply with (i) all applicable laws and regulations of the Borrower and the State relating to environment, health, and safety; (ii) the Environmental Safeguards; (iii) the EARF; and (iv) all measures and requirements set forth in the related IEE and EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Being Complied The EMP is included in contract document .
Para 7, Schedule – 5 of Loan Agreement	The Borrower shall ensure or cause the EA to ensure that all necessary budgetary and human resources to fully implement the related EMP, and the IPP as required, are made available.	Being Complied. All necessary budgetary and human resources requirements are available for EMP implementation.
Para 8, Schedule – 5 of Loan Agreement	<p>The Borrower shall ensure or cause the EA to ensure that all bidding documents and contracts for Works contain provisions that require contractors to:</p> <p>:</p> <p>(a) Comply with the measures and requirements relevant to the contractor set forth in the related IEE and EMP, and the IPP as applicable (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set out in a Safeguards Monitoring Report.</p> <p>(b) Make available a budget for all such environmental and social measures;</p> <p>(c) Provide SDTE with a written</p>	<p>Being Complied</p> <p>(a) Measures indicated in IEE and EMP are being implemented and complied with. The corrective action taken on the issues noticed in the previous reporting period has been presented in Annexure 8. The corrective actions recommended in this second environmental monitoring report shall be implemented and compliance report will be submitted in the next semi-annual EMR report.</p> <p>(b) The budgetary provisions for IEE and EMP implementation are available.</p> <p>(c) So far, no unanticipated environmental risks or</p>

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Reference	Details Covered	Status / Compliance
	<p>notice of any unanticipated environmental, resettlement or indigenous peoples risks if any, or impacts that arise during construction, implementation or operation of the Project that were not considered in the related IEE and EMP, or the IPP if any;</p> <p>(d) Adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and</p> <p>(e) fully reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</p>	<p>impacts are foreseen. If any such impacts are foreseen, OSDA will inform ADB.</p> <p>(d) Being Complied</p> <p>(e) The access roads, pathways, agriculture land and other infrastructure used will be reinstated to original conditions at the end of construction phase of the project.</p>
Para 9, Schedule – 5 of Loan Agreement	<p>The Borrower shall ensure or cause the EA to ensure the following:</p> <p>(a) Submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission.</p> <p>(b) If any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the related IEE and EMP, or the IPP as applicable, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and</p> <p>(c) Report any breach of compliance with the measures and requirements set forth in the EARF, related IEE and EMP, IPP, and provisions of paragraph 8 of this Schedule, promptly after becoming aware of the breach.</p>	<p>Being Complied</p> <p>(a) This is the fourth Semi-annual EMR report.</p> <p>(b) Being Complied</p> <p>(c) Not any, being complied</p>
Para 10, Schedule – 5 of Loan Agreement	<p>Prohibited List of Investments</p> <p>The Borrower shall ensure, or cause the EA to ensure, that no proceeds of the Loan under the Project are used to finance any activity included in the list of prohibited investment activities</p>	Complied with.

Reference	Details Covered	Status / Compliance
	provided in Appendix 5 of the ADB's Safeguards Policy Statement (2009).	
Para 11, Schedule – 5 of Loan Agreement	Labor standards The Borrower shall ensure or cause the State and EA to ensure that Works contracts under the Project follow all applicable labor laws of the Borrower and the State and that these further include provisions to the effect that contractors (i) carry out HIV/AIDS awareness programs for labor and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction; and (ii) follow and implement all statutory provisions on labor (including not employing or using children as labor, equal pay for equal work), health, safety, welfare, sanitation, and working conditions. Such contracts shall also include clauses for termination in case of any breach of the stated provisions by the contractors.	Being Complied with.

D. Compliance with Environmental Assessment and Review Framework (EARF)

11. The EARF for the project requires EMP implementation at all subproject construction sites, regular monitoring of EMP implementation, compliance with State and Central Government regulatory requirements and reporting the safeguards compliances as per requirements of ADB SPS 2009.

12. The EARF has indicated requirement of formation of Environment and Social Management Cell (ESMC) at OSDA PMU. The ESMC has been formed and functional. The copy of the ESMC Notification through office order has been provided in **Annexure-2**. To comply with the EARF and IEE report, EMP implementation is being monitored, and EMR on biannual basis is being prepared.

E. Environmental Organization and Management

13. The main agencies involved in managing and implementing the Environmental Management and Monitoring Plan (EMMP) at OSDP are:

- i. **Executive Agency (EA).** The Government of Odisha through SDTED is the executing agency. The executing agency (i) assumes overall responsibility for the execution of the project and reporting; (ii) engage adequate permanent or fixed-term staff to implement the Project; (iii) setup a state-level project management unit (PMU) and project implementation unit (PIU) at local sub-project level; (iv) provides

overall strategic guidance on technical supervision and project execution; and (v) ensures overall compliance with the loan covenants.

- ii. **Implementation Agency (IA).** The implementing agency in the project OSDA. The implementing agency responsibilities include (i) project planning and budgeting; (ii) day-to-day assistance, supervision and guidance for the project implementation units and their consultants; (iii) review project components for due diligence requirements and approve proposals for various components of the project; (iv) bidding, evaluation and contract award; (v) managing and disbursing funds; (vi) review compliance with loan covenants, contract specifications, work plans and quality control; and (vii) consolidate and submit progress reports, finance and accounting / audit reports, and matters requiring higher level decision to project steering committee (PSC) and ADB. In the OSDA project management unit (PMU) has been established to assist GoO in implementation of OSDP.

14. An Environmental Specialist (ES) in the PMU is responsible for addressing the environmental issues in the project components during design and implementation. The ES ensures that all mitigation requirements are in contractor bidding documents, EMPs and environmental monitoring plans of various subprojects (WSC and ITI equipment upgradation) are included in the contract documents of contractor. In the entire construction phase, the ES will supervise the effective implementation of EMPs and environmental monitoring plans of subprojects under implementation. In addition to the above roles, the ES also assists OSDP in preparation of safeguards documents such as environmental monitoring reports and addendum IEE reports and in organizing capacity building training programs on environmental safeguards to the contractors, IDCO Staff associated with the project and PMU Staff. The institutional arrangement for EMMP implementation is given below in **Figure-1**. The roles and responsibilities of EMMP implementing team have been provided in **Table-3**.

Figure-1: Project Implementation Arrangements for Environmental Safeguards

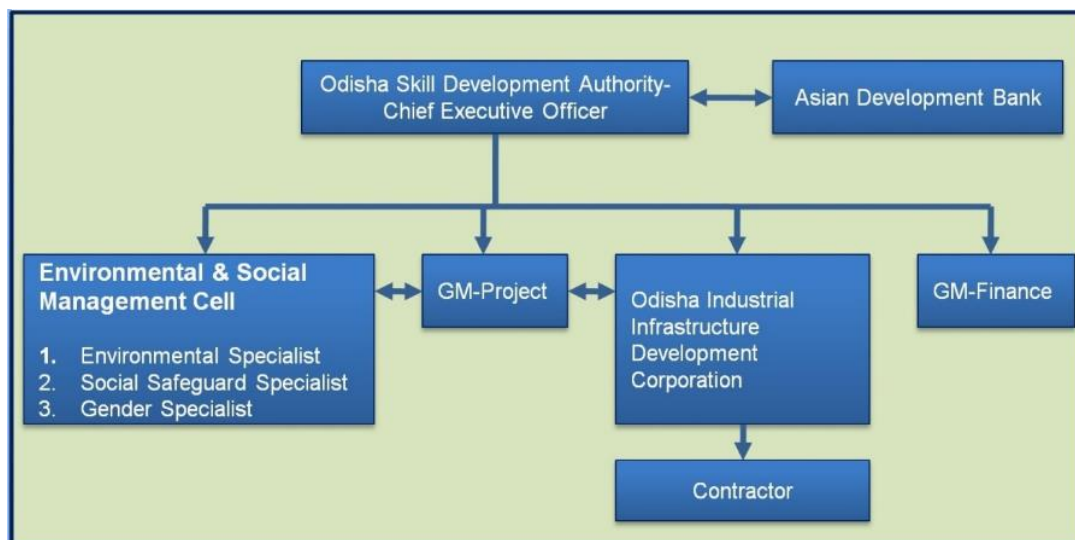


Table-3: Roles and Responsibilities of Environmental Safeguards Implementation Team

Sl. No.	Team /Organization	Member	Contract Details of Responsible Person	Roles and Responsibilities
1	Odisha Skill Development Authority (OSDA) CEO and Head ESMC		Chief Executive Officer Mr. G. Reghu Phone -+91 9438588644	As an implementing agency head, responsible for implementation of all activities including environmental safeguards.
2	General Manager Project – Team Member ESMC		Mr. Sanjay Padhi Phone - +919937360311	-To ensure EMMP implementation during project execution.
3	Odisha Industrial Infrastructure Development Corporation- Member ESMC	Team	Mr. R.K. Das General Manager Phone- +91 7008609014	-To award and monitor construction works at IDCO Tower 2010 for the WSC establishment - To ensure contractor working at WSC has all regulatory licenses and insurance - To ensure the contractor maintains site and construction camp including sanitation facilities. - To ensure contractor appoints an HSE. - To facilitate data from construction site for preparation of semi-annual environmental monitoring report.
4	Environmental Consultant and Team Member ESMC		Mr. Shreeniwas Verma- Environmental Specialist Phone - +919811224458	-To ensure implementation of Environmental Management and Monitoring Plan (EMMP) during execution of project, Updating of IEE report and preparation of EMR.
5	Contractor		M/s B.C. Bhuyan Construction Private Ltd., Bhubaneswar Mr. N. Khan Phone +917008629836	-To ensure EMMP implementation in construction activities. -To appoint HSE officer and ensure that officer is available during construction activities at site. - To ensure regulatory compliance and H&S arrangements at site during construction phase.

III. COMPLIANCE STATUS ENVIRONMENTAL MANAGEMENT AND MONITORING PLANS

15. Status of compliance with Environmental Management Plan for the 'Idco Tower 2010' building refurbishment works for the WSC establishment is given in the **Table-4**.

16. Environment, Health and Safety training was given to the Managers and construction crew of contractor at WSC construction site by the IDCO site in-charge. The contractor was also advised to conduct regular training and induction training on Environment, Health and Safety. Photographs of EHS compliance at site during reporting period are presented in **Annexure-3**.

17. Monitoring of Water quality, Air quality and Noise levels were conducted during the reporting period in September 2021. Contractor has been directed to regularly submit monitoring reports.

A. Status of Compliance to EMP at World Skill Center Building under Refurbishment

Table-4: Status of Compliance to EMP for Preconstruction and Construction Phases for WSC Building Refurbishment Works

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
A. Pre-Construction Phase							
1.	Lack of sufficient planning to assure long term sustainability of the WSC building and ensure protection specially from earthquake and other natural disasters	<p>The design WSC building has been completed considering earthquake coefficient of zone III.</p> <p>Building located on a plain land and sustainability principles such as treated water recycle, rainwater harvesting, solid waste segregation, etc. have been incorporated in project design.</p>	√			The current refurbishment works are being taken up in the already constructed building, so already inbuilt safety features and sustainability features (rainwater harvesting structures, treated water recycles and roof top solar panels, etc.) are not being changed.	None
2.	Layout of components to avoid impact on the aesthetics of the WSC building and surroundings.	All the WSC components are planned within the existing building, therefore, no adverse impacts on aesthetics of WSC building and surrounding area. Hence, no mitigation measures are warranted.			√	The exterior features of building complex (green and open area, building look, entrance and exit gates, etc.) are not subjected to any change as part of refurbishment works for the establishment of WSC. Hence this is not applicable.	None
3.	Increased storm water runoff from alterations of the site's natural drainage patterns due to landscaping, excavation works, construction of parking lots, and addition of paved surface.	The 'Idco Tower 2010' design has taken care of storm water drainage. The storm water will be diverted will be diverted to rainwater recharging pits, planned in 10 numbers.			√	There is no impact on storm water drainage system as part of refurbishment works. Hence this is not applicable.	None
4.	Integration of energy efficiency and energy conservation programs in design of WSC building	Following measures have been included in the design to enhance energy efficiency:	√			In the refurbishment works, there is limited construction work inside the building,	None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
		<ul style="list-style-type: none"> • Usage of recyclable materials like wood substitutes. • Installation of BEE certified equipment • Usage of energy efficient lighting fixtures (LED) 				<p>however, following energy efficient systems are planned:</p> <p>1- All the equipment to be installed in workshops and laboratories are BEE certified.</p> <p>2-The internal lighting system in WSC is LED</p>	
5.	Permissions and NOCs and Environmental Clearance Modification	<p>Environmental clearance modification from commercial usage to educational purposes is in the process of modification.</p> <p>Necessary building occupancy certificate from Bhubaneswar Municipal Corporation.</p> <p>Labor license for the construction work force from GoO.</p>	√			<p>The OSDP has obtained modified environmental clearance for WSC usage.</p> <p>The building occupancy certificate from Bhubaneswar Municipal Corporation will be obtained on completion of refurbishment works.</p> <p>The contractor has obtained labor license. The contractor has also completed registration under Building and other construction workers (Regulation of Employment and Condition of Service) Act, 1996 and rules made there under for WSC site. This registration certificate has been given in Annexure-4.</p>	None
6.	Establishment of baseline environmental conditions prior to	<ul style="list-style-type: none"> • Conduct documentation of location of components, areas for 	√			1-The construction zone in the current case is inside	None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
	start of civil works	<p>construction zone (Camp, staging, storage, stockpiling, etc.) and surroundings (within direct impact zones). Include photos and GPS coordinates</p> <ul style="list-style-type: none"> Carry out pre construction phase environmental monitoring in respect of ambient air quality, water quality and noise levels as per monitoring plan. This monitoring is to establish baseline environmental monitoring. 				<p>building. Camp has been established in the backside of building in open area. The photographs of material storage area have been taken.</p> <p>2- Pre- construction phase monitoring data is available as part of environmental clearance compliance for IDCO Tower 2010 to SEIAA.</p>	
7.	Construction Camps - Location, Selection, Design and Layout	(i) Construction camp at the WSC site will be located within the vacant space of building. Contractor may hire house also for accommodation of workers. Adequate sanitation facilities shall be provided at camp site, if planned and no waste water will be discharged outside.	√			(i) The construction camp has been established in the vacant space in the backside of building. Adequate sanitation facilities have been provided at camp side. No wastewater from camp site is discharged outside building complex.	None
		(ii) Locations for storage of construction materials shall be identified or in the open and vacant area of the building.	√			(ii) The location of storage for the materials is in open area in the back side. Some construction materials are stored in covered space inside building.	None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
		(iii) Sanitation facilities at construction camp shall be adequately planned if it is established in Building premises	√			(iii) Sanitation facilities exist near the camp. The photographs of construction camp and sanitation facilities have been provided in Annexure-5 .	None
8.	Sources of construction materials	Use quarry sites and sources licensed by the GoO. In case materials are sourced from market, ensure these are from licensed sources compliant with environmental regulations of India. Verify suitability of all material sources and obtain approvals from PMU	√			Use of quarry fed materials is limited as minor refurbishment works are being implemented. The contractor has confirmed that materials are procured from approved sources compliant with environmental laws of the country. The construction /refurbishment works are being implemented under the instructions of IDCO a GoO undertaking. The IDCO is ensuring construction materials procurement from sources compliant with environmental regulations of GoI and GoO. The suitability of materials is verified by the IDCO site Engineer deployed at site.	None
		Submit to Odisha Industrial Infrastructure Development Corporation and PMU monthly documentation of sources of materials.	√			The contractor is submitting material procurement documentation to IDCO and OSDA.	None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
9.	Occupational health and safety	<p>Comply with IFC EHS Guidelines on Occupational Health and Safety. Develop comprehensive site-specific health and safety (H&S) plan. The overall objective is to provide guidance to contractor on establishing a management strategy and applying practices that are intended to eliminate, or reduce, fatalities, injuries and illnesses for workers performing activities and tasks associated with the project.</p> <p>Include in H&S plan measures such as: (i) type of hazards at WSC building during retrofitting; (ii) corresponding personal protective equipment for each identified hazard; (iii) H&S training for all site personnel; (iv) procedures to be followed for all site activities; and (v) documentation of work-related accidents.</p> <p>Provide medical insurance coverage for workers.</p>	√			<p>The contractor is following IFC EHS guidelines and instructing the workers for the usage of PPEs. The contractor has submitted the H&S plan covering possible hazards during retrofitting works, training modules planned, procedures for site activities and documentation of work-related accident to the PMU.</p> <p>The contractor has obtained an all-risk insurance policy and informed that this will cover medical coverage also. The policy has been enclosed in Annexure-6.</p>	None
10.	Stakeholder consultations	Continue information dissemination, stakeholder consultations, and involvement/participation of stakeholders during project implementation.	√			The stakeholder consultations in the reporting period have been taken up by the OSDA through meetings and site visit. These will be taken up in the next reporting period also.	Stakeholder consultations should be taken up regularly to comply with ADB SPS 2009.

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
B. Construction Phase							
1.	Sanitation and drinking water facilities at construction Camp of WSC	<p>(i) The contractor shall provide sanitation facilities at the WSC construction camp site. These facilities will include dust bins in adequate numbers for solid waste collection, drinking water facilities, and separate toilets for male and females. In case camp is established in some house, then the contractor will ensure that adequate facilities exist in the house. These toilets facilities shall be maintained. In case camp is established in open in the 'Idco Tower 2010' premises, then septic tanks/soak pits shall be provided at the toilets. The dust bins shall be regularly emptied and waste from camp site shall be disposed off at designated locations.</p> <p>(ii) Sufficient supply of potable water to be provided and maintained. If the drinking water is obtained from an intermittent public water supply then storage tanks will be provided. For this contractor will submit plans how availability of drinking water shall be assured.</p>	√			<p>(i) The contractor has established construction workers' camp in vacant space and sanitation facilities have been provided. Separate toilet facilities have been provided for males and females. The sanitation facilities have septic tanks. The dust bins have been provided.</p> <p>(ii) Potable water at camp and construction site is made available through tanker. This water tanker remains available at site.</p>	None
2.	Land acquired for Temporary Usage, clearance activities	The commencement of site clearance activities for temporary acquired areas, if any will be undertaken with due permission from the Environment Specialist of the PMU to minimize			√	There is no temporary or permanent acquisition of land to support the refurbishment works. Since no temporary acquisition, so	None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
		<p>environmental impacts. Photographic records of original conditions of site will be maintained.</p> <p>All areas used for temporary construction operations will be subject to complete restoration to their former conditions with appropriate rehabilitation procedures.</p>				there was no requirement for site clearance. Hence this is not applicable.	
3.	Waste disposal	<p>The pre-identified disposal location shall be part of Comprehensive Waste Disposal Plan. Solid Waste Management Plan to be prepared by the Contractor in consultation with local civic authorities.</p> <p>The construction /demolition waste will be utilized to the extent possible. For disposal of non-usable waste location of disposal site for construction waste will be finalized by the Environmental Specialist of the PMU OSDA and Odisha Industrial Infrastructure Development Corporation. He/ She will confirm that disposal of the material will not impact the water body. It will also be ensured that no flora is damaged.</p>	√			<p>The waste generated is stored at site. General housekeeping of the site is not proper. The photographs of waste storage at WSC site have been given in Annexure-7. A solid waste management plan has been prepared by the Contractor.</p> <p>The disposal locations have been identified, but will be finalized in consultation with civic authorities at the end of construction phase.</p>	General housekeeping of the site to be improved by the Contractor.
4.	Stockpiling of construction materials	Stockpiling of construction materials should not impact or obstruct the drainage of building premises and Stockpiles will be covered to protect from dust and erosion. As far as possible these may be stored in basement of building.		√		Most of the construction materials are stored inside IDCO tower except steel and subgrade. Stockpiling of material was not proper. Material was lying scattered.	Contractor has been directed to properly store the material at designated place.

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
5.	Arrangement for Construction Water	<p>(i) The Contractor shall provide a list of locations and type of sources from where water for construction shall be acquired.</p> <p>(ii) The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department.</p> <p>(iii) To avoid disruption/ disturbance to other water users, the Contractor shall arrange water from market or from BMC and consult Odisha Industrial Infrastructure Development Corporation before finalizing the source.</p>	√		√	<p>(i) The contractor has arranged construction water from Bhubaneswar Municipal corporation.</p> <p>(ii) Since ground or surface water from site is not in use so this is not applicable.</p> <p>(iii) The contractor has finalized the water source from BMC.</p>	None
6.	Soil and Water Pollution due to fuel and lubricants, construction waste, and waste water discharge	<p>(i) The vehicle cleaning and storage of fuel should be avoided at WSC site as far as possible. In case of unavoidable circumstances, fuel storage and vehicle cleaning area at WSC site will be stationed such that water discharge does not drain into the local drain. Soil and water pollution parameters will be monitored as per monitoring plan.</p> <p>(ii) Waste water from vehicle parking, fuel storage areas, workshops, wash down and refueling areas shall be treated in an oil interceptor before discharging it on land or into surface water bodies or into other treatment</p>	√			<p>(i) The vehicle cleaning is not taken up at WSC (IDCO Tower) project site. The fuel storage is minimal (for daytime in jerry canes) for DG use. It is purchased on need basis and consumed in daytime works.</p> <p>(ii) There are no workshops, wash down and refueling areas at the site. The refueling is done in the market at fuel outlets. The number of vehicles used is hardly one or two. These are parked in dedicated</p>	None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
		system. (iii) At the camp site sanitation facilities with septic tank will be provided so that there is no discharge of any waste water either to drain or open area.				parking area of building, due to this need for oil interceptor is not felt. (iii) At the construction camp sanitation facilities have been provided and these have septic tanks.	
7.	Siltation of water bodies due to spillage of construction wastes	No disposal of construction wastes will be carried out into any natural streams or local drains. Extraneous construction wastes will be transported to the pre-identified disposal sites for safe disposal.	√			The construction waste is not disposed off into any natural stream or drain. The sites for construction waste disposal are yet to be finalized. In the meantime, it is being stored at site. The photographs have been provided in Annexure-7 .	None
8.	Generation of dust	The contractor will take every precaution to reduce the levels of dust during retrofitting and refurbishment works at various floors. The dust generation will also be avoided during material handling. Environmental monitoring will be taken up as per monitoring plan.	√			The contractor is taking up dust generation control through various mitigations such as water spray on stockpiles, inside building works are confined space. Environmental monitoring has been conducted by the Contractor and parameters of ambient air quality have been found within permissible levels	None
9.	Emission from Construction Vehicles, Equipment and Machinery	Vehicles, equipment and machinery used for construction will conform to the relevant Standards (vehicular emission standards of Government of India and CPCB specified standards	√			The contractor has confirmed that vehicle, equipment and machinery are conforming CPCB and GoI standards. These are	None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
		for equipment and machinery) and will be regularly maintained to ensure that pollution emission levels comply with the relevant requirements.				maintained outside project site at authorized workshops.	
10.	Noise Pollution	Noise limits for construction equipment used in this project will not exceed as specified in Gol and Gol regulations. Monitoring in respect of noise levels will be taken up as per monitoring plan. All noise generating equipment and machinery will be properly maintained. As far as possible construction activities will be scheduled in day time only.	√			Noise levels at site do not exceed as specified in the relevant Gol and GoO Regulations. All the construction equipment and machinery are maintained properly. The refurbishment works are taken up in day time only. Noise level monitoring has been conducted by the Contractor and noise levels have been found within permissible levels.	None
11.	Impacts on flora and fauna	(i) It will be ensured that there is no damage to shrubs, plantation and landscaping works due to construction works pertaining to retrofitting and refurbishment. (ii) No impact foreseen on fauna as WSC site is an industrial area	√			(i) All the refurbishments are planned within the existing building on each floor. There is no impact on any landscape or green area due to refurbishment works. All construction materials are stored either in basement floor or on the paved area in the backside of building. (ii) There is no impact on fauna due to refurbishment works	None
12.	Material Handling at WSC site	(i) Workers employed on mixing	√			(i) Workers handling	None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
		<p>cement, lime mortars, concrete, etc., will be provided with protective footwear and protective goggles.</p> <p>(ii) Workers, who are engaged in welding works, will be provided with welder's protective eye-shields.</p> <p>(iii) Workers engaged in stone/floor breaking activities will be provided with protective goggles and clothing.</p> <p>(iv) The use of any toxic chemical will be strictly in accordance with the manufacturer's instructions. 4-The Engineer will be given at least 6 working days' notice of the proposed use of any chemical. A register of all toxic chemicals delivered to the site will be kept and maintained up to date by the Contractor.</p>				<p>cement, lime mortar and concrete are provided protective goggles.</p> <p>(ii) Workers employed for welding works are provided welder eye shields.</p> <p>(iii) Workers handling stone (Granite, tiles, etc.) and floor breaking for foundation are provided with protective goggles and clothing.</p> <p>(iv) Any toxic chemical such as fuel, paints, lubricants, etc. are used as per safety procedures specified in material safety data sheets. Storage inventory records are kept at site.</p>	
13.	Occupational Safety and Health	Adequate safety measures for workers during handling of materials at the WSC site will be taken up.	√			Safety measures are taken up as per the requirements during the refurbishment works.	None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
		The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, accidental injury, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work.	√			All safety regulations are followed to avoid injury, accidents and fire at site.	None
		The Contractor will conform to all anti-malaria instructions given to him by the PMU and Odisha Industrial Infrastructure Development Corporation	√			The anti-malaria instructions of IDCO site Engineer and OSDA PMU are being followed by the contractor	None
14.	Safety measures during retrofitting civil works and installation of equipment and machinery of various trades	<p>Following safety measures will be followed during the retrofitting works and installation of equipment of various trades:</p> <p>a) Air Conditioning and Refrigeration:</p> <ul style="list-style-type: none"> • The foundations for all equipment and machinery mentioned for this trade in IEE will be constructed as per design specifications and at locations finalized in drawing. • Necessary clear space for the movement will be kept between the equipment/machinery. • All the moving equipment (motor, pump, cooling tower) shall be provided guards /enclosures, for this necessary 	√			<ul style="list-style-type: none"> • The retrofitting works for equipment and machinery are being taken up as per design drawings and specifications. • Clear Space for movement is planned as per drawings and specifications. • Safe Operating Procedures will be prepared after the equipment are installed. 	None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
		<p>space will be kept.</p> <ul style="list-style-type: none"> • Safe Operating procedures will be prepared for each equipment and displayed after installation of equipment. • Workers during construction of foundations and installation of equipment will be provided proper personal protective equipment (PPE). • Rubber mats shall be placed around electrical panel boards. <p>b) Facility Technology (Mechanical and Electrical):</p> <ul style="list-style-type: none"> • The foundations for all equipment and machinery mentioned for this trade IEE Report will be constructed as per design specifications and at the locations finalized in drawing. • Necessary clear space for the 				<p>This will be taken up after refurbishment works are completed.</p> <ul style="list-style-type: none"> • Workers are provided necessary PPE for construction of the foundations. • Rubber mats shall be placed after installation of electrical panels. This will be taken up after completion of refurbishment works. • The foundation works for equipment and machinery are being taken up as per design drawings and specifications. • Clear Space for movement is planned as per drawings and specifications. • Necessary spacing for providing guards/enclosures around movement is planned and being executed during laying foundations for the moving equipment during the refurbishment works. • Safe Operating Procedures will be 	None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
		<p>movement will be kept between the equipment/machinery.</p> <ul style="list-style-type: none"> • All the moving equipment (motor, drilling machine and pumps) shall be provided guards /enclosures, for this necessary space will be kept. • Safe Operating procedures will be prepared for each equipment and displayed after installation of equipment. • Workers during construction of foundations and installation of equipment will be provided proper personal protective equipment (PPE). • Necessary drip/spillage containing dyke /trays provisions will be kept around diesel storage tank planned at the floor. • Necessary spill tray will be provided at water storage tanks. • Rubber mats shall be placed around electrical panel boards 				<p>prepared after the equipment and machinery are installed. This will be taken up after refurbishment works are completed.</p> <ul style="list-style-type: none"> • The workers are being provided proper personal protective equipment during the building refurbishment works as foundations for equipment and machinery are being laid in the reporting period. . • Trays and /or spill containing dykes will be provided after installation of equipment and machinery. This will be taken up after completion of refurbishment works. • Spill Tray for water storage tanks shall be provided after installation of storage tank. It will be taken up after completion of refurbishment works and during equipment and machinery installation. • Rubber mats shall be placed after installation of electrical panels. This 	

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Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
						<p>will be taken up after completion of refurbishment works.</p> <ul style="list-style-type: none"> • All the mitigation measures specified for the Facility –Technology Vertical Transport will be taken up during the equipment and machinery installation after refurbishment works are completed. Hence no action needed in the current reporting period. • All the mitigation measures specified for the Facility –Technology Vertical Transport will be taken up during the equipment and machinery installation after refurbishment works are completed. Hence no action needed in the current reporting period. • All the mitigation measures specified for the Electrical Technology Workshop will be taken up during the equipment and machinery installation after refurbishment 	None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
		<p>c) Facility Technology – Vertical Transport</p> <ul style="list-style-type: none"> • Rubber mats shall be placed around electrical panel boards • Guards/enclosures will be provided around electrical motors • Safety measures specified by the manufacturers/suppliers of Travellers and lifts shall be displayed and followed. • Safe Operating procedures will be prepared for lifts, escalators, travellers and electric motors and these shall be displayed <p>d) Mechatronics</p> <ul style="list-style-type: none"> • Rubber mats shall be placed around electrical panel boards • Pneumatic system will be enclosed properly to avoid any external exposure of students • Safe Operating procedures will be prepared for lifts, escalators, travellers and electric motors and these shall be displayed • Oil drips if any shall be wiped with cotton or cloths rags • The installation of hydraulics systems, lifts, elevators, motors will be done at the specified 				<p>works are completed. Hence no action needed in the current reporting period.</p> <ul style="list-style-type: none"> • This mitigation measure will be implemented after completion of refurbishment works and at the time of equipment installation. Hence not applicable for the current reporting period. • During refurbishment works all electrical wiring is being carried out as per design to negate any chance of electricity short circuiting. • The water Circulation System is being constructed as per design and specifications and strict supervision is there in the works to ensure that there is no electrical short circuiting or shocks during operation. • Safety measures will be followed during the operation phase. Hence not applicable for the current reporting period. 	<p>None</p> <p>None</p>

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
		<p>locations in the layout</p> <p>e) Electrical Technology</p> <ul style="list-style-type: none"> • Rubber mats shall be placed around electrical panel boards • Pneumatic system will be enclosed properly to avoid any external exposure of students • Guards/enclosures will be provided around electrical motors • Safe Operating procedures will be prepared for lifts, escalators, travellers and electric motors and these shall be displayed • The installation of equipment and machinery will be done as per locations specified in the layout plan <p>f) Beauty and Wellness</p> <ul style="list-style-type: none"> • Adequate PPEs such as Gloves, masks, aprons, rubber shoes, Goggles, etc. will be procured at the time on installation • It shall be ensured that floor does not conduct the electricity • Do not do wiring with bare hands, wet gloves or while standing on wet or ungrounded surfaces • Water circulation system will be constructed with utmost care so 					None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
		that there is risk of short circuiting or electric shocks during operations of equipment. g) Hair Fashion and Design • The safety measures as mentioned for beauty and wellness shall be followed.					None
15.	Onsite emergency plan for minor accidents and mishaps and Disaster Management Plan for Natural Calamities	The onsite emergency plan will be prepared by the contractor in consultation with IDCO and PMU.	√			The onsite emergency plan document has been prepared by the contractor .	None
		For natural calamities, disaster management plan prepared by the Odisha Industrial Infrastructure Development Corporation under the provisions of Disaster Management Act 2005 will be followed.	√			For natural calamities disaster management plan prepared by the IDCO will be used.	None
16.	Clearing of Construction of Camp and Restoration	Contractor at the WSC site will prepare site restoration plan for approval by the PMU and Odisha Industrial Infrastructure Development Corporation. These camp site restoration plans are to be implemented by the contractor prior to demobilization.			√	The construction workers' camp will be cleared at end of refurbishment works completion. Hence no action needed now. Hence this is not applicable for reporting period.	None

Sl. No.	Environmental Issues	Mitigation Measures	Status of Compliance			Remarks	Follow up Actions Proposed
			Yes	No	NA		
		On completion of the works, all temporary structures will be cleared away, all rubbish burnt, excreta or other disposal pits or trenches filled in and effectively sealed off and the site left clean and tidy, at the Contractor's expense, to the entire satisfaction of the PMU and Odisha Industrial Infrastructure Development Corporation.			√	Temporary structures will be cleared at the end of WSC building refurbishment works completion. All rubbish, excreta, and other wastes will be disposed off at the end of construction phase. Hence this is not applicable for reporting period.	None
17.	Employment and Socio-economic	The manpower envisaged for retrofitting works is about 50. As far as possible preference will be given to local vendors and workers.	√			The contractor has engaged more than 90 % workers locally (natives of Odisha State). In the reporting period average workers were about 50 only.	None

B. Status of Compliance with EMP at four ITIs (Bhubaneswar, Cuttack, Puri and Barhampur) for equipment and machinery installation component

18. During the reporting period, work on this component was not in progress so EMP implementation of this component is not reported.

C. Status of Compliance with EMP for Precision Engineering and Hostel Sub-Project

19. During the reporting period, work on this component was not in progress so EMP implementation of this component is not reported.

IV. APPROCH & METHODOLOGY ENGAGED FOR ENVIRONMENTAL MONITORING OF THE PROJECT

20. Continuous monitoring of EMP implementation is being carried out by PMU and IDCO. The PMU at OSDA has established an ESMC for the environmental safeguard compliances **(Annexure-2)**. In this ESMC, there is environmental specialist as a team member.

21. The team members of ESMC and IDCO regularly visit the WSC building under the refurbishment. The ESMC reports to CEO OSDA about issues/ problems related to environmental non-compliances. Necessary directions, in case of non-compliance are being issued to the contractor through letters about the procedures to resolve the problems/issues or requirements.

22. Environmental monitoring was conducted by the Contractor during the reporting period. This monitoring is to check efficacy of mitigation measures being taken up at sites. The Environmental Monitoring Reports are attached. **(Annexure -11)**

V. MONITORING OF ENVIRONMENTAL RECEPTORS/ATTRIBUTES

A. Monitoring basis

23. The implementation of Environmental Monitoring Plan is required to check if any adverse impact is being caused by the construction activities. The monitoring of the indicated parameters (environmental attributes pertaining to air quality, water quality, and noise levels) in the monitoring plan is for checking efficacy of mitigation measures.

24. The monitoring of environmental parameters was not conducted by the Contractor during the reporting period due to very slow work progress owing to impacts of COVID 19 and restrictions in movement. Contractor was directed to conduct environmental monitoring as per the agreed Environmental Monitoring Plan in the EMP document.

B. Type of environmental receptor/ attribute to be monitored

25. The environmental attributes being monitored in the project include the air, noise and water quality parameters at the WSC site. The air quality parameters monitored include PM₁₀, PM_{2.5}, SO₂, NO_x and CO as specified in National Ambient Air Quality Standards (NAAQS) 2009. The water quality parameters include drinking water parameters specified in IS: 10500-2012. In case of noise, 'Day' time and 'Night' time Leq values are monitored as per National Ambient Noise Standards of CPCB on dB(A) scale.

C. Methods of monitoring and equipment used

26. The test methods being used for analysis of various parameters are detailed below in Table-5.

Table-5: Monitoring Parameters and Test Methods Used for Analysis

Parameter	Methodology
Ambient Air Quality: PM₁₀, PM_{2.5}, NO_x, CO and SO₂	
PM ₁₀	High Volume Sampler method (attached with cyclone)/Respirable Dust samplers and IS:5182 Part 23:2006
PM _{2.5}	T/AA-02 Issue no. 2 dated 01-08-2015
SO ₂	Modified West and Gaeke Method
NO _x	Jacob & Hochheiser Modified (Sodium Arsenite) Method.
CO	T/AA-06 Issue no. 2 dated 01-08-2015
Noise Levels: Parameters- Leq (Day), and Leq (Night)	
Noise Levels	Digital Noise Meter, Hourly Noise Levels and Day and Nighttime values arrived through Logarithmic averages by the measuring instrument
Water Quality: Sample Collection from Ground at WSC (Parameters- Drinking water parameters specified in IS:10500-2012) Test methods for parameters listed below:	
Drinking water quality parameters specified in IS: 10500-2012	Procedures and methods specified in APHA and Bureau of Indian Standards (BIS) code. Methods followed have been specified in environmental monitoring report submitted by the accredited laboratory. These reports are part of semi-annual environmental monitoring reports.

VI. IMPLEMENTATION OF ENVIRONMENTAL MONITORING PLAN AND MONITORING RESULTS

27. The monitoring of environmental parameters was conducted by the Contractor during the reporting period (**Annexure 11**). The parameters of Noise, Ambient Air Quality and Drinking Water have been found to be within permissible limits. Contractor was directed to regularly conduct environmental monitoring as per the agreed Environmental Monitoring Plan in the EMP document.

Table-6: Implementation of Environmental Monitoring Plan at WSC Site under OSDP

Component	Periods of monitoring	Parameters/Pollutants	Standard	Base line status	Monitoring result during reporting period(July to December 2021)project Implementation	Remarks
Noise Project Site	Post MonsoonSeason 2021	Sound Level 1-Leq. (Day) in dB(A) 2- Leq (Night) in dB(A) Sound Level	National Ambient Noise Standards of CPCB on dB(A) scale 75 dB(A) for Day Time 70 dB(A) for Nighttime (WSC site in Notified Industrial Area)	1-Leq (Day)= 49.20dB(A) 2-Leq (Night)=39.80 dB(A)	Leq (day)= 53.4 dB(A) Leq (Night)= 42.9 dB(A)	The monitored values are within stipulated limits.
Pandra (at about 100 m across road in Industrial Area)	Post Monsoon Season 2021	1-Leq. (Day) in dB(A) 2- Leq (Night) in dB(A) Sound Level	National Ambient Noise Standards of CPCB on dB(A) scale 75 dB(A) for Day Time 70 dB(A) for Nighttime (Pandra in Notified Industrial Area)	1-Leq (Day)= 49.20dB(A) 2-Leq(Night)= 39.80 dB(A)	Leq (day)= 52.6 dB(A) Leq (Night)= 41.3 dB(A)	The monitored values are within the stipulated limits.
Air Quality Project Site	Post Monsoon Season 2021	1-PM ₁₀ 2-PM _{2.5} 3- SO ₂ 4-NO _x 5- CO 6- Ozone 7- Ammonia 8- Lead 9- Nickel 10-Arsenic 11- Benzene	1-PM ₁₀ =100 µg/m ³ 2-PM _{2.5} = 60 µg/m ³ 3- SO ₂ = 80 µg/m ³ 4-NO _x = 80 µg/m ³ 5- CO = 4 mg/m ³ 6- Ozone=100 µg/m ³ 7- Ammonia= 400 µg/m ³ 8- Lead=1 µg/m ³ 9-Nickel=20 ng/m ³ 10-Arsenic=6 ng/m ³ 11- Benzene=5 ng/m ³ (National Ambient Air Quality Standards 2009)	1-PM ₁₀ = 76.80µg /m ³ 2-PM _{2.5} =40.30 µg/m ³ 3- SO ₂ = 11.60µg/m ³ 4-NO _x =21.0 µg/m ³ 5- CO =0.22 mg/m ³	1-PM ₁₀ =65.9 µg/m ³ 2-PM _{2.5} = 33.4µg/m ³ 3- SO ₂ = 9.6µg/m ³ 4-NO _x =14.3 µg/m ³ 5-CO=0.31 mg/m ³ 6- Ozone = <10 µg/m ³ 7- Ammonia = < 20µg/m ³ 8- Lead = < 0.06 9- Nickel= < 0.6 10-Arsenic = <0.44 11- Benzene = <1	All the monitored parameters of ambient air quality are well within the stipulated limits.
Pandra (at about 100 m across	Post Monsoon Season 2021	1-PM ₁₀ 2-PM _{2.5} 3- SO ₂	1-PM ₁₀ =100 µg/m ³ 2-PM _{2.5} = 60 µg/m ³ 3- SO ₂ = 80 µg/m ³	1-PM ₁₀ = 76.80µg /m ³ 2-PM _{2.5} =40.30 µg/m ³ 3- SO ₂ = 11.60µg/m ³	1-PM ₁₀ =69.6 µg/m ³ 2-PM _{2.5} = 35.2 µg/m ³ 3- SO ₂ = 9.5µg/m ³	All the monitored parameters

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Component	Periods of monitoring	Parameters/Pollutants	Standard	Base line status	Monitoring result during reporting period(July to December 2021)project Implementation	Remarks
road in Industrial Area)		4-NO _x 5- CO 6- Ozone 7- Ammonia 8- Lead 9- Nickel 10-Arsenic 11- Benzene	4-NO _x = 80 µg/m ³ 5- CO = 4 mg/m ³ 6- Ozone=100 µg/m ³ 7- Ammonia= 400 µg/m ³ 8- Lead=1 µg/m ³ Nickel=20 ng/m ³ 10-Arsenic=6 ng/m ³ 11- Benzene=5 ng/m ³ (National Ambient Air Quality Standards 2009)	4-NO _x =21.0 µg/m ³ 5- CO =0.22 mg/m ³	4-NO _x = 13.9 µg/m ³ 5-CO=0.27mg/m ³ 6- Ozone = <10 µg/m ³ 7- Ammonia = < 20µg/m ³ 8- Lead = < 0.06 9- Nickel= < 0.6 10-Arsenic = <0.44 11- Benzene = <1	of ambient air quality are well within the stipulated limits.
Water Quality Borewell in Project Site	Post Monsoon Season 2021	Following parameters are specified in the monitoring plan 1- Color 2- Odour 3- Turbidity 4- pH 5- TDS 6- Total Hardness 7- Iron (as Fe) 8- Chloride (as Cl) 9- Total Dissolved Solids 10- Calcium (Ca) 11-Magnesium (Mg) 12-Copper (Cu) 13-Manganese (Mn) 14- Sulphate (SO ₄) 15- Nitrate (NO ₃) 16- Fluoride (F) 17- Phenolic Compounds 18- Total Hardness	All parameters specified for drinking water in IS:10500-:2012	1- Color- < 5 Hazen 2-Odor- Agreeable 3-Taste- Agreeable 4-Turbidity-<1.0 NTU 5- pH- 6.93 6-Total Hardness- 154 mg/l 7-Iron as Fe- 0.14 mg/l 8-Chloride as Cl- 21.89 mg/l 9-Residual Chlorine as Cl – ND 10-TDS- 290.4 mg/l 11- Calcium as Ca- 30.60 mg/l 12-Magnesium as Mg – 18.6 mg/l 13-Copper as Cu <0.03 mg/l 14- Manganese as Mn <0.05mg/l 15- Sulphate -12.70	1- Color=<5 2- Odour=AL 3- Turbidity=<1 4- pH=7.12 5- TDS=279.3 6- Total Hardness=153 7- Iron (as Fe)=0.16 8- Chloride (as Cl)=22.4 9- Total Dissolved Solids=279.3 10-Calcium (Ca)=41.1 11-Magnesium (Mg)=12.1 12-Copper (Cu)=<0.03 13-Manganese (Mn)= < 0.05 14-Sulphate (SO ₄)=13.2 15-Nitrate (NO ₃)=2.4 16-Fluoride (F)=<0.05 17-Phenolic Compounds=<0.001 18-Faecal Coliform= Absent 19-Mercury (Hg)=<0.001 20-Cadmium (Cd)=<0.003 21-Selenium (Se)=<0.001	The monitored results are well within the stipulated limits for drinking water in IS:10500-2012

Odisha Skill Development Project –Loan No. 3539 IND
Environmental Monitoring Report (July-December 2021)

Component	Periods of monitoring	Parameters/Pollutants	Standard	Base line status	Monitoring result during reporting period(July to December 2021)project Implementation	Remarks
		19- Faecal Coliform 20- Mercury (Hg) 21- Cadmium (Cd) 22- Selenium (Se) 23- Arsenic (As) 24- Cyanide (CN) 25- Lead (Pb) 26- Zinc (Zn) 27- Total Chromium (Cr) 28- Mineral Oil 29- Total Alkalinity (CaCO ₃)		mg/l 16- Nitrate as NO ₃ – 1.90 mg/l 17 Fluoride as F- 0.05 mg/l 18- Phenolic Compounds<0.001mg/l 19- Mercury as Hg<0.001mg/l 20- Cadmium as Cd<0.003 mg/l 21- Selenium<0.001mg/l 22- Arsenic as As<0.001 mg/l 23- Cyanide as CN-ND 24- Lead as Pb <0.01 mg/l 25- Zinc as Zn< 0.05 mg/l 26- Total Chromium <0.05 mg/l 27- Mineral Oil - ND 28- Total Alkalinity as CaCO ₃ -16 mg/l 29- Aluminum as Al<0.01 mg/l 30- Boron as B <0.2 mg/l 31- Anion Detergent-<0.05 mg/l 32- Total Coliform-Absent 33- E.coli - Absent	22-Arsenic (As)=<0.001 24-Cyanide (CN)=ND 25-Lead (Pb)=<0.01 26-Zinc (Zn)=<0.05 27-Total Chromium (Cr)=<0.05 28-Mineral Oil= ND 29-Total Alkalinity (CaCO ₃)=43 30- Aluminum (Al)=<0.01 31- Boron (B)<0.2 32- Anionic Detergent<0.05 33- E.coli=Absent	

VII. ANY OTHER ENVIRONMENTAL ASPECTS, IMPACTS OBSERVED DURING IMPLEMENTATION WHICH WERE NOT COVERED EARLIER

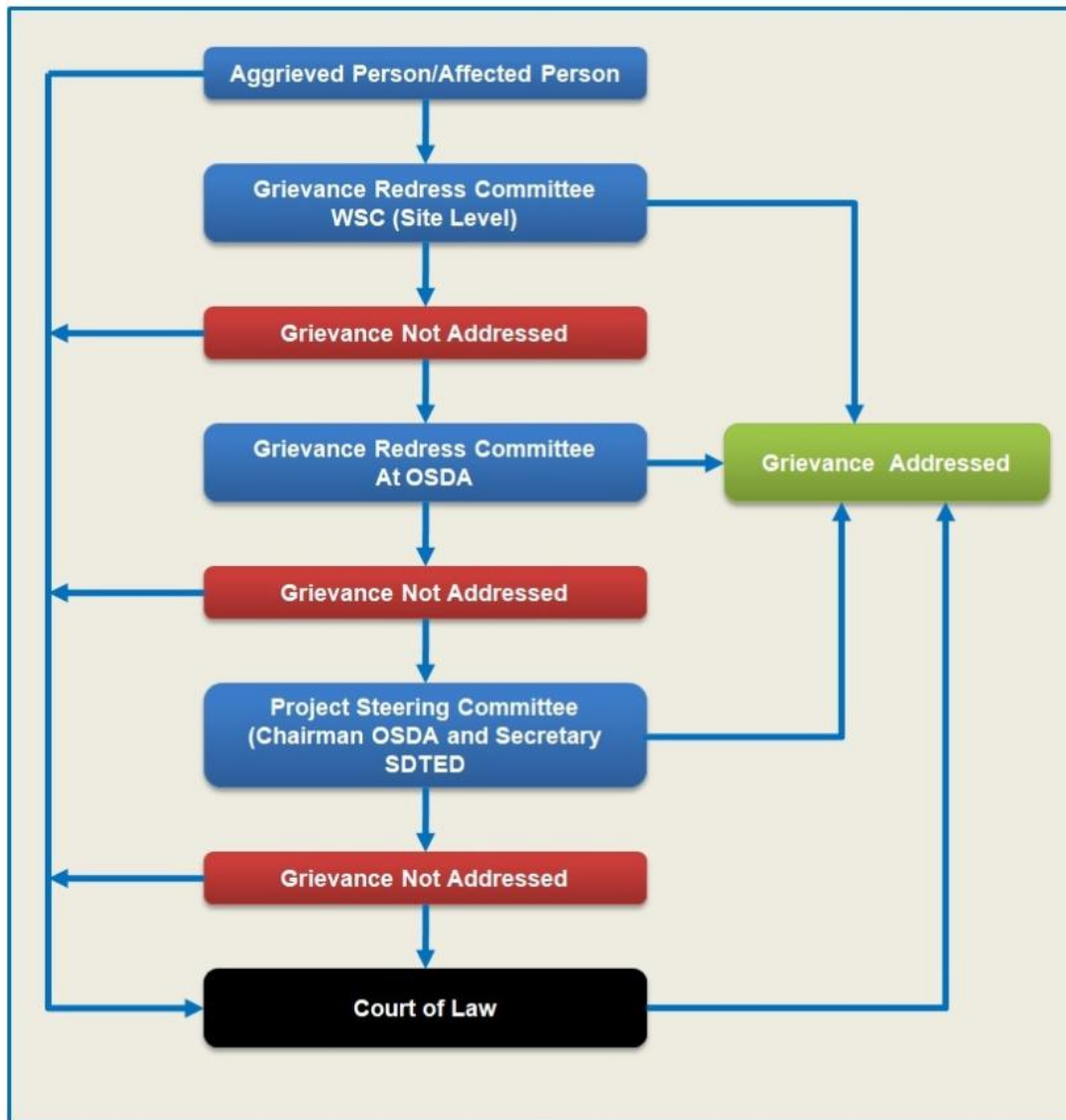
28. No unforeseen or abnormal adverse environmental impacts were observed during the reporting period. This is the fourth Environmental Monitoring Report. During the site visit to WSC, the ESMC team members and IDCO site engineers regularly sensitize the construction crew on environmental safeguards and health and safety issues. The safeguards training programs will be continued in the remaining construction phase period also. The photographs of construction at WSC building retrofitting works showing compliance with EMP implementation have been given in **Annexure-3**.

VIII. DETAILS OF COMPLAINTS RECEIVED FROM PUBLIC AND ACTION TAKEN THEREOF TO RESOLVE

29. A grievance redress mechanism has been established and notified in the OSDP (**Annexure-10**). The affected person(s)/aggrieved party can give their grievance verbally or in written to the local site office of WSC. Grievances of affected person will first be brought to the attention of the HSE officer of contractor and / or construction manager, who can resolve the issue at the site level. If the matter is not solved within 7 days period by the HSE officer/project manager of contractor, it will be brought to the Grievance Redress Committee constituted at subproject (WSC) site level. This GRC shall discuss the issue in its monthly meeting and resolve the issues within one month of time after receiving the grievance. If the matter is not resolved by GRC at site level within stipulated time, it shall be referred to GRC at OSDA corporate office level by the Deputy Director Administration of OSDA, who is the member of GRC at WSC site level. GRC at OSDA corporate office shall discuss the issue and try to resolve it and inform the site in charge/construction manager. If the matter is not resolved by the GRC at corporate level within one month of time, it will be referred to the project steering committee at Government of Odisha level. This committee will resolve the complaint within one month time and will inform OSDA CEO who in turn will inform site in charge or complainant it may be mentioned that the aggrieved person/party can bring the matter to The Court of Law any time after filing the complaint either at site level or PMU level. The PIU and sub-project site office shall keep records of all grievances received including contact details of complainant, date of receiving the complaint, nature of grievance, agreed corrective actions and the date these were affected and outcome. For this a complaint register has been maintained at WSC site office.

30. The grievance redress process is shown in **Figure-2**. During reporting period no complaint has been received at the WSC site and against the OSDP project.

Figure-2: Grievance Redress Mechanism (OSDP Project)



Note:

SDTED: Skill Development and Technical Education Department, Government of Odisha
OSDA: Odisha Skill Development Authority

IX. STAKEHOLDER CONSULTATIONS AND DISCLOSURE

31. The ADB SPS 2009 requires the project proponent to undertake consultation with concerned stakeholders and facilitate their informed participation in the project/programme. The primary objective of the consultation process is to understand stakeholder's concerns, apprehensions, and overall opinion and solicit recommendations to improve project design.

32. Public participation and community consultation has been taken up as an integral part of the OSDP project's social and environmental implementation process. Consultation was used as a tool to inform and educate stakeholders about the project activities to be taken in the construction and operation phase. The participatory process helped in involving the local people in project activities. During the reporting period AIDs awareness and Stakeholder consultations have been carried out with the stakeholders (such as contractors, IDCO construction workers at WSC site, OSDA officials) with an objective of understanding the concerns and addressing them and also bringing awareness about AIDs prevention and the environmental issues associate with the construction and operation of the Equipment/Machinery at WSC Bhubaneswar and the ITI sites at Barhampur, Bhubaneswar, Cuttack, Puri. The details of these consultations are given in **Table-7**. The photographs and attendance sheet of consultations have been given in **Annexure-9**.

Table-7: Public Consultation Meetings Conducted in the Period of July to December 2021

Sl. No.	Consultation Location	Date	Total Participant	Male	Female	Discussion/Suggestions
1.	World Skill Centre Site	21 December 2021	18	18	0	<ul style="list-style-type: none"> AIDS awareness cum Safeguards Orientation and Consultation program was organized by the Environment Consultant PMC wherein sensitization of the Contractors work force was done towards the prevention of AIDS. The objective was to discuss the vulnerability of construction workers to STI/HIV and AIDS, strategic interventions for the prevention and role of different stakeholders. Orientation of the Contractor on Safeguards implementation was also done. It included Labor safety, Usage of PPEs, Housekeeping, Waste Management, Implementation of Grievance Redress Mechanism, etc. Contractor was directed to comply with EMP provisions and maintain safety and sanitation at the camp and Work site. Contractor assured that this is being taken care of and

**Odisha Skill Development Project –Loan No. 3539 IND
Environmental Monitoring Report (July-December 2021)**

Sl. No.	Consultation Location	Date	Total Participant	Male	Female	Discussion/Suggestions
						that COVID guidelines are also being followed.
2.	ITI Barhampur	22 December 2021	13	09	4	<ul style="list-style-type: none"> Stakeholder Consultation cum AIDS awareness program was held on 22.12.2021. The participants included ITI Staff and students. They were keen for the project execution and inquired about the project completion date. Environment Consultant PMC briefed about the Project timelines and ADB Safeguards. Sensitization on AIDS transmission and prevention was also held for the students.
3.	ITI Bhubaneswar	24 December 2021	19	11	08	<ul style="list-style-type: none"> Stakeholder Consultation cum AIDS awareness program was held on 24.12.2021. The Participants included ITI Faculty and Staff, Students and the Environment Consultant PMC. Sensitization on AIDS transmission and prevention was also held for the students. Discussion was held about the Project, Role of Safeguards in the Project and GRM. The ITI staff and students appreciated that AIDS awareness is very crucial for the students, being a vulnerable for such diseases.
4.	ITI Cuttack	23 December 2021	22	11	11	<ul style="list-style-type: none"> Stakeholder Consultation cum AIDS awareness program was held on 23.12.2021. The Participants included ITI Faculty and Staff, Students and the Environment Consultant PMC. Discussion was held about the Project, Role of Safeguards in the Project and sensitization on AIDS. Sensitization on AIDS transmission and prevention was also held for the students, wherein

Sl. No.	Consultation Location	Date	Total Participant	Male	Female	Discussion/Suggestions
						orientation was held for the students on AIDS prevention and control.
5.	ITI Puri	23 December 2021	19	14	05	<ul style="list-style-type: none"> Stakeholder Consultation cum AIDS awareness program was held on 23.12.2021. The participants included ITI Faculty and Staff, Students and the Environment Consultant PMC. Discussion was held about the Project, Role of Safeguards in the Project and sensitization on AIDS. The participants welcomed the project and are looking forward to it. COVID safety measures were also discussed. Sensitization on AIDS transmission and prevention was also held for the students, wherein Doctor explained the strategic Policy and programmatic interventions and the roles of different stakeholders in prevention and Control of AIDS.

FOLLOW UP ACTIONS AND CONCLUSIONS

33. The retrofitting works at WSC site are in progress and all regulatory compliances are also being complied with. The EMP implementation at site is being supervised by ESMC members and contractor is continuously guided on environmental safeguard aspects. In the remaining period of construction/refurbishment works supervision will be regularly carried out to ensure that environmental impacts are being adequately mitigated and to ensure continuation of compliance with statutory regulations as required by laws and agreed upon in EMP. Training Programs for engineers, contractors, and project staffs will be conducted in next reporting period. The PMU environmental specialist will ensure regular informal onsite orientation for the contractor's supervisory staff and site engineers for EMP implementation. The environmental monitoring was taken up during reporting period and the environmental parameters were found within permissible levels. Contractor has been instructed to regularly carry out environmental monitoring as per monitoring plan and this will be followed up. The stakeholder consultations were taken up for during preparation of the EMR and AIDS awareness program organized at all sites. The stakeholder consultations will be taken up in the next reporting period also.

**ANNEXURE-1: MODIFIED AND REVALIDATED ENVIRONMENTAL CLEARANCE COPY
OF WSC BUILDING**

**State Environment Impact Assessment Authority, (SEIAA),
Odisha**

Qr. No. 5RF-2/1, Unit – IX, Bhubaneswar – 751022, Tel: 0674-2540669

No. 239/SEIAA

Dt. 01.02.2021

SEIAA File No. SIA/OR/MIS/108769/2019

To

Sri Sushanta Kumar Mohanty, OAS (SAG)
Chief General Manager (Env.)
Odisha Industrial Infrastructure Development Corporation,
IDCO Towers, Janpath, Bhubaneswar - 751022

Sub: Proposal for Amendment in Environment Clearance for Multi Storied Commercial IT/ITES Building to Institutional Building "Tower 2010" at Mancheswar Industrial Estate, Bhubaneswar, Dist-Khordha, of M/s Odisha Industrial Development Corporation Organization (IDCO) with built up area-55,141.83 sqmt - regarding.

Ref: Your online application file no. SIA/OR/MIS/108769/2019 dated 25.06.2020 for amendment in EC.

Sir,

This has reference to your online application seeking amendment in EC for the above mentioned Building & Construction proposal as per the provision of EIA Notification, 2006. The proposal was considered by the State Environment Impact Assessment Authority, Odisha in its meeting held on 19.01.2021 for amendment in EC along with the appraisal report of SEAC and Guidelines / Notifications of MoEF&CC, Govt. of India.

The Authority observed that as per EIA notification 2006 and amendment thereafter, this project with built-up area less than 1,50,000 m² is coming under educational institution which are exempted from grant of prior EC subject to compliance of sustainable environmental management guidelines as mentioned and issued by MoEF & CC, Govt. of India OM dated 09.06.2015. The project proponent shall strictly abide by the provisions

contained therein the said OM dated 09.06.2015 to ensure sustainable environmental management. Copy of Office Memorandum is enclosed as Annexure-I.

Encl: As above including Annexure-I

Yours faithfully,


Member Secretary

Memo No 240/SEIAA /Dt. 01.02.2021.
Copy to

1. Joint Secretary (Environment), Ministry of Environment, Forests and Climate Change Govt. of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi-110003 for information.
2. Additional Chief Secretary, Forests & Environment Dept., Government of Odisha for information.
3. Member Secretary, State Pollution Control Board, Odisha, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar for information.
4. Additional Principal Conservator of Forests, Regional Office (EZ), Ministry of Environment & Forests, A-31, Chandrasekharapur, Bhubaneswar for information.
5. Chairman, Central Pollution Control Board, CBD-cum-office Complex, East Arjun Nagar, New Delhi-110032 for information.
6. Member Secretary, CGWA, 18/11, Jamnagar House, ManSingh Road, New Delhi-110011 for information.
7. Collector & District Magistrate, Khordha for kind information and necessary action.
8. Chairman/Member/Member Secretary, SEIAA for information.
9. Chairman, SEAC/Secretary, SEAC, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar for information.
10. Guard file for record.


Member Secretary

F. No. 19-2/2013-IA-III
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

Indira Paryavaran Bhawan
Aliganj, Jor Bagh Raod
New Delhi-110 003

Dated: 09th June, 2015

OFFICE MEMORANDUM

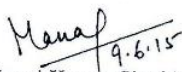
Sub: Clarification regarding Gazette Notification No. S.O. 3252 (E) dated 22.12.2014 on applicability of Environment Clearance-reg.

Vide Gazette Notification No. S.O. 3252 (E) dated 22.12.2014, the Ministry of Environment, Forest and Climate Change has exempted the School, College and Hostel for educational institution from obtaining prior Environment Clearance under the provisions of the EIA Notification, 2006 subject to Sustainable Environmental Management.

The Ministry is in receipt of representation from various educational institutions regarding issuing clarification on status of universities, and other educational institutions. The matter has been further examined in the Ministry and it is clarified that the Notification No. S.O. 3252 (E) dated 22.12.2014 provides exemption to buildings of educational institutions including universities from obtaining prior Environment Clearance under the provisions of the EIA Notification, 2006 subject to sustainable environmental Management. In case of medical universities/institutes the component of Hospitals will continue to require prior Environment Clearance.

The Guidelines to be followed for building projects to ensure sustainable environmental management in pursuance of Notification No. S.O.3252 (E) of 22nd December 2014 under EIA Notification 2006 are at Annexure-I.

This issues with the approval of the Competent Authority.


(Manoj Kumar Singh)
Joint Secretary

Copy to:-

1. All the officers of IA Division
2. The Chairperson/Member Secretaries of all the SEIAAs/SEACs.
3. The Chairman of all the Expert Appraisal Committees
4. The Chairman, CPCB
5. The Chairpersons/Member Secretaries of all SPCBs/UTPCCs.
6. IT Consultant, MoEFCC for uploading into the website.

Copy for information:

1. PS to MOS (Independent Charge).
2. PPS to Secretary (EF&CC).
3. All Divisional Head.
4. Website, MoEF&CC
5. Guard File.

ANNEXURE-I

**GUIDELINES TO BE FOLLOWED FOR BUILDING AND CONSTRUCTION PROJECTS
TO ENSURE SUSTAINABLE ENVIRONMENTAL MANAGEMENT
IN PURSUANCE OF NOTIFICATION No. S.O. 3252 (E) OF 22nd DECEMBER, 2014
UNDER ENVIRONMENT IMPACT ASSESSMENT NOTIFICATION, 2006**

[INDUSTRIAL SHED AND EDUCATIONAL INSTITUTIONS]

The Notification dated 22nd December, 2014 has taken out the industrial shed*, school, college, hostel for educational institution from the requirement of prior Environment Clearance (EC) under EIA Notification, 2006 and stipulated that such buildings shall ensure sustainable environmental management, solid and liquid waste management, rain water harvesting and may use recycled materials such as fly ash bricks. These Guidelines will be applicable to all buildings and constructions which come under the ambit of Notification No. S.O. (E) 3252 of 22nd. December 2014. To ensure sustainable environment management these guidelines as suited will be applicable on the projects under Item 8 (a) of EIA Notification in addition to the conditions stipulated in the EC.

Land, Air, Noise, Water, Energy, Biological, Socio-economic, and Solid & other Waste Management are the main environment facets to be considered in relation to pre, during & post building construction, therefore, it is necessary to ascertain the baseline data of these environmental facets.

The project proponent should file the information about description of project as per points described below prior to start of the project. Information pertaining to compliance on other points be filed at six monthly interval to the respective State Pollution Control Board and the Regional Office of the Ministry of Environment, Forests and Climate Change

The compliance of the following will be ensured by the respective State Pollution Control Board before giving 'Consent-to-Operate' to industries and by the Local Urban Bodies and the Development Authorities while giving the 'Occupancy Certificate' to the buildings and constructions. These Certificates should be submitted by the above authorities to the Regional Office of MoEFCC. Ministry of Environment, Forest and Climate Change can assess/evaluate/monitor the compliance of conditions enumerated in the Guidelines through verification by Regional Offices or deputed organisations / person.

S. Environmental No. Parameters	Implementation and monitoring parameters to be included in local by-laws.
a. Pre-requisites	<p>Brief description of the project</p> <p>01. Name of the Project, Survey number, Village, Taluka, District, State to be mentioned with Google Earth Image and GPS Co-ordinates of the plot to be submitted.</p> <p>02. Location & distance from nearby landmark places / services to be mentioned.</p> <p>03. Total Built-up area (FSI and Non- FSI) should be mentioned with detailed calculations certified by local planning and sanctioning authority.</p> <p>04. Form 1, Form 1A and Consolidated statement as per Environment Notification dated September 14, 2006 to be submitted to local planning and sanctioning authority, Regional Office, MoEFCC and SPCB</p>
b. Environment Impacts on Project Land	<p>05. The building layout, set-back/side margin, podium, basement ventilation etc. is prepared based on local building bye-laws and is approved by local competent authorities. The Project Proponent shall obtain all necessary clearance/ permission from all relevant agencies including Town Planning Authority before commencing the work.</p> <p>06. Provisional fire NOC to be obtained from local CFO (Chief Fire Officer)</p> <p>07. "Consent-to-Establish and Consent-to-Operate" shall be obtained as required from State Pollution Control Board as provided in the Air (Prevention and Control of Pollution) Act, 1981 and Water (Prevention and Control of Pollution) Act, 1974</p> <p>08. The project proponent shall put in place a credible enforcement mechanism for compliance of energy conservation measures with its allottees, as projected, in perpetuity. This would be monitored by the designated Energy Conservation/ efficiency Authority in the State.</p> <p>09. Soil and ground water samples will be tested to ascertain that there is no</p>

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|--------------------------|--|
| | <p>threat to ground water quality by leaching of heavy metals and other toxic contaminants.</p> <p>10. Top fertile soil to be preserved and to be later used in landscape.</p> <p>11. The excavation/demolition debris must be disposed off in designated landfill areas or to be used within site for levelling purpose. Under no circumstance, the debris will be disposed in river bed/lakes etc.</p> <p>12. Undertaking to be given by project proponent that occupancy will be given only after drainage and water connections are in place.</p> <p>13. Dust/smoke prevention measures such as wheel washing, water sprinkler, screening, barricading and debris chute must be installed.</p> <p>14. This should comply with the provisions of eco-sensitive zone regulations, coastal zone regulations, heritage areas (identified in the master plan or issued separately as specific guidelines), water body zones (in such zones, no construction is permitted in the water-spread and buffer belt of 30 m minimum around the FTL [full tank level]), various hazard prone area regulations, and others if the site falls under any such area.</p> <p>15. The site planning should take into account heat island effect, size and density of the built-up areas cause heat island effect, wherein higher air temperatures are created in the dense urban areas as against the low-rise surrounding built-up areas. The solar access in the morphology of clusters can be understood in terms of utilization of direct (and not reflected or diffused) solar radiation, mainly for day lighting and heat gain. This defines the minimal distances between the buildings and the relations between built-up volume and open spaces.</p> <p>16. The proportion of open spaces and built-up edges should be designed such that it ensures winter solar access and summer ventilation.</p> |
| c. Water | <p>17. Proponent shall obtain permission for ground water withdrawal from State Ground Water Authority.</p> <p>18. Storm water control and its re-use as per CGWB and BIS standards for various applications.</p> <p>19. The natural flow of existing storm water channel should not be altered or diverted.</p> <p>20. Keeping in view the use of large quantities of water in curing, measures for reducing water demand during construction should be followed. Curing water should be sprayed on concrete structures, free flow of water should not be allowed for curing. After liberal curing on the first day, all concrete structures should be painted with curing chemical to save water. Concrete structures should be covered with thick cloth/gunny bags and then water should be sprayed on them. This would avoid water rebound and will ensure sustained and complete curing. Ponds should be made using cement and sand mortar to avoid water flowing away from the flat surface while curing.</p> <p>21. The developer should ensure groundwater and municipal water meet the water quality norms as prescribed in the Indian Standards for various applications (Indian Standards for drinking [IS 10500-1991], irrigation applications [IS 11624-1986]).</p> <p>22. The use of potable water during construction should be minimized.</p> <p>23. Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water.</p> <p>24. Source of water to be identified.</p> <p>25. Water treatment measures such as filtration, softeners, RO etc should be implemented.</p> <p>26. Low flow fixtures and sensors to be used to promote water conservation.</p> <p>27. Water meters to be installed to monitor consumption of water.</p> <p>28. Water balance table/chart should be prepared.</p> |
| d. Waste Water Treatment | <p>29. Sewage treatment plant of capacity capable of treating 100% waste water to be installed on site</p> <p>30. Tertiary treatment such as dual media filter, activated carbon filter and ozonization/ chlorination to be provided so that the treated water</p> |

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	characteristics are as per Central Pollution Control Board (CPCB) norms.
	31. If STP and pump room are installed in basement, adequate ventilation as per NBC air changes norms should be provided.
	32. Treated waste water to be recycled for flushing and gardening.
c. Drainage Pattern	<p>33. Excess treated water disposal plan to be submitted.</p> <p>34. Total paved area of the site under parking, roads, paths or any other use should not exceed 25% of the site area or net imperviousness of the site not to exceed the imperviousness factor as prescribed by the NBC 2005 (BIS 2005b), whichever is more stringent.</p> <p>35. The final disposal point for excess treated water discharge will be municipal sewer for areas where sewerage network is present.</p> <p>36. In areas where sewerage network is absent, the excess treated water can be used for agriculture or can be disposed off as per CPCB rules.</p> <p>37. Storm water disposal plan to be submitted.</p> <p>38. The final disposal point for storm water will be municipal storm drain for areas where storm water network is present.</p> <p>39. In areas where storm water network is absent, the storm water surface runoff can be disposed off in nearby natural water streams/ nallas.</p>
f. Ground Water	<p>40. Hydro-geological survey for ground water analysis shall be submitted.</p> <p>41. Aquifer capacity and Ground water yield shall be determined.</p> <p>42. Rain water harvesting plan shall be submitted indicating the number of recharge pits and bores and total rain water to be harvested.</p> <p>43. Rain water to be harvested and as a safety precaution, rainwater on-line filters be provided as per NBC norms.</p>
g. Solid Waste Management	<p>A) During construction phase:</p> <p>44. Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority. The Rules on the Solid Waste Management including Construction Waste issued by the MoEFCC as amended will be applicable.</p> <p>45. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.</p> <p>46. Any hazardous waste generated during construction phase, should be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.</p> <p>47. Miscellaneous site debris such as broken tiles etc shall be used on site for leveling /backfilling purpose.</p> <p>48. Packaged STP /mobile toilets shall be provided for labour camp.</p> <p>49. Polymer bags used for cement and gypsum shall be handed over to authorized recyclers.</p> <p>50. Cardboard boxes and other packaging material will be handed over to authorized recyclers.</p> <p>B) Post construction phase:</p> <p>51. Organic waste composter (OWC) or Vermiculture pits shall be installed on site for biodegradable waste treatment (capacity calculated at 0.3kg/tenement/day) The manure generated shall be used for landscaping.</p> <p>52. The non-biodegradable waste or e-waste shall be handed over to authorized recyclers.</p> <p>53. STP sludge shall be removed using filter press or centrifuge mechanism. The dried sludge cakes shall be used as manure in landscaping.</p> <p>54. Minimize waste generation, streamline waste segregation, storage, and</p>

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- disposal; and promote resource recovery from waste.
55. Resource recovery from waste: Employ resource recovery systems for biodegradable waste as per the Solid Waste Management and Handling Rules, 2000 of the MoEFCC. Make arrangements for recycling of waste through local dealers.
56. Use of covering sheets should be done for trucks to prevent dust dispersion from the trucks and washing of tyres when trucks with soil / debris coming on road.
57. Hazardous Waste Management: Products, such as paints, cleaners, oils, batteries, and pesticides that contain potentially hazardous ingredients require special care when being disposed. Improper disposal of household hazardous wastes can include pouring them down the drain, on the ground, into storm sewers, or in some cases putting them out with the trash.
- The hazardous wastes from construction and demolition activities are centering oil, formwork oil, tar and tar products (bitumen, felt, waterproofing compounds, etc.), wood dust from treated wood, lead containing products, chemical admixtures, sealants, adhesive solvents, Explosives and related products and equipment used in excavation, acrylics, and silica, etc.
- h. Air Quality and Noise Levels.
- A) During construction phase:**
58. The diesel required for operating DG sets shall be stored in underground tanks and clearance from Chief Controller of Explosives shall be taken, as applicable.
59. Ambient noise levels should conform to residential standards both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/ SPCB.
60. Burning of waste to be banned.
61. The construction site DG to be maintained regularly so that the smoke emission and noise levels are as per permissible norms.
62. Regular P.U.C check for all construction machinery coming on site be done.
63. Noise cancellation and insulation devices such as mufflers, barricades etc to be used to avoid noise propagation to adjoining areas.
- B) Post construction phase:**
64. DG to be regularly maintained so that the smoke emission and noise levels are as per permissible norms. It shall be at least 6 meters away from the boundary.
65. Air quality monitoring to be done quarterly.
66. STP and water pumps, air blowers etc should be installed with noise cancellation devices or suitable acoustical enclosures to be given so that the noise levels as per NBC norms are maintained.
- C) During Construction & Operation**
67. The provisions of the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981) and the rules made thereunder be complied for control of noise pollution during construction and operation.
68. Setting up the barriers: National Building Code 2005 suggests that design solutions such as barrier blocks should be used to reduce external LA10 noise levels to at least 60-70 dB (A) at any point 1.0 m from any inward looking façade. Green belts and landscaping could act as an effective means to control noise pollution. In case of railway tracks, a minimum distance of 50m to 70m may be provided between the buildings and the tracks.
- i. Energy
69. Appropriate processes and material be used to encourage reduction in carbon foot print.
70. Use of glass be reduced by up-to 40% to reduce the electricity consumption and load on air-conditioning. If necessary, use high quality double glass with special reflective coating in windows.
71. Solar water heater to be provided adequately.

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72. Common area lighting should be Solar / LED.
73. Install energy meters to monitor overall consumption, and timer-switch for all common area lighting, and other consumption of measurable energy.
74. Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 3rd November, 2009.
75. Wherever possible recycled materials having low embodied energy be used.
76. Use of light coloured, reflective roofs having an SRI (solar reflectance index) of 50% or more should be promoted. The dark coloured, traditional roofing finishes have SRI varying from 5% to 20%.
77. Optimize use of energy systems in buildings that should maintain a specified indoor environment conducive to the functional requirements of the building by following mandatory compliance measures (for all applicable buildings) as recommended in the Energy Conservation Building Code (ECBC) 2007 of the Bureau of Energy Efficiency, Government of India. The energy systems include air conditioning systems, indoor lighting systems, water heaters, air heaters, and air circulation devices.
78. Use the concept of passive solar design of buildings using architectural design approaches that minimize energy consumption in buildings by integrating conventional energy-efficient devices, such as mechanical and electrical pumps, fans, lighting fixtures, and other equipment, with the passive design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design, and thermal mass.
79. The building should be oriented optimally based on Sun-path and engineering analysis to curtail excessive solar radiations.
80. Lighting systems should comply with the ECBC 2007 and applicable to interior spaces of buildings, exterior building features, including facades, illuminated roofs, architectural features, entrances, exits, loading docks, and illuminated canopies, exterior building grounds etc. except emergency lighting and lighting in dwelling units.
81. All the point light sources installed in the building for general lighting shall be LEDs or LEDs or equivalent. All the linear light sources installed in the building for general lighting shall be T-5 or at least 4 Star BEE rated TFLs or equivalent. The installed interior lighting power shall not exceed the LPD (Lighting Power Density) value as recommended by ECBC 2007.
82. Automatic Lighting shutoff control be installed: Interior lighting/Exterior Lighting systems shall be equipped with an automatic control device in accordance with ECBC 2007. Occupancy sensors that shall turn the lighting off within 30 minutes of occupant leaving the space. It should also have option for manual turning on lights when the space is occupied. ECBC requires controls in day lit areas that are capable of reducing the light output from luminaries by at least half and Controlling of exterior lighting with photo-controls where lighting can be turned off after a fixed interval.
83. The tapping of renewable sources of energy for lighting, heating, cooling and ventilation needs, deserve special attention. For captive solar power generation, a minimum of 15 percent of sanctioned load is the requirement.
84. Solar photovoltaic (SPV) systems are direct energy conversion systems that convert solar radiation into electric energy. SPV systems should be installed to reduced use of conventional sources of energy. Roof tops of buildings as well as other exposed areas such as of parking shades should be utilized for installation of SPV systems.
85. Hot water requirement in buildings should be met through use of various types of solar water heating systems, viz. flat plate collector; single glazed double glazed; evacuated tube collectors; and Water heating with solar concentrators.
86. The Project Proponent should ensure regular energy audit.
 - i. To validate the predicted energy consumption, thermal comfort, and visual comfort criteria by an energy auditor approved by the BEE, Government of India.

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		<p>ii. To ascertain continued safety in the operation of the electrical and mechanical systems of the building through proper maintenance by the owner or the occupants.</p> <p>87. This will be ensured in the contract document by providing for the commissioning of all electrical and mechanical systems by the respective supplier or builder. Moreover, the respective facility management group assigned by the owner or the occupants themselves, will carry out the maintenance facilities.</p> <p>88. Energy conservation measures like installation of CFLs/LEDs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs and TFLs should be properly collected and disposed off /sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.</p>
j.	Traffic Movement System	89. Width of driveways, parking provision, ramp width and slope to be kept as per local bye laws.
k.	Provisions for Differently able	<p>90. The Project Proponent should provide at least the minimum level of accessibility for persons with disabilities.</p> <ul style="list-style-type: none"> • Ensure accessibility and usability of the facilities in the building by employees, visitors and clients with disabilities. • Ensure access to facilities and services by adopting appropriate site planning to eliminate barriers as per the recommended standards (NBC 2005 [BIS 2005f]). • Layout and designing of interior and exterior facilities as per principles of universal design such as prescribed by the National Building Code of India, building management policies and procedures, provision of auxiliary aids & appliances, and staff training in disability awareness.
l.	Green Belt/Green Cover	<p>91. Provide minimum 1 tree for every 80 sq.mt of plot area.</p> <p>92. Wherever trees are cut or transplanted, compensatory plantation in the ratio of 1:3 to be done in the premise.</p> <p>93. Native species of trees to be planted.</p> <p>94. Vegetation to provide as shading and promote evaporative cooling. In hot and dry climates, evaporative cooling through appropriately sized wet surfaces or fountains have a desirable effect. It should be planned for maximum benefit.</p> <p>95. The project should have detail proposal for tree plantation, landscaping, creation of water bodies etc along with a layout plan to an appropriate scale.</p>
m.	Disaster/Risk Assessment Plan	<p>96. Fire tender movement plan to be submitted.</p> <p>97. Firefighting system to be provided as per the fire NOC.</p> <p>98. Turning radius to be kept as per Fire NoC or as prescribed in the local by-laws.</p> <p>99. Public address system to be installed as per the Fire Safety norms.</p> <p>100. Place of assembly to be indicated.</p>
n.	Socio Economic Impact and CSR	<p>101. Biodegradable and non-biodegradable waste bins to be provided for every household to promote waste segregation at source.</p> <p>102. Importance of environment and various environment drives to be initiated.</p> <p>103. Importance of maintenance of environment infrastructure to be showcased by issuing pamphlets etc.</p> <p>104. Provision for health care, medical kit, crèche, First-Aid room shall be given during construction phase for the construction workers.</p> <p>105. Adequate shelter for resting hours, crèche, clean and potable drinking water to be provided to construction workers.</p> <p>106. All local labour welfare laws must be complied.</p> <p>107. Concerns of the communities being affected by the Project are to be responded on priority, and all possible CSR is to be rendered to make the responses effectively beneficial.</p>

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**ANNEXURE-2: OFFICE ORDER FOR FORMATION OF ENVIRONMENTAL AND SOCIAL
MANAGEMENT CELL (ESMC)**

No. OSDP /2020/299

Dated 13-04-2021.

Office Order

An Environmental and Social Management Cell (ESMC) as per ADB requirement was constituted at Project Management Unit of Odisha Skill Development Project under the Odisha Skill Development Authority at Bhubaneswar to perform Environmental, Social and Gender related safeguard activities for ADB funded Odisha Development Project. The members of ESCM are as follows:

- 1- CEO Odisha Skill Development Authority - Head
Contact No. 0674 - 2391320
Email Id. dirosems@gmail.com
- 2- General Manager Projects Member
Mr. Sanjay Padhi
Mobile No. 9937360311
Email Id: sanjaypadhi101@gmail.com
- 3- General Manager Odisha Industrial Infrastructure Development Corporation – Member
Mr. R. K. Das
Mobile No. 7008609014
Email : rkdash1@gmail.com
- 4- Environmental Consultant – Member
Mr. Shreeniwas Verma
Mobile - +919811224458
Email : etsindia2@gmail.com


(SANJAY PADHI)
G.M. (PROJECTS)
Odisha Skill Development Authority

**ANNEXURE-3: WSC BUILDING REFURBISHMENT WORK IN PROGRESS
PHOTOGRAPHS DEPICTING EHS COMPLIANCE**



View of Shrubs Planted at WSC Complex



Contractor Site office and Hand Sanitizer Installed at Entrance

**ANNEXURE-4: CONTRACTOR'S REGISTRATION CERTIFICATE UNDER BUILDING
AND OTHER CONSTRUCTION WORKERS (RE AND CS) ACT, 1996 FOR WSC SITE**

**GOVT. OF ORISSA
OFFICE OF THE JOINT LABOUR COMMISSIONER
BHUBANESWAR RANGE, BHUBANESWAR**

No. 4761 Dt 17.08.2020

To,

**M/s. B.C Bhuyan Construction Pvt Ltd,
Plot No-890, Palasuni, Rasulgarh,
Bhubaneswar-751010**

Sub: - Amendment of Registration Certificate under Building and Other
Construction Workers ((RE & CS) Act, 1996 and Rules made there under.

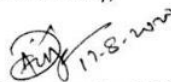
Sir,

I am to send herewith the Registration certificate bearing No. K-579/20
dtd. 25.02.2020 duly amendment on 17.08.2020 in favour of the aforesaid
establishment as applied under the provision of B & O. C.W. (RE & CS) Act, 1996 and
Rules made there under for your information and necessary action. Besides, you are
requested to abide by the follows.

1. A copy of the Certificate of the Registration shall be displayed at the conspicuous
place at the premises where the building and other construction works is being
carried on.
2. To adhere to the instructions as mentioned in the Annexure of the Registration
Certificate.

Encl: - As above.

Yours faithfully,



Registering Officer under B & O.C.W.
(RE & CS) Act, 1996-Cum-District Labour Officer,
Khordha, Bhubaneswar.

**GOVT. OF ORISSA
OFFICE OF THE JOINT LABOUR COMMISSIONER
BHUBANESWAR RANGE, BHUBANESWAR**

No. 1546 / Dt. 25/02/2020

To,

M/S. B.C Bhuyan Construction Pvt Ltd,
Plot No-890, Palasuni, Rasulgarh,
Bhubaneswar-751010

Sub: - Registration under Building and Other Construction Workers ((RE & CS)
Act, 1996 and Rules made there under.

Sir,

I am to send herewith the Registration certificate bearing No. K-579/20
Dated 25.02.2020 in favour of the aforesaid establishment as applied under the provision of
B & O. C.W. (RE & CS) Act, 1996 and Rules made there under for your information and
necessary action. Besides, you are requested to abide by the follows.

1. A copy of the Certificate of the Registration shall be displayed at the conspicuous place at
the premises where the building and other construction works is being carried on.
2. To adhere to the instructions as mentioned in the Annexure of the Registration
Certificate.

Yours faithfully,

Encl: - As above.

16/11/25/2/2020
Registering Officer under B & O.C.W.
(RE & CS) Act, 1996-Cum-District Labour Officer,
Khordha, Bhubaneswar



FORM-II
[See Rule 22 (1)]
GOVERNMENT OF ODISHA
OFFICE OF THE REGISTERING OFFICER

Regd. No: - K-579/20
Date: - 25.02.2020

Fees. Rs. 1000/-

Certificate is hereby granted under sub-section (3) of Section 7 of the Building & Other Construction Workers (Regulation of Employment and Condition of Service) Act, 1996 and the rules made there under to **M/S. B.C Bhuyan Construction Pvt Ltd, Plot No-890, Palasuni, Rasulgarh, Bhubaneswar-751010** having the following particulars subject to conditions laid down in the Annexure:

- | | |
|---|---|
| 1. Postal Address /location where building or other construction work is to be carried on by the employer | : Construction of Retro-Fitting, Renovation and up-gradation of Tower-2010, Mancheswar of World Skill Centre, Bhubaneswar. Of Divisional Head IDCO, BCD-1, Bhubaneswar. |
| 2. Name and address of employer including location of the building and other construction work | : B.C Bhuyan Construction Pvt Ltd, Plot No-890, Palasuni, Rasulgarh, Bhubaneswar-751010. |
| 3. Name and permanent address of the establishment | : B.C Bhuyan Construction Pvt Ltd, Plot No-890, Palasuni, Rasulgarh, Bhubaneswar-751010 |
| 4. Nature of work in which building workers are employed or are to be employed | : BUILDING WORK |
| 5. Maximum number of building workers to be employed on any day by the employer | : 100 (One Hundred Only) |
| 6. Probable date of commencement and completion of work | : 22.01.2020
21.07.2020 |
| 7. Other particulars relevant to the employment of building workers | : Registration certificate is valid for the work mentioned above Place & Establishment under B & OCW (RE & CS) Act. 1996. |

Amendment.

22.7.2020 to 21.7.2022

25.2.2020
District Labour Officer (Khurda)

25.2.2020
Registering Officer under B & O.C.W.
(RE & CS) Act, 1996-Cum-District Labour Officer,
Khordha, Bhubaneswar
Registering Officer
Under the Building
And Other Construction
Workers (Re & C.S) Act.-
Cum District Labour Officer
(Khurda) Bhubaneswar

**ANNEXURE-5: CONSTRUCTION WORKERS' CAMP PHOTOGRAPHS ALONG WITH
FACILITIES FOR WORKERS**



View of construction camp site



Another View of Construction camp



Toilet Facilities at Construction Camp Site

ANNEXURE-6: CONTRACTOR'S ALL LOSS INSURANCE POLICY COPY

THE NEW INDIA ASSURANCE CO. LTD.
(Government of India Undertaking)



POLICY SCHEDULE FOR EMPLOYEES COMPENSATION INSURANCE

Insured's Name	: M/S-B.C.BHUYAN CONSTRUCTION PVT.LTD		
Insured's Details		Issuing Office Details	
Customer ID	: PC82290268	Office Code	: BHUBANESHWAR DO (551000)
Address	: PLOT NO-890,PALASUNI,RASULGARH,BHUBANESHWAR BHUBANESHWAR ,ODISHA, 751010	Address	: PLOT NO-5149,G.R.T.TOWER,LEWIS ROAD,BBSR-DO-III 751014
Phone No	: XXXXXX7204	Phone No	: 06742435730 / 06742435042
E-mail/Fax	: bcbhuyanconstruction@rediffmail.com, /	E-mail/Fax	: nia.551000@newindia.co.in / 06742435730
PAN No	: AADCB3304N	S.Tax Regn. No	: AAACN4165CST178
GSTIN/UIN	: 21AADCB3304N2Z1 / NA	GSTIN	: 21AAACN4165C222
		SAC	: 997139 (Other non-life insurance services excl RI)

Policy Details			
Policy Number	: 55100036210100000036	Business Source Code	
Period of Insurance	: From: 17/09/2021 04:55:07 PM To: 16/03/2022 11:59:59 PM	Dev.Off level./Broker/Corp. Agent/Web Aggregator	: KHAGESWAR JENA - (DE7830565)
Date of Proposal	: 17-Sep-21	Agent/Bancassurance/S pecified Person	: MR. SANTANU NANDA (NIA1D7830195) AGENT_SITE_67887 (1D7832080)
Prev. Policy no.	: 55100036200100000068	Phone No	: 06742592421, 9338833721, 9861133721 / 9437373646
Client Type	: Corporate	E-mail/Fax	: / /

Premium(₹)	GST(₹)	Total (₹)	Total (₹ in words)	Receipt No. & Date
63000	11340	74340	RUPEES SEVENTY-FOUR THOUSAND THREE HUNDRED FORTY ONLY	5510008121000000490 6 - 17/09/21

Details of Employees with monthly wages upto ₹ 15000:

Categories	Sub Categories	No of Employee	Cash Total Wages
Builders All employees engaged in shop or yard or in construction/ demolition of buildings and other civil construction like dams, bridges etc. incl. excavation	100 NOS. SKILLED WORKERS	100	9000000

Details of Employees with monthly wages above ₹ 15000:

Categories	Sub Categories	No of Employee	Cash Total Wages
Trade Description	Particular of Works	Location Details	Included All Sub - Contractors
CONSTRUCTION OF RETRO-FITTING RENOVATION AND UP-GRADATION OF TOWER-2010, MANCHESWAR FOR WORLD SKILL CENTRE, BHUBANESWAR	CONSTRUCTION OF RETRO-FITTING RENOVATION AND UP-GRADATION OF TOWER-2010, MANCHESWAR FOR WORLD SKILL CENTRE, BHUBANESWAR	M/S. B.C. BHUYAN CONSTRUCTION PVT. LTD.,PLOT NO.890, PALASUNI, RASULGARH, BHUBANESWAR	

Contractor/Sub-Contractor Details:

Serial No	Name of Contractor	Description	Categorie	No. of Workers	Amount Wages
-----------	--------------------	-------------	-----------	----------------	--------------

Signature Not Verified
Digitally signed by Srinivasan Varadachari
Date: 2021.09.17 16:59:45 IST

Policy No. : 55100036210100000036 Document generated by 36763 at 17/09/2021 16:59:40 Hours.
Regd. & Head Office: New India Assurance Bldg., 87 M.G. Road, Fort, Mumbai - 400 001. TOLL FREE No. 1 800 209 1415.

THE NEW INDIA ASSURANCE CO. LTD.
(Government of India Undertaking)



				Skilled	Unskilled	Others	
--	--	--	--	---------	-----------	--------	--

Extensions under the Policy Cover

Name of the Extension	Sub Limit of the Extension	Deductibles of the Extension
Special Conditions	THE EMPLOYER HAS TO MAINTAIN PAY ROLL AND ATTENDANCE REGISTER AS PER WC POLICY	

Special Exclusions	NA
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Special Excess/Deductible	NA
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The Policy shall be subject to EMPLOYEES COMPENSATION INSURANCE Policy clauses attached herewith.

Clauses	Description
---------	-------------

Premium and GST Details

	Rate of Tax	Amount in INR
Premium		₹ 63000.00
SGST	9	5670
CGST	9	5670
IGST	0	0

In witness whereof the undersigned being duly authorised by the Insurers and on behalf of the Insurers has (have) hereunder set his (their) hand(s) on this 17th day of September, 2021.

For and on behalf of

The New India Assurance Company Limited

Date of Issue: 17/09/2021	
---------------------------	--

Duly Constituted Attorney(s)

Stamp Duty under the Policy is ₹1

Mudrank _____ Dt. _____ consolidated Stamp Fees Paid by Pay Order Number _____ vide receipt

number _____ dt. _____.

Tax Invoice No : 55100021E0006724

IRDA Registration Number: 190

ANNEXURE-7: CONSTRUCTION WASTE STORAGE AT WSC SITE



View of Construction Material Storage



Another View of Construction Material Scattered at Site



Construction Waste At Site

**ANNEXURE-8: STATUS OF ACTIONS CONTEMPLATED IN PREVIOUS SEMI-ANNUAL
ENVIRONMENTAL MONITORING REPORT (JANUARY– JUNE 2021)**

Sl.No.	Non- Compliance Issue	Action Required during Reporting Period	Responsibility	Status as on 30 June 2021
1.	Environment Monitoring	Environmental Monitoring to be continued	Contractor	Contractor has submitted environmental monitoring reports during the reporting period.
2.	Stakeholder Consultations	Stakeholder Consultations to be conducted at all sites.	Contractor	AIDS awareness cum Safeguards Consultation program was held at all the sites.

ANNEXURE-9: PHOTOGRAPHS AND ATTENDANCE SHEETS OF CONSULTATIONS

A. Consultation Photographs of Stakeholder Consultations and AIDS Awareness Program

(i) ITI Barhampur



Environmental Specialist Answering queries of stakeholders



Environmental Specialist Explaining EMP and HIV AIDS Orientation for Students



ITI Principal Explaining Initiatives taken by ITI for Training of HIV infected Candidates

(ii) ITI Bhubaneswar



**Environmental Specialist Explaining EMP
and Orientation on HIV AIDS**



**Another View of Stakeholder
Consultations**

(iii) ITI Cuttack



**A view of HIV AIDS Awareness Program
and Stakeholder Consultations**



**Another View of Stakeholder
Consultations**



**Chief Medical Officer Kalahandi District
providing guidance on prevention of HIV
AIDS awareness**



**Chief Medical Officer Kalahandi District
Responding to Queries on HIV AIDS to
participants**

(iv) ITI Puri



A view of Stakeholder Consultation Meeting Cum AIDS awareness program



Environmental Specialist Explaining EMP features and orientation on HIV AIDS



General Manager Projects OSDP Explaining Project Features to Stakeholders

(v) WSC Bhubaneswar



**Environment Specialist giving overview
on EMP implementation and AIDS
awareness**



**Medical Specialist Answering Queries of
Stakeholders**



Medical Specialist Explaining HIV and AIDS causes and Prevention




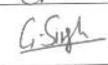

B. Attendance Sheet:

(i) ITI Barhampur

Loan No. 3539-IND: Odisha Skill Development Project
Stakeholder Consultations and HIV and AIDS Awareness Program

Date: 22/12/2021

Location: ITI Barhampur





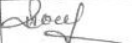
Sl. No.	Name	Designation	Phone Number	Signature
1	Shreevishnu Venna	Environmental Specialist	9811224458	
2	Rajendra Kumar	A.T.O	9853443845	
3	Debabrata Das	P.O	7008051576	
4	Gurpreet Singh	Changelader	8639174605	
5	Ashutosh Mahapatra	Student	6379404057	Ashutosh Mahapatra
6	K. Bilay Reddy	Student	7306333873	K. Bilay Reddy
7	Ratiranjana Das	Student	9114779982	Ratiranjana Das
8	Sandeep Behera	Student	8260087955	Sandeep Behera
9	Rasmitrani Das	Student	9692133007	Rasmitrani Das
10	Ankita Nishak	Student	7205221018	Ankita Nishak
11	A. Meghana Patra	Student	7848033324	A. Meghana Patra
12	A. Seabani	Student	7504602499	A. Seabani
13	Dr. Rishi	Prinncipal	9435292121	
14				

(ii) ITIBhubaneswar

Loan No. 3539-IND: Odisha Skill Development Project
Stakeholder Consultations and HIV and AIDS Awareness Program

Date: 24/12/2021

Location: ITI Bhubaneswar

Sl. No.	Name	Designation	Phone Number	Signature
1	C.S. Guntury	(T.O.)	9437141604	
2	Santilata Sram	(T.O.)	9437869962	
3	Subrat Kumar Sahoo	(T.O.)	8763309708	
4	Subasini Sahoo	IA-ATO	7008366260	
5	Rubina Routray	ATO	9853919088	
6	Mamata Mishra	ATO	8249293092	M. Mishra 24/12/21
7	Dipanjali Primal	IA-ATO	8917229115	D. Primal 24/12/21
8	Meera Mangual	PTGI	8249879318	M. Meera 24/12/21
9	Aditya Nayana Mishra	PTGI	9439048315	A. Mishra 24.12.21
10	Prasanna Kumar Senapati	A.T.O	9438376624	P. Senapati 24.12.2021
11	Chitta Ranjan Prasad	P.S.O	8847859264	C. Prasad 24/12/21
12	Shubashish Sah	PTGI	9937419769	S. Sah 24/12/21
13	Bojay Kumar Bhatta	PTGI	9078340101	B. Bhatta 24/12/21
14	Ashok Kumar Meher	PTGI	9861674228	A. Meher

Sl. No.	Name	Designation	Phone Number	Signature
15	Prityesh Baranika	PTGI	9348085655	P. Prityesh 24/12/21
16	Ramita Sahoo	ATO	7978177803	Ramita 24/12/2021
17	Lipak Koushna		9437979897	Lipak 24/12/2021
18	Ruchita Pattnaik	ATO (IA)	7978021417	Ruchita 24/12/21
19	Shreenivas	Env-Splur	981122448	
20				
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25				
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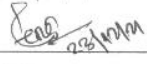


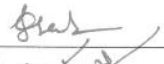

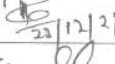

(iii) ITI Cuttack

Loan No. 3539-IND: Odisha Skill Development Project
Stakeholder Consultations and HIV and AIDS Awareness Program

Date: 23/12/2021

Location: ITI CUTTACK.

Sl. No.	Name	Designation	Phone Number	Signature
1	Dr. Priyanka Mohanty	Doctor	6370189775	P. Mohanty
2	Sarany Radhi	Gen. Sec.	9937366911	S. Radhi
3	Dr. H. K. Mohanty	Principal	9437154223	H. K. Mohanty
4	Pradman Chandra Seta	Group In-charge	9861685612	P. Chandra Seta
5	U. C. Mishra	VP	9861869860	U. C. Mishra
6	Pooja Banerjee	Facilitator	8249441560	P. Banerjee
7	Monalisa Prasadacharya	A. T. O.	9853437930	M. Prasadacharya
8	Lalita su. marthi	A. T. O.	9438360561	L. su. marthi
9	Mitali Ray	ATO	9778719239	M. Ray
10	Puspakata Mahapatra	ATO	9437155263	P. Mahapatra
11	Sudhasmita Behera	ATO	9808304608	S. Behera
12	Nibedita Sahoo	ATO, IA	8895785514	N. Sahoo
13	Annapurna Behera	ATO, (IA)	6371945101	A. Behera
14	Bagaricka Samal	ATO (H/C)	8249108533	B. Samal

Sl. No.	Name	Designation	Phone Number	Signature
15	Aradhana Sahoo	ATO	9438386561	 23/12/21
16	Praharad kumar Tena	T.O	9658976488	 23/12/21
17	Aradhana Padhi	T.O.	8917301198	 23.12.2021
18	Shirina Roul	ATO	9861658880	 23.12.2021
19	Pradyumna Kumar Sahoo	Facilitator	6360933271	
20	Siddhikanta Swain	Employability Facilitator	7504682383	 23/12/21
21	Ranjit Kumar Sengupta	ATO	9938177212	 23/12/21
22	Shreenidhi Sahoo	Employability Facilitator	9811224558	
23				
24				
25				
26				

(iv) ITIPuri

Loan No. 3539-IND: Odisha Skill Development Project
Stakeholder Consultations and HIV and AIDS Awareness Program

Date: 23/12/2021

Location: ITI, Puri

Sl. No.	Name	Designation	Phone Number	Signature
1	TAPAS KUMAR KHILLAR	ATO (1/2 cell & sc)	7008397035	Tapas Kumar Khillar
2	MANOJ KUMAR DASH	Training Officer	9437601544	Manoj Kumar Dash
3	SANATAN SAHOO	IAATO (P.P.O)	9853421915	Sanatan Sahoo
4	Anita Jagadeb	CL Tata Strive	9205324491	Anita Jagadeb. 23.12.21
5	Subarnamayee Barik	ATO Electrician	8917645710	Subarnamayee Barik
6	praveenini Behera	ATO Electronics Mechanics	7978589861	praveenini Behera
7	Krutidipta Sahoo	ATOCIA) Fitter.	9853348082	Krutidipta Sahoo
8	NISIKANTA SHARMA	ATO W/Man	9776772234	Nisikanta Sharma
9	Pradosha Kumar Patra	A.T.O. Machinist	7978341910	Pradosha Kumar Patra
10	Bhangan Kumar Dash	IAATO- (MMV)	8328881979	Bhangan Kumar Dash
11	Bismaya Kumar Mangaraj	P.T.G.I (Machinist)	7978255225	Bismaya Kumar Mangaraj
12	Sankaran Sathya	IAATO - Turner	7088456035	Sankaran Sathya
13	Jaydip Ghosh	P.T.G.I W/Man	8219919824	Jaydip Ghosh
14	Janmejay Khuntia	PTGI Electrician	9583798794	Janmejay Khuntia

Sl. No.	Name	Designation	Phone Number	Signature
15	Pradeep Kumar Giri	ATO, Turner	9438456234	Pradeep Kumar Giri
16	Dejaya Kumar Sahoo	IAATO, Welder	7205266362	Dejaya Kumar Sahoo
17	Sachmita Behera	Principal	7008657110	Sachmita Behera
18	Santosh Behera	Gen - Invt	983736036	S.
19	Shankaran	9811224668	9811224668	Shankaran
20				
21				
22				
23				
24				
25				
26				





(v) WSC Bhubaneswar

Loan No. 3539-IND: Odisha Skill Development Project
Stakeholder Consultations and HIV and AIDS Awareness Program

Date: 21/12/2021

Location: WSC Bhubaneswar

Sl. No.	Name	Designation	Phone Number	Signature
1	Dr. Aniya Choudhary	M.B.B.S	8093767096	Aniya Choudhary
2	Santosh Behera	Am	9937360311	S.
3	Niraya Kumar Mohanty	Electrical Engineer	9438543815	Niraya
4	Sagar Kumar Tarai	Trainer ACR	9776339281	Sagar
5	Santosh Behera	Supervisor	9348737439	Santosh
6	Dusmanta Kumar Biswal	Trainer MES	7894878052	Biswal
7	Bibhu Prasad Swain	Trainer, MB	9776256043	Bibhu
8	Pradyumn Rathi	Supervisor	6370842372	Rathi
9	Sumit Choudhary	Manager	9971769115	Sumit
10	Prakash Chandra Swain	U (M/Env) Behef	8895179723	Prakash
11	Debasish Nayak	Junior (IDCO) Engineer	9439924661	Debasish
12	Shree Narayan	Environment Specialist	9811224458	Shree
13	Kantimayee Sahoo	Trainer ACR	7064880537	Kantimayee
14	Smriti Ranjan Sahoo	Civil Engg	8599840238	Smriti

Sl. No.	Name	Designation	Phone Number	Signature
15	Prakash ch Barik	Trainer (ACR)	8917647662	
16	Subhrajit Sahoo	Trainer (ACR)	9040256434	
17	D. Jogi Pradhan	Trainer (ACR)	9931129967	
18	Kishore ch Bhoi	Trainer (ACR)	8249222222	
19				
20				
21				
22				
23				
24				
25				
26				

ANNEXURE-10: NOTIFIED GRIEVANCE REDRESS MECHANISM OF ODISHA SKILL DEVELOPMENT PROJECT



Dated: 9th July 2021

Grievance Redressal Mechanism (GRM) at Odisha Skill Development Project

The GRM at the Odisha Skill Development Project (OSDP) is notified herewith to address grievances of all stakeholders and members of public concerning with Project. This GRM will be functional at WSC site and / or other construction site (s) and at OSDP corporate office.

The grievances at sites will be first brought to the notice of Health, safety and environment officer of contractor. In case it is not resolved, it will be referred to site grievance redress committee. If compliant is not resolved by the site Grievance Redressal Committee (GRC), it will be referred to GRC at corporate office of OSDP.

This replaces the earlier GRC notification issued under the Project, dated 11 September 2020.

Following are the members of GRC at site and corporate levels:

A. Grievance Redress Committee at Site(s)

- 1- General Manager - Projects
- 2- Construction Manager of Contractor
- 3- Site In charge Odisha Infrastructure Industrial Development Corporation (IDCO)
- 4- Health, Safety and Environment Officer of Contractor

B. Grievance Redress Committee at Odisha Skill Development Project Corporate Office

- 1- Chief Executive Officer OSDP Project
- 2- General Manager Projects
- 3- General Manager Finance
- 4- Environmental Specialist OSDP Project
- 5- Social Safeguard Specialist OSDP Project


Chief Executive Officer
Odisha Skill Development Project

ANNEXURE-11: ENVIRONMENT MONITORING REPORT



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Laboratory

Report no. - CEMC/T21/16092021/N

Issued Date-16.09.2021

NOISE MONITORING REPORT

Client Name and Address	M/s. Tower 2010 of IDCO, Bhubaneswar
Reference No.	CEMC-16092021N
Nature of Sampling	Noise Sampling
Instrument used	Noise Level Meter
Sampling By	Mr. B. Samantaray
Sampling Date	07.09.2021

MONITORING RESULT

Sl. No.	Locations	Maximum		Average	
		dB(A) Day time	dB(A) Night time	Day (Ld)	Night (Ln)
1	Project Site	53.4	42.9	51.7	43.2
2	Pandra	52.6	41.3	50.5	42.6

NOISE LEVEL STANDARD

Area Code	Category of Area/Zone	Permissible Limit in dB (A)	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40


Authorized Signatory



Notes:

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Report no. - CEMC/T21/16092021/A1

Issued Date-16.09.2021

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. Tower 2010 of IDCO, Bhubaneswar
Reference No.	CEMC-16092021A1
Nature of Sampling	Ambient Air Sample
Sampling Location	Project Site
Sampling By	Mr. B. Samantaray
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment, CO Meter, Benzene sampler
Sampling Date	07.09.2021

ANALYSIS RESULT

Sl. No.	Parameters	Result	Standard as per NAAQ	Methods of Analysis
1	Particulate Matter (PM ₁₀) µg/m ³	65.9	100	IS: 5182 (Part-23)
2	Particulate Matter (PM _{2.5}) µg/m ³	33.4	60	Gravimetric Method as per CPCB method
3	Sulphur Dioxide (SO ₂) µg/m ³	9.6	80	IS: 5182 (Part-2)
4	Nitrogen Oxides (NO _x) µg/m ³	14.3	80	IS: 5182 (Part-6)
5	Carbon Monoxide (CO) mg/m ³	0.31	4.0	IS: 5182 (Part-10)
6	Ozone (O ₃) µg/m ³	<10	100	IS: 5182 (Part-9)
7	Ammonia (NH ₃) µg/m ³	<20	400	Indophenol Blue Method followed by CPCB
8	Lead (Pb) µg/m ³	<0.06	1.0	IS: 5182 (Part-22)
9	Nickel (Ni) ng/m ³	<0.6	20	As per CPCB method followed by AAS
10	Arsenic (As) ng/m ³	<0.44	6	As per CPCB method followed by AAS
11	Benzene (C ₆ H ₆) µg/m ³	<1	5	IS: 5182 (Part-11)
12	Benzo(a)Pyrene (BaP) ng/m ³	<1	1	IS: 5182 (Part-12)

*NAAQ (National Ambient Air Quality Standard as per 18th Nov, 2009 Govt. Notification)

MPout
Authorized Signatory

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Report no. - CEMC/T2I/16092021/A2

Issued Date-16.09.2021

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. Tower 2010 of IDCO, Bhubaneswar
Reference No.	CEMC-16092021A2
Nature of Sampling	Ambient Air Sample
Sampling Location	Pandra
Sampling By	Mr. B. Samantaray
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment, CO Meter, Benzene sampler
Sampling Date	07.09.2021

ANALYSIS RESULT

Sl. No.	Parameters	Result	Standard as per NAAQ	Methods of Analysis
1	Particulate Matter (PM ₁₀) µg/m ³	69.6	100	IS: 5182 (Part-23)
2	Particulate Matter (PM _{2.5}) µg/m ³	35.2	60	Gravimetric Method as per CPCB method
3	Sulphur Dioxide (SO ₂) µg/m ³	9.5	80	IS: 5182 (Part-2)
4	Nitrogen Oxides (NO _x) µg/m ³	13.9	80	IS: 5182 (Part-6)
5	Carbon Monoxide (CO) mg/m ³	0.27	4.0	IS: 5182 (Part-10)
6	Ozone (O ₃) µg/m ³	<10	100	IS: 5182 (Part-9)
7	Ammonia (NH ₃) µg/m ³	<20	400	Indophenol Blue Method followed by CPCB
8	Lead (Pb) µg/m ³	<0.06	1.0	IS: 5182 (Part-22)
9	Nickel (Ni) ng/m ³	<0.6	20	As per CPCB method followed by AAS
10	Arsenic (As) ng/m ³	<0.44	6	As per CPCB method followed by AAS
11	Benzene (C ₆ H ₆) µg/m ³	<1	5	IS: 5182 (Part-11)
12	Benzo(a)Pyrene (BaP) ng/m ³	<1	1	IS: 5182 (Part-12)

*NAAQ (National Ambient Air Quality Standard as per 18th Nov, 2009 Govt. Notification)

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Report no. - CEMC/T2I/16092021/SW

Issued Date-16.09.2021

SURFACE WATER ANALYSIS TEST REPORT

Client Name and Address : M/s. Tower 2010 of IDCO, Bhubaneswar
 Date of Sampling : 07.09.2021
 Date of Sample Received : 07.09.2021
 Date of Analysis : 08.09.2021 to 16.09.2021
 Sampling by : B. Samantaray
 Sample Description : Surface water
 Sample Quantity : 2.0 Ltrs
 Sample Location : Kuakhai River
 Reference No. : CEMC-16092021SW

ANALYSIS RESULT

Sl. No.	Test Parameters	Unit	Max. Tolerance Limit as per IS 2296 : Class C	Result
1	Colour, Max.	Hazen	300	5
2	pH value @ 25° C	--	6.5-8.5	7.41
3	Iron as Fe, Max.	mg/l	50	0.52
4	Chloride as Cl, Max.	mg/l	600	28.3
5	Total Dissolved Solids, Max.	mg/l	1500	171
6	Dissolved Oxygen, Min.	mg/l	4	6.7
7	BOD for 3 days at 27°C, Max.	mg/l	3	2.4
8	Oil & Grease, Max.	mg/l	0.1	ND
9	Copper as Cu, Max.	mg/l	1.5	<0.03
10	Sulphate as SO ₄ , Max.	mg/l	400	25.9
11	Nitrate as NO ₃ , Max.	mg/l	50	9.4
12	Fluoride as F, Max.	mg/l	1.5	0.23
13	Anionic detergent	mg/l	1	<1
14	Cadmium as Cd, Max.	mg/l	0.01	<0.003
15	Selenium as Se, Max.	mg/l	0.05	<0.001
16	Arsenic as As, Max.	mg/l	0.2	<0.001
17	Cyanide as CN, Max.	mg/l	0.05	ND
18	Phenolic compound as C ₆ H ₅ OH, Max.	mg/l	0.005	<0.001
19	Lead as Pb, Max.	mg/l	0.1	<0.01
20	Zinc as Zn, Max.	mg/l	15	3.6
21	Hexavalent Chromium as Cr ⁶⁺ Max.	mg/l	0.05	<0.05
22	Total Coliform, Max.	MPN/100ml	5000	>1600

Authorized Signatory

Notes:

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Report no. - CEMC/T21/16092021/GW1

Issued Date-16.09.2021

DRINKING WATER ANALYSIS TEST REPORT

Client Name and Address : M/s. Tower 2010 of IDCO, Bhubaneswar
Date of Sampling : 07.09.2021
Date of Sample Received : 07.09.2021
Date of Analysis : 08.09.2021 to 16.09.2021
Sampling by : B. Samantaray
Sample Description : Drinking water
Sample Quantity : 2.0 Ltrs
Sample Location : Borewell in Project Site
Reference No. : CEMC-16092021W1

ANALYSIS RESULT

Sl. No	Parameter	Unit	Standard as per IS: 10500:2012		GW1
			Acceptable Limit	Permissible Limit	
1	Colour	Hazen	5	15	<5
2	Odour	--	AL	AL	AL
3	Taste	--	AL	AL	AL
4	Turbidity	NTU	1	5	<1
5	pH Value @ 25°C	--	6.5-8.5	No Relaxation	7.12
6	Total Hardness (as CaCO ₃)	mg/l	200	600	153
7	Iron (as Fe)	mg/l	0.3	No Relaxation	0.16
8	Chloride (as Cl)	mg/l	250	1000	22.4
9	Residual, free Chlorine	mg/l	0.2	1.0	ND
10	Total Dissolved Solids	mg/l	500	2000	279.3
11	Calcium (as Ca)	mg/l	75	200	41.1
12	Magnesium (as Mg)	mg/l	30	100	12.1
13	Copper (as Cu)	mg/l	0.05	1.5	<0.03
14	Manganese (as Mn)	mg/l	0.1	0.3	<0.05
15	Sulphate (as SO ₄)	mg/l	200	400	13.2
16	Nitrate (as NO ₃)	mg/l	45	No Relaxation	2.4
17	Fluoride (as F)	mg/l	1.0	1.5	<0.05
18	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	<0.001
19	Mercury (as Hg)	mg/l	0.001	No Relaxation	<0.001
20	Cadmium (as Cd)	mg/l	0.003	No Relaxation	<0.003
21	Selenium (as Se)	mg/l	0.01	No Relaxation	<0.001
22	Arsenic (as As)	mg/l	0.01	0.05	<0.001
23	Cyanide (as CN)	mg/l	0.05	No Relaxation	ND
24	Lead (as Pb)	mg/l	0.01	No Relaxation	<0.01
25	Zinc (as Zn)	mg/l	5.00	15	<0.05

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26	Total Chromium (as Cr)	mg/l	0.05	No Relaxation	<0.05
27	Mineral Oil	mg/l	0.5	No Relaxation	ND
28	Total Alkalinity (as CaCO ₃)	mg/l	200	600	43
29	Aluminium (as Al)	mg/l	0.03	0.2	<0.01
30	Boron (as B)	mg/l	0.5	1.0	<0.2
31	Anionic Detergent	mg/l	0.2	1.0	<0.05
32	Total Coliform	MPN/100ml	Absent in 100 ml Sample	Absent in 100 ml Sample	Absent
33	<i>E. Coli</i>	MPN/100ml	Absent in 100 ml Sample	Absent in 100 ml Sample	Absent

* AL.- Agravable, ND-Not Detectable, MPN-Most Probable Number

M. K. Rout

Authorized Signatory



Seal of Laboratory

Notes:

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laboratory

Report no. - CEMC/T21/16092021/S

Issued Date-16.09.2021

SOIL ANALYSIS TEST REPORT

Client Name and Address : M/s. Tower 2010 of IDCO, Bhubaneswar
Date of Sampling : 07.09.2021
Date of Sample Received : 07.09.2021
Date of Analysis : 08.09.2021 to 16.09.2021
Sampling by : B. Samantaray
Sample Description : Soil Sample
Sample Quantity : 1.0 Kg
Sample Location : Project Site
Reference No. : CEMC-16092021S

ANALYSIS RESULT

Sl. No	Parameter	Unit	Result
1	Colour	--	Reddish
2	Type of Soil	--	Acidic
3	pH value @ 25°C (1:5)	--	6.42
4	Texture	--	Sandy clay
5	Sand	%	47.7
6	Silt	%	24.4
7	Clay	%	27.9
8	Bulk Density	gm/cc	1.6
9	Porosity	%	40.3
10	Moisture content	%	7.9
11	Available Phosphorus as P	%	0.64
12	Available Potassium as K	%	1.01
13	Available Nitrogen as N	%	4.2
14	Iron as Fe	%	0.23
15	Available Organic Carbon	%	0.89


Authorized Signatory

Notes:

- The result given above related to the tested sample as received. The customer asked for the above test only.
- This Test Report shall not be reproduced wholly or in part without prior written consent of the laboratory.
- The samples received shall be destroyed after two weeks from the date of issue of the Test Report unless specified otherwise.
- This Test Report shall not be used in any advertising media or as evidence in the court of Law without prior written consent of the laboratory.



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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