



टीएचडीसी इंडिया लिमिटेड
(श्रेणी क गिनी रत्न उपक्रम)
THDC INDIA LIMITED
(Schedule - A Mini Ratna PSU)



LIFE
Lifestyle for
Environment

सं० टीएचडीसी/क्र०/सा० एवं पर्या०/फ०-117/ 76(76)

दिनांक: 31-05-2023

सेवा में,

1. Deputy Director General of Forests (C)

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय,

उत्तर केन्द्रीय क्षेत्रीय कार्यालय,

25, मुभाष रोड, देहरादून - 248001

2. मध्यम - सचिव,

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय,

आई.ए. डिवीज़न (आर.वी. एवं एच.ई.पी.),

वायु विंग, कमरा सं० 303, इंदिरा पर्यावरण भवन

जोग बाग रोड, नई दिल्ली - 110 003

विषय: 18th Six monthly progress report (Oct 2022 to March 2023) on environmental aspects of Vishnugad Pipalkoti Hydroelectric Project (444 MW) located at Distt. Chamoli, Uttarakhand - reg.

Sir,

In compliance to Point (vii) of Part B: General Conditions of Environment Clearance letter No. J-12011/29/2007-IA.I dtd. 22.08.2007 and subsequent fresh clearance on dated 26.08.2021 issued by MoEF&CC, please find enclosed herewith the Six monthly progress report on environmental aspects of Vishnugad Pipalkoti Hydroelectric Project (444 MW) located at Distt. Chamoli, Uttarakhand for your kind perusal and record please.

Also, the six monthly compliance report for the period of July 2022 to Dec 2022 has already been shared vide letter No THDCIL/RKSH/S&E/F-117/323 dated 06.03.2023.

Thanking You,

J. Sune
31/05/2023

(विपिन थपलियाल)

उप० महाप्रबंधक (पर्यावरण)

संलग्नक: उपरोक्तानुसार

प्रतिलिपि: सादर सूचनार्थ

1. मुख्य महाप्रबंधक (सामाजिक एवं पर्यावरण), टीएचडीसीआईएल, ऋषिकेश
2. अपर महाप्रबंधक (सामाजिक एवं पर्यावरण), टीएचडीसीआईएल, पीपलकोटी

SIX MONTHLY PROGRESS REPORT ON ENVIRONMENTAL ASPECTS

Period October' 2022 to March' 2023

1.	Name of the Project	VISHNUGAD PIPALKOTI HYDRO ELECTRIC PROJECT (444 MW)
2.	Type of the Project	Hydroelectric Project
3.	Clearances OM No. & Date a) Environment Clearance b) Forest Clearance	i) Letter No. J-12011/29/2007-IA.I, Dated 22.08.2007 ii) Corrigendum regarding Catchment Area, letter no. J-12011/29/2007-IA.I, Dated 18.01.2008 iii) Amendment regarding minimum environmental flow, letter no. J-12011/29/2007-IA-I, Dated 31.05.2011 iv) Extension of validity of Environment Clearance till 21.08.2020, letter no. J-12011/29/2007-IA.I, Dated 25.04.2018. v) Extension of validity of Environment Clearance till 21.08.2021, letter no. J-12011/10/2020-IA.I (R), Dated 02.03.2021. vi) Fresh Environment Clearance granted by MoEF&CC vide letter dtd. 26.08.2021. i) Stage-II Forest Clearance (Final) Letter No. F.No.8-65/2009-FC, Dated 28.05.2013
4.	Locations a) District(s) b) State (s) c) Latitude (Dam Site) d) Longitude (Dam Site)	a) Chamoli b) Uttarakhand c) 79°29'30" E d) 30°30'50" N
5.	Address for Correspondence a) Address of concerned Project Head (with pin code and telephone / fax nos.) b) Address of concerned HOD in Corporate Office (with pin code & telephone/ fax no.)	a) Sh. R.N. Singh, OSD (Project), VPHEP, THDCIL, Alaknandapuram, Siyasain, Pipalkoti, Distt. Chamoli (Uttarakhand). Pin code: 246472 Tel (O): 01372-256200 Fax (O): 0137-256203 b) Sh. P.K. Naithani, OSD (S&E), THDCIL, Bypass road, Pragatipuram, Rishikesh (Uttarakhand) Pin code: 249201 Tel (O): 0135-2433454 Fax (O): 0135-2439404
6.	Details of Environmental Management Plan	Attached as Annexure – I
7.	Break - up of the Project area (land details) a) Dam and Submergence area (forest & non-forest)	Total land Acquired by Project - 141.568 Ha. (Includes Private & Forest Land) a) Dam and Submergence area Forest: 28.478 Ha. Non-Forest: -

	b) Others	b) Others (Exclusive of above 'a') Forest: 71.912 Ha. Non-Forest: 31.639 Ha. (Private) Transferred to Project by PWD : 9.539 Ha.
8.	Breakup of the Project affected population with enumeration of those losing houses / dwelling units only, agricultural land only, both dwelling units and agricultural land and landless laborers / Artisans. a) SC /ST /Tribal's b) Others	Attached as Annexure - II
9.	Financial details a) Project cost as originally planned and subsequent revised estimates and the years of price reference. b) Actual expenditure incurred on the Project so far. c) Allocations made for Environmental Management Plan.	a) Investment approval to the project amounting to Rs. 2491.58 Cr at March, 2008 Price Level has been accorded by CCEA on 21.08.2008. Revised RCE of Rs. 3860.35 Cr (including IDC & FC) at Feb'19 PL has been vetted by CEA on 20.03.2020. b) The expenditure incurred on VPHEP Project till February' 2023 is Rs. 2912.40 Cr. c) Rs. 109.53 Crs (As per EMP of VPHEP formulated during July' 2021)
10.	Forest Land requirements a) Status of approval for diversion of forest land for non -forestry use b) The status of clear felling in forest land	a) Vide letter no. F.No.8-65/2009-FC dated 28.05.2013, stage-II Forest clearance was accorded by MoEF, GoI. b) The details of 812 Number of Tree Felling is under: Dam - 555, Approach Road (TRT to Siyasain to Durgapur) – 200, Approach Road (Siyasain Road to Dhobi Ghat) – 07 & Dumpyard (Siyasain) - 50
11	Status of construction a) Date of commencement (actual and/planned) b) Date of completion (actual or planned)	a) 17.01.2014 b) Planned: 16.07.2018 (54 months from date of commencement of construction work). Revised: The completion of the Project is expected in March' 2025.
12.	Reason for the delay if the project is yet to be started.	NIL
13.	Details of site visit a) By Monitoring Committee	a) Vide order dated 17.10.2014, District Magistrate, Chamoli has constituted the Environment Monitoring Committee. Second meeting of committee was

	b) By Regional Office	conducted on 22.02.2016 Based on the suggestions of the Additional Director, MoEF&CC, R.O. Dehradun (Jan' 2017 visit), the Multi-Disciplinary Committee has been re-constituted vide MoEF&CC letter no. J-12011/29/2007-IA-I dated 10.10.2017. The reconstituted Multi-Disciplinary Committee (MDC) under the chairmanship of PCCF-HoFF, Uttarakhand has visited the project site on 28.07.2018. The 4th MDC meeting was held on 22.08.2022 under the chairmanship of PCCF-HoFF, GoUK at Van Bhawan, Dehradun. a) Dr. S.C. Katiyar, Addl. Director (S), MoEF&CC, North Central Regional Office, Dehradun visited the VPHE Project on 09.01.2017 & 10.01.2017. b) Dr. S. C. Garkoti, Advisor, MoEF&CC, New Delhi along with Dr. S. C. Katiyar, Addl. Director (S), MoEF&CC, North Central Regional Office, Dehradun has visited the VPHEP site on 02.08.2017 & 03.08.2017. c) Dr. S.C. Katiyar, Addl. Director (S), MoEF&CC, North Central Regional Office, Dehradun has visited the VPHE Project on 28.07.2018. d) Sh. Pankaj Agarwal, Addl. PCCF and Dr. S. C. Katiyar, Addl. Director, MoEF&CC, Regional Office, Dehradun has visited the VPHE Project on 11-12 Nov 2018. e) Dr. Krishnendu Mondal, Scientist – C, MoEF&CC, Regional Office, Dehradun has visited the VPHEP Project on 12-13 Oct' 2020. f) Dr. Krishnendu Mondal, Dy. Director, MoEF&CC, Regional Office, Dehradun has visited the VPHEP Project on 07-08 Nov' 2022.
14.	Brief Note on the status of Compliance of the conditions stipulated by MoEFCC	A brief note on status of conditions stipulated by MOEF is enclosed as Annexure - III .

ENVIRONMENTAL MANAGEMENT PLAN
(PHYSICAL ACHIEVEMENT IN REPORTING PERIOD)

S. NO.	PLAN	ACHIEVEMENT
1	Development of Herbal Garden	- Based on recommendations of HRDI, Mandal, Gopeshwar, Herbal garden has been developed in the VPHEP colony over an area of 1800 sqm. approx. Also, two nos. dedicated manpower/gardener has been deployed for the maintenance of Herbal Garden. - Approx. Rs. 21.64 lakhs have been incurred on various works related to the development of the Herbal Garden. - Medicinal plants like Harad (Terminalia Chebula), Lemon Grass (Cymbogogonfelxuosus), Sarpagandha (Rauvolfia Serpentina), Aloe Vera etc. planted.
2	Road Side Plantation	- Requisite funds have been deposited under CAMPA for implementation. - Matter is under persuasion with State Forest Deptt. for start of works.
3	Wildlife Protection (related to NDBR & KWLS)	Wildlife Protection: - Two (02) nos. Watch Towers has been installed at identified locations at Powerhouse and TBM sites nearby the boundary of KWLS. - Ten nos. Camera Traps were procured on the recommendation of E&S panel. Out of which, 08 nos. Camera Traps handed over to Forest Department (Nanda Devi National Park) for installation in NDBR on 20.03.2018 and has been installed in NDBR by Forest Department at appropriate location. Balance 02 nos. of Camera Traps have been handed over to Kedarnath Forest Division on 12.06.2019 and has been installed in NDBR by Forest Department at appropriate location. - Controlled Blasting techniques are being practiced and the same is being monitored by construction contractor through Central Institute of Mining & Fuel Research (CIMFR), Roorkee. Report up to January' 2023 have been received. - Awareness Programs are being organized from time to time. - Environment Awareness Program has been organized at Saraswati Shishu Mandir, Village Batula during Nov' 2022 in the presence of Forest & THDCIL officials.
4	Compensatory Afforestation in 120.27 Ha	- Compensatory Afforestation and other works (Roadside Plantation, construction of 4 feet high pillar etc.) is being done by the State Forest Department, GoUK. Requisite funds have already been deposited by THDCIL in CAMPA. However, the funds yet to be released by the CAMPA to the concerned Forest Deptt. - THDCIL is continuously pursuing the issue with Senior Forest Officials at Dehradun and at Divisional Level. - Issue was also discussed in the meeting of Multi-Disciplinary Committee constituted by MoEF&CC, New Delhi under the chairmanship of PCCF-HoFF, GoUK held on 22.08.2022 at Van Bhawan, Dehradun. - The Chairman - MDC, PCCF-HoFF, has directed the concerned Forest officials to take all-out efforts to for early completion of these activities.

		- The 48 Ha land stands diverted for CA works against the existing 48 Ha land which was not suitable for plantation and further Forest Dept. has also informed that advance soil works in the land has been completed and plantation will be carried out during July-August 2023. - Till March' 2023 Compensatory Afforestation works in 52.507 Ha area has been completed out of 120.27 Ha by State Forest Department.
5	Catchment Area Treatment Plan	- Total Implementation value for CAT is Rs. 47 Crs., the total amount of Rs. 47 Crs stands deposited by THDCIL in CAMPA fund. DFO Badrinath Forest Division is the Nodal Officer for CAT Plan. - Vide letter dtd. 30.12.2017, final approval has been granted to DPR along with Micro plans for CAT Plan of VPHEP by Forest Deptt., GoUK. - State Forest Deptt., Uttarakhand is executing activities as per approved DPR. An expenditure of Rs. 31.82 Cr (approx.) has been made by Forest Deptt. till Nov' 2022 under CAT Plan of VPHEP. - Issue of slow progress of CAT Plan was also discussed in the meeting of Multi-Disciplinary Committee constituted by MoEF&CC, New Delhi under the chairmanship of PCCF-HoFF, GoUK held on 22.08.2022 at Van Bhawan, Dehradun. - The Chairman - MDC, PCCF-HoFF, has directed the concerned Forest officials to take all-out efforts to for early completion of the CAT related works. - DFO Badrinath, Nodal Officer has been requested for earliest completion of works under CAT Plan of VPHEP.
6	Muck Management Plan	- Dumping of muck is being done at designated / identified area & well above the high flood level. Engineering measures such as construction of gabion faced reinforced earth wall with uniaxial geo-grid reinforcement are adopted at dumping site. Benches are being developed to discontinue the slopes in dumpyard. - Work of plantation of Vetivar (Chrysopogon Zizanioides) grass as slope stabilization measure at Siyasain dumping site (DY-4) has been started in September 2018. - Plantation in approx. 15,000 sqm. area has been completed at DY-4. - M/s HCC Ltd. has been instructed to ensure necessary reclamation works at all Disposal sites. - Details of muck management till March' 2023, is as under; ➤ Muck generated (Approx.) = 30.11 Lacs m³ ➤ Muck utilized (Approx.) = 7.74 Lacs m³ ➤ Muck dumped (Approx.) = 22.37 Lacs m³ For Biological measures at Muck dumping sites, plantation of local plant species (such as Ghingaru, Hinsalu, Nirgundi, Kilmoda, Kingod, etc) will also be done along with Vetiver Grass as suggested during the 1st meeting of the monitoring cell constituted by Hon'ble NGT under the chairmanship of Chief Secretary, GoUK held on 19.01.2023.
7	Fish Management Plan	- The Consultancy Services for preparation & supporting Implementation of Fish Management Plan for VPHEP have been awarded to Directorate of Coldwater Fisheries Research (ICAR-DCFR), Bhimtal. - For framing the appropriate fish management plan, ICAR-DCFR has conducted a series of fish survey and water sampling work along River Alaknanda from Vishnupyarag to Karan Prayag. - Final Report has been received from ICAR-DCFR. ICAR-DCFR has recommended to construct Snow Trout Fish

		Hatchery. Also, a one week training on Aquatic Biodiversity in Feb' 2020, has also been conducted for the Executives of Environment Deptt. at College of Fisheries, GB Pant University of Agriculture & Technology (GBPUAT), Pantnagar by HRD, Rishikesh.
8	Green Belt Development Plan (Plantation of approx 12500 trees)	- Green Belt Development has been implemented under the Consultancy of noted Environmentalist Sh. Jagat Singh Chaudhary alias "Junglee" and with the help of State Forest Deptt. Broad Leaved, Fast Growing plant species have also been planted as suggested by "Jungli Ji" and Forest Deptt. - Till March' 2023, cumulatively 8800 nos. (approx.) plants (Jacaranda, Silver Oak, Jamun, Neem, Amrood, Padam, Bamboo etc.) are planted. Maintenance of plants is being done regularly.
9	Restoration of Quarry Site	- Till March' 2023, no Quarry site has been opened for excavation / mining. - All statutory clearances for Gadi Quarry have been obtained. Mining from Gadi Quarry has not yet been started. - The quarrying is yet to commence. However, the quarry areas will to be restored after completion of quarrying operations.
10	Solid Waste Management	VPHEP COLONY - The Solid Waste is collected at source, stored in bins and transported through vehicle for handing over to Nagar Panchayat, Pipalkoti for safe disposal. - Necessary infrastructure for SWM facility constructed nearby the VPHEP colony area. - Roadside Bins (Separate bins for Organic and Inorganic Waste) etc. have been procured and installed at appropriate locations for proper collection of waste. - Additionally, 01 nos. mini truck has been procured through SEWA-THDC and donated to Nagar Panchayat – Pipalkoti. As per mutual agreement Nagar Panchayat – Pipalkoti is collecting the solid waste of VPHEP for safe disposal. - Meeting was done with Executive Officer in charge of the Nagar Panchayat to ensure safe disposal of waste at Pipalkoti. - Initiatives like replacing plastic water bottle with reusable Glass bottles in meetings have been implemented at Project. M/S HCC LTD. – WORKER/LABOR CAMPS - Necessary provisions have been kept for Waste Collection, Handling, Segregation, Disposal process under the contractor's EMP. - Separate bins are placed at labour camps and construction sites for biodegradable and non-biodegradable wastes. - The waste collected is handed over to Nagar Palika / Panchayat. - Wastes (Hazardous/E-waste/others) being stored in storage yard for safe disposal and handed over to authorized vendors only.
11	Road Construction	During Road Construction all precautionary measures for soil erosion, slope stability, drainage to be taken care as per

		Indian Standards • Regular Water Sprinkling is being done for dust suppression. • Provision for water drainage along the road line is provided where ever required.
12	Sanitary Facility Labor Camp	• HCC has constructed the camps for its staff / workers and for PRW workers at Helang for the persons engaged at Dam site activities and also at Haat & Batula (Haat-Kauria Road) for the Power House activities. • Also, HCC has hired various private accommodations / hotels for accommodating the officers and workers at site. • All the accommodations are provided with Toilets, Bathrooms and community mess. Septic cum Soak pit tank have also been constructed at camp sites for safe disposal of sewage.
13	Fuel	• Community kitchen for labor / worker at camps being run on LPG. • Usage of approx. 11,776 nos. commercial LPG cylinders have been reported by the contractor up to March' 2023.
14	Public Health Delivery Plan	Public Health Delivery system – VPHEP, THDCIL • At VPHEP Complex, a Dispensary is operational with adequate number of beds. • Medical Staff includes Doctor, Nurse, Para medical staff, Dresser etc. • Additional facilities by engaging staff on contractual basis deputed. Ambulance deployed. • The Medical Facilities are extended free of cost among Project Affected people apart from local Population as well. • A well equipped pathology lab has also been started in the dispensary to support health checkup. • Awareness program on menstrual hygiene and gender sensitization are also being conducted on regular basis covering affected villages and nearby schools. • A MoU for the construction of New Building at District Hospital Gopeshwar has been signed between THDCIL and Chief Medical Officer, Chamoli, Gopeshwar. 1st installment of Rs. 19.79 lakhs has also been released and work will be started shortly. – M/s HCC • 01 nos. First Aid Centres operational at each at Power House, TBM and Dam site. • Para Medical Staff & facilities deployed at First Aid Centers. • Ambulance facilities available at Power House, TBM and Dam. • Necessary treatment including required vaccination is being given to labors from time to time.
15	Environmental Monitoring Plan	The monitoring on Environment Parameters (Air/Water/Noise/Effluents/Indoor Air/Emissions from DG Sets/Emissions from Vehicles/Noise from Construction Machinery/Meteorology etc.) to be monitored by the construction contractor. Blasting is being done in a controlled manner and monitoring of the same is being done through the reputed organization <i>Central Institute of Mining and Fuel Research, Roorkee</i>. Various monitoring includes;

		Monitoring of Air/Water/Noise etc. by contractor: The monitoring being conducted at different time intervals. Report from M/s HCC for Ambient Air, Indoor Air, Drinking water, Effluent water & Noise level monitoring conducted during the period Jan' 23 to Mar' 23 has been received and all parameters are found within the permissible limits. Monitoring of Incidence of Water Related Diseases: MoU signed with CMO, District Hospital Gopeshwar Chamoli in 2015 for a period of 04 years. Monitoring of water related diseases was carried out and various HIV awareness programs have been organized in affected villages as per MoU through CMO, District Hospital Gopeshwar Chamoli. A Fresh MoU has been signed with CMO, District Hospital Chamoli on 23.05.2020 for further 03 years. Quarterly Monitoring reports upto Dec' 22 have been received. Ecological Monitoring: A Fresh MoU has been signed with Post Graduate College, Gopeshwar on 19.05.2020 for further 03 years. Monitoring is under progress. Annual Report for the year 2020-21 and 2021-22 have been received. River Water Quality Monitoring: Monitoring is being conducted at regular intervals through M/s PCRI BHEL Haridwar. Last set conducted recently during Oct' 2022, Parameters within permissible limits. Meteorological Monitoring: Automatic Weather Station (AWS) for Recording of Temperature, Wind Speed & Direction, Humidity & Rainfall has been installed at Siyasain, VPHEP colony campus.
16	Third Party Monitoring Mechanism for Environmental Works	For Third Party Monitoring, M/s WAPCOS was engaged vide agreement dtd. 10.10.2014. Final consolidated report from (2015-2018) has been received in August 2019. Further in continuation, a MoU has also been signed between M/s WAPCOS and THDCIL on 18.04.2019 for Third Party EMP monitoring works of VPHEP from April 2019 to March 2020. Final consolidated report was submitted by M/s WAPCOS. For further continuing the monitoring, the work has been awarded to M/s WAPCOS from Jan' 2021 for a period of 03 years (36 months) on 31.12.2020. 1st Six monthly report for period Jan-June' 2022 has been received. Monitoring work is under progress.
17	Third Party Monitoring Mechanism for CAT Works	The MoU has been signed with ICFRE, Dehradun on 11.12.2014. Letter issued & date of start reckoned as 10.08.2015. Half yearly Reports to be furnished at regular intervals. Draft 11th Half yearly Report (Oct' 21 to Dec' 21) has been received. The monitoring works for additional period upto Dec' 2021 has been awarded to M/s ICFRE, Dehradun vide GM (S&E),

		Rishikesh letter dtd. 25.02.2020. Subsequently, the work has been further extended for a period of six months vide letter dtd. 23.06.2022. ICFRE informed that Site visit for the 12th (Jan-June 2022) report has been completed and draft report is under preparation.
18	ISO 14001 & OHSAS 18001	VPHEP project is ISO 9001:2015, 14001:2015 & 45001:18001 certified unit.
19	Archaeological Management Plan	As per the EMP, following actions are to be taken, i.e. - The Laxmi Narayan Temple at Village Haat is to be preserved through ASI Dehradun. - A 10 Member Committee comprising 8 Members from Village Haat has been constituted by DM, Chamoli and 1st meeting of committee was held on 17.01.2015. - ASI Dehradun was requested vide letters dated 11.02.2016, 01.06.2016, 05.09.2016 and 26.12.2016 for visit and consultancy. - Meanwhile, the ASI team has visited the project on 21.02.2016. It was discussed with ASI team to provide the Action Plan and consent for executing the work. - Thereafter, the ASI team visited the project on 18th March 2017 for site visit and assured that the necessary proposal shall be prepared and submitted very soon. - A preliminary report has been obtained from ASI Dehradun. - A meeting under the chairmanship of District Administration in presence of representative from ASI and The World Bank has been conducted between THDCIL and the representatives from Haat village on 23.04.2019 at VPHEP for protection and beautification works of Laxmi Narayan Temple at village Haat. The preliminary report of ASI Dehradun along with further protection plan suggested by The World Bank has also been shared and discussed with the Temple Committee and others during the meeting. - Drawings as per the suggestions of the World Bank have been issued by Design Department, THDCIL, Rishikesh. - Necessary action has been initiated at various levels of department. Recently, vide letter dtd. 20.09.2021, ASI Dehradun has been requested to provide the DPR for taking up the preservation work of Laxmi Narayan Temple. - Also, DM-Chamoli vide letter dtd. 27.10.2021 has also requested DG-ASI, New Delhi for directing the concerned official for taking up the work at the earliest. - ASI Officials from Dehradun Circle visited the site on 14.03.2022. Matter is being pursued with ASI officials. Further, Remains of Archaeological importance also need to be preserved or conserved. - An Archaeological Chance Find Card has also been issued to the contractor to report Chance finds, if any. - No chance finds reported till date. An Archaeological Museum is proposed to be opened in the project area for display of Archaeological findings, if any. - A letter has also been written from ED (Project) to ED (Technical), Rishikesh requesting that the Matter can be taken up with DG (ASI) through Ministry of Power, GoI for preparation of DPR for preservation and restoration of

		Laxmi Narayan Temple. • A meeting was also held with SA, ASI in his Dehradun office for taking up the work. • Presently, in compliance to the Hon'ble Court Order, Project has stopped muck dumping within 100m radius of Temple complex.
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STATUS OF CONDITIONS ON ENVIRONMENT CLEARANCE

SL. NO.	BRIEF DESCRIPTION OF CONDITIONS	STATUS AS ON MARCH' 2023
MoEF&CC LETTER Dated: 22.08.2007		
PART - A: SPECIFIC CONDITIONS		
1.	6202 hectare degraded Catchment Area of high category to be treated. CAT as has been proposed should be completed in three years.	Total Implementation value for CAT is Rs. 47 Crs., the total amount of Rs. 47 Crs stands deposited by THDCIL in CAMPA fund. DFO, Badrinath Forest Division is the Nodal Officer for CAT Plan. DPR for CAT along with micro plans has been approved during December 2017. Forest Deptt. is executing activities as per approved DPR. Out of total 47 Crs., expenditure of Rs. 31.82 Cr (approx.) has been made by Forest Deptt. till Nov' 2022 under CAT Plan of VPHEP. Matter was also discussed in the 4th meeting of Multi-Disciplinary Committee constituted by MoEF&CC, New Delhi under the chairmanship of PCCF-HoFF, GoUK held on 22.08.2022 at Van Bhawan, Dehradun. The Chairman - MDC, PCCF-HoFF, has directed the concerned Forest officials to take all-out efforts to for early completion of these activities. DFO Badrinath, Nodal Officer has been requested for earliest completion of works under CAT Plan of VPHEP.
2.	346 project affected families are likely to lose their agriculture land. All the PAFs would be compensated as per the rates that would be assessed and decided by the district authorities. Over and above these compensation, the PAFs will be given" land for land" or "Vocation / job" or "financial assistance	Land Compensation as assessed & decided by Land Acquisition Officer is being disbursed through Special Land Acquisition Officer (SLAO) in accordance with the provisions of LA Act. About 95% PAF's have received payment from SLAO. Besides SLAO Payment, Project is extending various other benefits to the Project Affected Families in accordance to the R&R Policy of Project, framed based on NRRP-2007 & considering the World Bank Operational Policy.

	“in addition to various rehabilitation benefits as per the NRRP - 2003.	The Affected Families are getting cash benefits in the form of various Grants like Fuel & fodder, Widow assistance etc. Also, VPHEP-THDCIL has employed 625 Project Affected Persons directly or indirectly and through Contractor HCC. Apart from above, Project is complying with the other Social Obligation as well.
3.	A Monitoring Committee for R & R should be constituted which must include representatives of project - affected persons from SC/ST category and a woman beneficiary.	Monitoring Committee has been constituted by DM, Chamoli; vide Order No. 725/26-MB (2008-09), Dt. 09.11.2009.
4.	All the equipment which are likely to generate high noise levels are to be fully mollified (Noise reduction measures) in view of the proximity of the project to Nanda Devi Biosphere Reserve.	The PUC certificate for the Light, Heavy Vehicles including for hired one and other construction equipment are being undertaken as per prevailing Guidelines, Rules and acts & renewed from time to time. The controlled blasting is being undertaken involving non electric delay detonation technique. Blasting is done during day time at pre-notified time only. Blast pattern & vibration is monitored by Central Institute of Mining and Fuel Research (CIMFR), Roorkee. No blasting is done during night & no disturbance is created for wild life habitat. M/s PCRI-BHEL, Haridwar and M/s Harayana Test House, Panipat recognized by MoEF&CC has been engaged to monitor the Environmental Parameters that includes Noise as well. The monitoring is being conducted at regular intervals as stipulated. The last set of monitoring was conducted through M/s PCRI-BHEL, Haridwar in Dec’ 2022 & M/s Haryana Test House, Panipat during March’ 2023. Reports have been received and all parameters are within permissible limit. Also, for Third Party Monitoring of EMP works, M/s WAPCOS (a PSU) has been engaged. 1st Six monthly report for period January-June’ 2022 has been received and the monitoring work is under progress.
5.	Minimum Water Flow of 15.65 Cumecs (Revised by letter dtd. 31.05.2011)	MEFR shall be ensured as per latest Gazette Notification dtd. 10.10.2018 of MoWR, RD&GR, GoI.

	should be released downstream during lean season.	
6.	Consolidation and compilation of the muck should be carried out in the muck dump sites and the dump sites should be above high flood level.	Dumping of muck is being done at designated / identified area & well above the high flood level. Engineering measures such as construction of gabion faced reinforced earth wall with uniaxial geo-grid reinforcement are adopted at dumping site. Benches are being developed to discontinue the slopes in dumpyards. Biological measures such as formation of Micro-benches (kyaries), laying of top soil, plantation of vetivar grass, manuring etc. are also being undertaken at site for slope stabilization. Plantation of Vetivar (<i>Chrysopogon Zizanioides</i>) in approx. 15,000 sqm. area has been completed till March' 2023 at DY- 4. For Biological measures at Muck dumping sites, plantation of local plant species (such as Ghingaru, Hinsalu, Nirgundi, Kilmoda, Kingod, etc) will also be done along with Vetiver Grass as suggested during the 1st meeting of the monitoring cell constituted by Hon'ble NGT under the chairmanship of Chief Secretary, GoUK held on 19.01.2023.
7.	The project area is situated in close proximity to Nanda Devi Bio-Sphere Reserve, the possibility of the endemic flora cannot be ruled out completely. Hence suggested the plantation of those species which come under Rare, Endangered and Threatened (RET) category, if any, should be planted during the implementation of CAT and Compensatory Afforestation Works.	The implementation of CAT Plan & Compensatory Afforestation works are being undertaken by State Forest Department, Uttarakhand. State Forest Department is executing the plantation of appropriate species as per their approved DPR of CAT Plan of VPHEP. Matter was also discussed in the 4th meeting of Multi-Disciplinary Committee constituted by MoEF&CC, New Delhi under the chairmanship of PCCF-HoFF, GoUK held on 22.08.2022 at Van Bhawan, Dehradun. The Chairman - MDC, PCCF-HoFF, has directed the Nodal Officer, Forest Deptt. to take immediate necessary action and expedite the matter.
8.	Commitment made during public hearing should be fulfilled.	Commitments made during Public Hearing are being fulfilled (Annexure – IV).
PART - B: GENERAL CONDITIONS		
1.	Adequate free fuel arrangement should	Contractor is running Community mess for its employees & work force.

	be made for the labour force engaged in the construction works at project cost so that indiscriminate felling of trees is prevented.	As per contractor report, approx. 11,776 nos. Commercial LPG Cylinders have been utilized in the Community Mess up to March' 2023.
2.	Fuel depot may be opened at the site to provide the fuel (kerosene / wood / LPG). Medical facilities as well as recreational facilities should also be provided to the labors.	• Community Kitchen established in Camps for Contractors Employees & Workforce. • 01 nos. First Aid Centres operational at each at Power House, TBM and Dam site. • Para Medical Staff & facilities deployed at First Aid Centers. • Ambulance facilities available at Power House, TBM & Dam area. • Necessary treatment including required vaccination is being given to labors from time to time. • Recreational facilities have been provided at labor camps by the contractor.
3.	All the labourers to be engaged for construction works should be thoroughly examined by health personnel and adequately treated before issuing them work permit.	Pre-Employment Medical checkup is undertaken before induction and issuing Work Permit to the labours. Also, Medical examination & vaccination of workmen is done from time to time. Treatment as & when required is also administered.
4.	Restoration of construction area including dumping site of excavated materials should be ensured by leveling, filling up of burrow pits, landscaping etc. The area should be properly treated with suitable plantation.	Proper re-vegetation provisions exist in EMP and will be ensured after accomplishment of Dumping activity & at appropriate time. Biological measures such as formation of Micro-benches (kyaries), laying of top soil, plantation of vetivar grass, manuring etc. are also being undertaken at site for slope stabilization. Plantation of Vetivar (<i>Chrysopogon Zizanioides</i>) in approx. 15,000 sqm area has been completed till March' 2023 at DY- 4. For Biological measures at Muck dumping sites, plantation of local plant species (such as Ghingar, Hinsalu, Nirgundi, Kilmoda, Kingod, etc) will also be done along with Vetiver Grass as suggested during the 1st meeting of the monitoring cell constituted by Hon'ble NGT under the chairmanship of Chief Secretary, GoUK held on 19.01.2023.
5.	Financial provision should be made in the total budget of the project for implementation of the above suggested safeguard measures.	Budget Provisions of Rupees 109.53 Crores in EMP of July' 2021 have been earmarked towards implementation of Environment Management Plan (EMP) by Project.

6.	A Multi-Disciplinary Committee should be constituted with representatives from various disciplines of forestry, ecology, wildlife, soil conservation, NGO etc. to oversee the effective implementation of the suggested safeguard measures.	District Magistrate, Chamoli, vide order dated 17.10.2014, constituted the Environment Monitoring Committee under the Chairmanship of Chief Development Officer (CDO), District Chamoli. The 1st Meeting was undertaken on 20.03.2015. The 2nd Meeting of committee was conducted on 22.02.2016. Based on the suggestions of the Additional Director, MoEF&CC R.O. Dehradun (Jan 2017 visit), the Multi Disciplinary Committee has been re-constituted vide MoEF&CC letter no. J-12011/29/2007-IA-1 dated 10.10.2017. The 1st meeting of Multi-Disciplinary Committee under the chairmanship of PCCF-HoFF, GoUK held on 28.07.2018 at Project site. The 2nd meeting of Multi-Disciplinary Committee was held on 28.02.2020 under the chairmanship of PCCF-HOFF, GoUK at Van Bhawan Dehradun& 3rd meeting of Multi-Disciplinary Committee was held on 31.07.2021 under the chairmanship of PCCF-HOFF, GoUK at Van Bhawan. Dehradun. The 4th MDC meeting was held on 22.08.2022 under the chairmanship of PCCF-HoFF,GoUK at Van Bhawan, Dehradun.
7.	Six monthly monitoring reports should be submitted to the Ministry and its Regional Office, Lucknow for review.	Last Six Monthly report was submitted to concerned office vide letter dated 06.03.2023.
OTHER CONDITIONS		
4.	Officials from Regional Office MOEF, Lucknow who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents / data by the project proponents during their inspection.	Full Logistic supports as and when required will be ensured by Project. a) Dr. S.C. Katiyar, Addl. Director (S), MoEF&CC, North Central Regional Office, Dehradun visited the VPHE Project on 09.01.2017 & 10.01.2017. b) Dr. S. C. Garkoti, Advisor, MoEF&CC, New Delhi along with Dr. S. C. Katiyar, Addl. Director (S), MoEF&CC, North Central Regional Office, Dehradun has visited the VPHEP site on 02.08.2017 & 03.08.2017. c) Dr. S.C. Katiyar, Addl. Director (S), MoEF&CC, North Central Regional Office, Dehradun has visited the VPHE Project on 28.07.2018. d) Sh. Pankaj Agarwal, Addl. PCCF and Dr. S. C. Katiyar, Addl. Director, MoEF&CC, Regional Office, Dehradun has visited the VPHE Project on 11-12 Nov 2018.

		e) Dr. Krishnendu Mondal, Scientist – C, MoEF&CC, Regional Office, Dehradun has visited the VPHEP Project on 12-13 Oct’ 2020. f) Dr. Krishnendu Mondal, Dy. Director, MoEF&CC, Regional Office, Dehradun has visited the VPHEP Project on 07-08 Nov’ 2022.
5.	The responsibility of implementation of environmental safeguards rests fully with the THDC Ltd. & Government of Uttarakhand.	THDCIL ensures Implementation of environmental safeguards as applicable.
6.	In case of change in the scope of the project, project would require a fresh appraisal.	There is no change in Project Scope.
EC validity Extension vide MoEF&CC Letter Dated: 25.04.2018		
1.	The project proponent (PP) should ascertain that there shall not be any wash off during the rainy season beyond the retaining wall, PP should monitor the silt flow at the downstream and upstream of the river during monsoon season. Similarly, PP should provide adequate width having intermittent retaining bunds so that silt is collected at the retaining bunds during rainy season and silt is let out in to the river.	Retaining structure of suitable load bearing capacity has been developed at each dumping sites, so that there shall not be any wash off during rainy season. Terraces at dumpyards has been developed and benches are being developed to discontinue the slopes in dumpyards. Also, to control silt wash off Biological measures such as formation of Micro –benches (kyaries), laying of top soil, plantation of vetivar grass, manuring etc. are also being undertaken at site.
2.	The PP should opine that as and when any active dumps/muck disposal sites are getting inactive, intermediate measures like both engineering and biological to be carried-out so that no	Benches are being developed to discontinue the slopes in dumpyards. Engineering measures such as construction of gabion faced reinforced earth wall with uniaxial geo-grid reinforcement are adopted at dumping site. Biological measures such as formation of Micro–benches (kyaries), laying of top soil, plantation of vetivar grass, manuring etc. are also being undertaken at site for slope

	silt is going into the downstream of the river.	stabilization. Plantation of Vetivar (<i>Chrysopogon Zizanioides</i>) in approx. 15,000 sqm. area has been completed till March' 2023 at DY- 4. For Biological measures at Muck dumping sites, plantation of local plant species (such as Ghingarū, Hinsalu, Nirgundi, Kilmoda, Kingod, etc) will also be done along with Vetiver Grass as suggested during the 1st meeting of the monitoring cell constituted by Hon'ble NGT under the chairmanship of Chief Secretary, GoUK held on 19.01.2023.
3.	The PP should ensure that in case of generation of any top soil, a site exclusively for topsoil dumping and also make commitment that collection of topsoil and prevention of the same be made so that nutrient value of the soil is retained and utilized subsequently at the time of plantation, reclamation of muck dumps, etc.	Necessary provision has been made and same is being complied with. Topsoil generated from different sites, if any, is being used for biological stabilization measures at Dumping site.
4.	There should be benching of dumps of appropriate height and stabilization of slopes so that spoils of muck etc. are not created during rainy season. In critical areas, use of geo-textile along the slopes and provision of garland drains on the toe of dumps are to be provided for better stabilization and biological measures. This has to be strictly adhered to.	Benches are being developed to discontinue the slopes in dumpyards. Engineering measures such as construction of gabion faced reinforced earth wall with uniaxial geo-grid reinforcement are adopted at dumping site.
5.	All the terms and conditions of the Environmental Clearance stipulated in Letter J-12011/29/2007-IA.I dated 22.08.2007, 18.01.2008 and 30.11.2011 remains unchanged.	Details of the same are provided above.

Environment Clearance (EC) conditions of VPHEP granted by MoEF&CC vide letter dtd. 26.08.2021

Additional Terms & Conditions		
S.No.	Brief Description of conditions	Status as on March' 2023
i.	The Environmental Management Plan (EMP) shall be strictly adhered to as submitted in the EIA/EMP report. The budgetary provisions for implementation of EMP, shall be fully utilized and not to be diverted to any other purpose. In case of revision of the Project cost or due to price level change, the cost of EMP shall also be updated proportionately.	The Environmental Management Plan (EMP) will be strictly adhered to as submitted in the EIA/EMP report. The Budgetary provisions for implementation of EMP shall not be diverted for any other purpose and cost of EMP shall be revised proportionately in case of revision of Project Cost or due to price level change. Revised Budget Provisions of Rupees 109.53 Crores in EMP of July' 2021 have been earmarked towards implementation of Environment Management Plan (EMP) by Project.
ii.	Environment matrix provided in EMP be revised if any data change. Number and period of stocking of Fish be incorporated in EMP.	Environment matrix provided in EMP shall be revised if any data change occurs. Fish Management Plan has been prepared through Indian Council of Agricultural Research – Directorate of Coldwater Fisheries Research (ICAR-DCFR), Bhimtal as per the recommendations of the Wildlife Institute of India, Dehradun. The stocking details have been included in the Fish Management Plan for VPHEP prepared by ICAR-DCFR, Bhimtal.
iii.	Separate budget shall be allocated for Fish Hatcheries and Herbal and the same shall be implement in stipulated time period.	Separate Budget is allocated for Fish Management Plan & Herbal Garden. Fish Management Plan has been prepared through ICAR-DCFR as per the recommendations of the Wildlife Institute of India, Dehradun. In the EMP 2007, the Budget provisions for Fisheries Management was 65 Lakhs, which has been revised to 429 Lakhs in the EMP 2021, out of which 279 Lakhs has already been incurred till now.

		Based on recommendations of Herbal Research and Development Institute, Mandal, Gopeshwar (a nodal agency of Uttarakhand Medicinal Plant Board), a Herbal Garden has been already developed in the project over an area of 1800 sqm. approx. Approx. Rs. 21.64 lakhs have been incurred on various works related to the development of the Herbal Garden. Medicinal plants like Harad (Terminalia Chebula), Lemon Grass (Cymbogogonfelxuosus), Sarpghandha (RauvolfiaSerpentiina), Aloe Vera etc. planted. Also, two nos. dedicated manpower/gardener has been deployed for the maintenance of Herbal Garden.
iv.	The contract clause limiting the No. of vehicles used during excavation and transportation shall followed scrupulously and the same shall informed to the ministry.	After careful assessment of requirements, optimum number of vehicles required for excavation and transportation are being deployed at site.
v.	Pasture Development Plan be revised in terms of Rate of plantation and their Cost.	Pasture Development Plan has not been envisaged under the EMP. However, The Pasture Development plan, Social Forestry works and Fuel wood and fodder related works are being implemented as per the Catchment Area Treatment Plan prepared and implemented by Forest Department. The budget allocated for the CAT plan i.e. 4700 Lakhs has already been submitted to CAMPA Fund. Further, for loss of Fuel & Fodder, PAFs are being compensated with the Fuel & Fodder grant. Each entitled house hold in the affected habitation is being paid 100 days of Minimum Agriculture Wages per year for a period of 5 yrs. On the recommendations of the World Bank, THDCIL has increased disbursement of Fuel & Fodder Grants from 5 years to 8 years. The amount is paid as a grant / assistance towards the loss of fuel and fodder. Around 2600 households are getting benefited through this assistance.
vi.	After 5 years of the Commissioning of the Project, a study shall be undertaken regarding impact of the Project on the Environment. The study shall be undertaken by an independent agency.	As stipulated, study to be conducted after 5 years of commissioning of Project.
vii.	Geological changes or Catastrophic event within	Report of Geological changes or catastrophic event within 10 km region shall

	10km region, every two year data shall be submitted to RO, MoEF&CC. The same shall be obtained from Geological Survey of India. If any major events which can affect the Dam, Management plan shall be prepared and submit to the RO, MoEF&CC.	be obtained from GSI and to be submitted to RO, MoEF&CC.
viii.	Solid waste generated, especially plastic waste, etc. should not be disposed off as landfill material. It should be treated with scientific approach and recycled. Use of single-use plastics may be discouraged.	Solid Waste, Hazardous/E-waste/others are being disposed-off as per prevalent rules and regulation of MoEF&CC, CPCB etc. The Hazardous/E-waste/Biomedical waste generated at site is handed over to authorized agency for safe disposal and recycling. Necessary infrastructure facility for Solid Waste Management has been constructed in the Project Colony. Solid waste generated is safely collected and handed over to Nagar Panchayat, Pipalkoti for safe disposal. At construction sites and labour camps, separate bins are placed for biodegradable and non-biodegradable Solid waste. The waste so collected is handed over to Nagar Panchayat (Joshimath) at Dam Site and Nagar Panchayat (Pipalkoti) at Power House Site. Additionally, 01 nos. mini truck has been procured through SEWA-THDC and donated to Nagar Panchayat, Pipalkoti for collection of Solid waste. Meeting was done with Executive Officer in charge of the Nagar Panchayat to discuss safe disposal of waste at Pipalkoti. Initiatives like replacing plastic water bottle with reusable Glass bottles in meetings have been implemented at Project.
ix.	PP shall ensure the Ambient Air Quality Monitoring Stations for real time data display and regularly submit to respective RO, MoEF&CC.	Sensor based AQMS has been successfully established at VPHEP office complex and is currently under testing phase.
x.	Land acquired for the Project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land shall be acquired as per provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act,	No new Land is being acquired for the Project. Land Compensation as assessed & decided by Land Acquisition Officer is being disbursed through Special Land Acquisition Officer (SLAO) in accordance to the provisions of LA Act. About 95% PAF's have received payment from SLAO.

	2013.	Besides SLAO Payment, Project is extending various other benefits to the Project Affected Families in accordance to the R&R Policy of Project, framed based on NRRP-2007 & considering the World Bank Operational Policy. The Affected Families are getting cash benefits in the form of various Grants. Apart from above, Project is complying with the other Social Obligation as well.
xi.	PP shall procure construction material only from those Organizations having all valid legal/statutory clearances/permissions or necessary permission to be obtained for quarrying construction materials for the Project as per the EIA Notification, 2006 and as amended thereof.	The same is being complied as per rules and regulation stipulated in EIA Notification, 2006 and as amended thereof.
xii.	An institutional mechanism to be developed to ensure the preference of jobs to PAFs and also a policy for preferential treatment for award of sundry works to the PAFs and their dependents.	THDCIL has formulated a Rehabilitation & Resettlement policy (R&R Policy) for the Vishnugad Pipalkoti Hydro Electric Project. The Policy is based on the National Rehabilitation & Resettlement Policy 2007 (NRRP-2007) incorporating the better features considering the World Bank Guidelines. The Policy addresses the R&R issues through proactive approach and appropriate Planning on Land Acquisition. Besides disbursement of compensation by Special Land Acquisition Officer (SLAO), the Policy envisages provisions of grants and other benefits considering the categories and the Entitlements. An institutional mechanism has already been identified in the R&R Policy of VPHEP as under: “Employment opportunity, if any, 100% recruitment at the level of workman (including technical & ministerial) required to be done will be done first from the land oustees & in case of non-availability of suitable candidate among the land oustees, the recruitment will be done from other residents of Uttarakhand state, whose names are registered on live register of any employment”.

		In addition, other provisions for economic/employment opportunities have been done as under: i. Employment with contracting agencies. ii. Allotment of shops/kiosk. iii. Award of petty contracts. iv. Vehicle hiring. v. PCO/Internet kiosk. vi. Newspaper vendors. vii. Any other opportunity deemed fit by the project. Till date, 20 PAP's have been provided with permanent employment in THDCIL. In addition, around 3000 persons have been provided direct / in direct employment opportunities in main project construction company and through other modes as mentioned above.
xiii.	Necessary control measures such as water sprinkling arrangements, and construction of paved roads leading to Muck disposal sites etc. shall be taken up on priority to arrest fugitive dust at all the construction sites.	Water Sprinkling is being done on regular basis to control fugitive dust emission at all the construction sites.
xiv.	Stabilization of Muck disposal sites using biological and engineering measures shall be taken up immediately to ensure that Muck does not roll down the slopes and shall be disposed safely and that it does not pollute the natural streams and water bodies in surrounding area. Report of the same to be submitted to Ministry and its Regional office.	Dumping of muck is being done at designated / identified area & well above the high flood level. Engineering measures such as construction of gabion faced reinforced earth wall with uniaxial geo-grid reinforcement are adopted at dumping site. Benches are being developed to discontinue the slopes in dumpyards. Biological measures such as formation of Micro-benches (kyaries), laying of top soil, plantation of vetivar grass, manuring etc. are also being undertaken at site for slope stabilization. Plantation of Vetivar (Chrysopogon Zizanioides) in approx. 15,000 sqm.area has been completed till March' 2023 at DY- 4. For Biological measures at Muck dumping sites, plantation of local plant species (such as Ghingaru, Hinsalu, Nirgundi, Kilmoda, Kingod, etc) will also be done along with Vetiver Grass as suggested during the 1st meeting of the monitoring cell constituted by Hon'ble NGT under the chairmanship of Chief

		Secretary, GoUK held on 19.01.2023.
xv.	A multi-specialty hospital to cater the need of people living within 10 km radius of the Project shall be established.	The matter was discussed with District Administration for establishing Multi-Speciality hospital. The District Magistrate, Chamoli has suggested to up-grade / adopt the District Hospital, Gopeshwar which will cater the need of all the people living in the Chamoli District. District Hospital is located at district headquarter in Gopeshwar Town of Chamoli District. The District Hospital is located within the 9 km radius of the project boundary. After various levels of discussions with District Authorities in this regard, CMO Chamoli, vide Letter dtd. 01.01.2022, has requested to take up the work of construction of a new building on the land available on the left side of the main building of the District Hospital, Gopeshwar, Chamoli. The proposed new structure envisages construction of Registration Room and User Charges Room on Ground Floor, Laboratory on 1st Floor and District Drug store on 2nd Floor. A MoU has been signed on 17.12.2022 between THDC India Ltd. and Chief Medical Officer, District Chamoli, Gopeshwar for a total amount of Rs. 155.42 Lakhs (including taxes for construction of the new building at District Hospital Gopeshwar and 1st installment of 15% of total MoU value of Rs. 19.79 Lakhs has been released to CMO Chamoli on 24.03.2023. Construction will be started shortly. In addition, a dispensary is already operational at VPHEP comprising of proper medical staff viz. Doctor, Nurse, Para-Medical staff, Dresser, 02 nos. ambulance etc. in place. The Medical Facilities are being extended free of cost among Project Affected People including population from nearby villages as well. A well-equipped pathology lab has also been started in the dispensary to support health checkup. Awareness program on menstrual hygiene and gender sensitization are also being conducted on regular basis covering affected villages and nearby

		schools.
xvi.	Solar lights for illumination along with associated Solar panels to be provided to the families living in rural areas within 10 km radius of Project.	The VPHEP Project has already distributed 110 Nos. of Solar lights to the PAFs & surrounding areas of the project under the Community Development. Details of the same have been submitted with the previous report. Presently, 58 nos. of Solar Lights have been procured and installed in nearby villages as per the requirement raised by village authorities under community development works.
xvii.	The e-flow shall continue to be released as per the previous EC granted to the Project.	MEFR shall be ensured as per latest Gazette Notification dtd. 10.10.2018 of MoWR, RD&GR, GoI.
xviii.	Computer labs with internet facility shall be established in primary schools within 10 km radius of Project.	The VPHEP Project has engaged an expert Agency M/s MRIDA Energy& Development Pvt. Ltd, New Delhi towards the work “Engagement of Specialized Agency to help Prepare Livelihood Development / Employment Generation Plan & its Implementation in relation to VPHEP” for supporting Livelihood Development / Employment Generation in the Project Affected villages. The aim of the work was to conduct Pilot Projects on the ground, showcasing successful examples of rural entrepreneurship where Project Affected Persons could generate their own livelihood and income opportunities, and become job creators as against job seekers. The Pilot ranged from low investment agricultural interventions to be carried out in large numbers, to medium investment interventions like poly houses and bee keeping which would be more visible and generate higher returns, to group / community level interventions like Development Hubs impacting larger numbers of Project Affected Persons. The core elements of the project strategy are a) promote entrepreneurship amongst individuals / groups b) ensure financial and personal commitment from intended beneficiaries c) a holistic approach to sustainable livelihoods, including market linkages d) ensure convergence with Government schemes and incentives to maximize project outlay as well as impact e) showcase successful entrepreneurs through Pilot Projects, establish pockets of excellence, and create Brand Ambassadors who will facilitate scaling up of successful interventions as well as impact. The Project has also established 02 nos. of Development Hubs in the market

		near the Project area and 02 nos. more will be established in the future under the Livelihood Development / Employment Generation Program. The Development Hubs is a physical space that provides access to Digital services, Online services, Banking services, E-citizen services, and skill development services all under one roof. The development initiative will enable community members to access all services in one location, saving money and time both. The Development Hub facilitates digital connectivity, fosters the development of digital skills and promotes the adoption of emerging digital technologies. The Development Hub will also act as computer training centres for the youth from the PAFs also, leveraging the strength of the computer literacy of the Village Level Entrepreneurs (VLEs) and these centres. For distribution of Computers and other necessary items, need based assessment in the nearby Govt. schools has been conducted by Project team. The matter has been discussed with Chief Education Officer (CEO), Chamoli and CEO, Chamoli has provided a list of 15 schools for providing the computers. The procurement process is underway.
xix.	Sport complex with multi - sport facility shall be established. The children's from economically weaker section shall be given free of cost sport facility.	The VPHEP Project is situated in Chamoli District which is located in Hilly Terrain of state Uttarakhand. The Hilly terrains are land constraint area where Land is not easily available for Infrastructure Development. The Project is also located at Land constraint terrain. After completion of Muck Dumping at Dump yard near Project Colony, an open space with Terrace will be available. The same Terrace will be developed for creating necessary Infrastructure for Multi-Sports complex and shall be opened for the Local Population. In the meantime, a Club with Volleyball Court, already developed at the Project site Colony shall remain available for the Local Population.
xx.	A time bound action plan for compliance of each of the above condition will be submitted to RO, MoEF&CC within 3 months.	A time bound action plan for compliance of each of the above condition has been has been submitted to MoEF&CC vide letter dtd. 26.11.2021.
xxi.	Observations raised by RO, MoEF&CC in certified compliance report shall be complied with and if not done in stipulated time/ before commencement of	Currently, no observations has been raised by RO, MoEF&CC.

	Project, Environmental Clearance will be withdrawn.	
xxii.	The Multi-Disciplinary Committee needs to be reconstituted and the meeting needs to be held at regular interval	Based on the suggestions of the Additional Director, MoEF&CC R.O. Dehradun (Jan 2017 visit), the Multi-Disciplinary Committee has been re-constituted vide MoEF&CC letter no. J-12011/29/2007-IA-1 dated 10.10.2017. Also, a request letter for reconstitution of Multi-Disciplinary Committee has already sent to MoEF&CC as per as per EC dated 27.01.2022 and 12.05.2022
xxiii.	PP should establish in house Project Environment laboratory for measurement of Environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee Environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and (at site) Environment laboratory staff for monitoring of air, water quality parameters on routine basis.	At present, the Environment Monitoring at Project site is being conducted on regular basis by external authorized agencies. To establish Environment Laboratory at Project, a site visit was made to other Project to explore various options. The process for establishing Environment Monitoring Laboratory at Project has been initiated and Budgetary offers have been obtained from various agencies. The Proposal for establishing Environment Monitoring Lab has been approved by the competent authority and is under tendering stage.
xxiv.	All the specific conditions mentioned in the EC dated 22nd August 2007 shall be complied within stipulated time.	The conditions laid down letter J-12011/29/2007-IA.I dated 22.08.2007 is being fully complied and status of same are provided above.

Standard EC Conditions for River Valley and Hydro-electric projects

I. Statutory compliance:

i.	The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non- forest purpose involved in the project.	The Forest Clearance for the Project has been granted by MoEF&CC on 28.05.2013 and GO from GoUK has been issued on 06.12.2013.
ii.	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable	The Wildlife Clearance form NBWL has been granted on 20.12.2012.
iii.	The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan	The Wildlife Management Plan has already been incorporated under the Catchment Area Treatment (CAT) Plan of the VPHEP. The DPR of CAT Plan

	and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan/ Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six- monthly compliance reports. (in case of the presence of schedule-I species in the study area)	of VPHEP was prepared by the State Forest Department, Uttarakhand and has been approved by PCCF, Uttarakhand. Total amount of Rs. 47 Crs. for implementation of CAT Plan has been deposited by THDCIL in CAMPA Fund. The Compensatory Afforestation Plan & Catchment Area Treatment Plan is being implemented by State Forest Deptt., Uttarakhand. The Project does not fall under Core & Buffer Zone. For Wildlife Protection, various additional measures have been undertaken at the Project. The details are as follows: • Two (02) nos. Watch Towers has been installed at identified locations in consultation with Forest Deptt. at Powerhouse and TBM sites nearby the boundary of KWLS. • 10 (Ten) nos. Camera Traps were procured on the recommendation of E&S panel. Out of which, 08 nos. Camera Traps handed over to Forest Department (Nanda Devi National Park) for installation in NDBR on 20.03.2018 and has been installed in NDBR by Forest Department at appropriate location. Balance 02 nos. of Camera Traps has been handed over to Forest officials on 12.06.2019. • Controlled Blasting techniques are being practiced and the same is being monitored by construction contractor through Central Institute of Mining & Fuel Research (CIMFR), Roorkee. • Environment Awareness Program in nearby school has been organized during Nov' 2022 in the presence State Forest Deptt. & THDCIL officials. • Awareness Programs are being organized from time to time. • Contractor has also established residential accommodation with Community mess for its workers to avoid possibility of felling of trees and restrict movement of labour in the Forest. Approx. 11,776 nos. Commercial LPG Cylinders have been utilized in the Community Mess up to March' 2023.
iv.	The project proponent shall obtain Consent to Establish/ Operate under the provisions of Air (Prevention & Control of Pollution) Act , 1981 and the Water (Prevention & Control of Pollution)	The CTE from UKPCB has been granted from 10.04.2007.

	Act, 1974 from the concerned State pollution Control Board/ Committee.	
v.	NOC shall be obtained from National Commission of Seismic Design Parameters (NCSDS) of CWC.	NOC from National Commission of Seismic Design parameters (NCSDP) have already been obtained vide letter No CWC/2/2/2008/FE&SA/425 dated 04.05.2008.
vi.	Necessary approval of CEA shall be obtained for those projects having the project cost more than Rs. 1,000 crore.	The approval from CEA has already been obtained vide letter dated 21.09.2006.
II. Air quality monitoring and preservation		
(i)	Regular monitoring of various environmental parameters viz., Water Quality, Ambient Air Quality and Noise levels as per the CPCB guidelines at designated locations shall be carried out on monthly basis and a detailed database of the same shall be prepared and recorded. This shall be used as a baseline data for post construction EIA/ Monitoring purposes.	M/s PCRI-BHEL, Haridwar and M/s Haryana Test House, Panipat recognized by MoEF&CC has been engaged to monitor the Environmental Parameters that includes Noise as well. The monitoring is being conducted at regular intervals as stipulated. The last set of monitoring was conducted through M/s PCRI-BHEL, Haridwar in Dec' 2022 & M/s Haryana Test House, Panipat during March' 2023. Reports have been received and all parameters are within permissible limit. Also, for Third Party Monitoring of EMP, M/s WAPCOS (a PSU) has been engaged. 1st Six monthly report for period Jan-June' 2022 has been received and the monitoring work is under progress.
(ii)	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed standards.	The PUC certificate for the Light, Heavy Vehicles including for hired one and other construction equipment are being undertaken as per prevailing Guidelines, Rules and acts & renewed from time to time by the contractor. Water Sprinkling is being done on regular basis to control fugitive dust emission at all the construction sites. Also, ventilation has been provided in the Underground areas by the contractor.
(iii)	Necessary control measures such as water sprinkling arrangements, etc. be taken up to arrest fugitive dust at all the construction sites.	Water Sprinkling is being done on regular basis to control fugitive dust emission at all the construction sites.
III. Water quality monitoring and preservation		
(i)	Conjunctive use of surface water to be planned in	Not applicable

	the project to check water logging as well as to increase crops productivity. The field drains shall be connected with natural drainage system.	
(ii)	Remodelling of existing natural drains (link drains) and connecting them with irrigated land through constructed field drains, collector tor drains, etc. are to be ensured on priority basis.	Not applicable
(iii)	Before impounding of the water, Cofferdams for both at the upstream and downstream are to be decommissioned as per EIA/EMP report so that once the project is commissioned; cofferdam should not create any adverse impact on water environment including the rock mass and muck used for the Cofferdam.	A concrete cofferdam is constructed for diverting the water at upstream of Dam. No cofferdam has been constructed the downstream of the river. During the commissioning of the Project, the part of Cofferdam at Dam site will be decommissioned without any adverse impact on the water environment.
(iv)	As the reservoir will be acting as balancing reservoir and there would be fluctuation of water level during peaking period, efforts be made to reduce impact on aquatic life including impacts during spawning period both at the upstream and downstream of the project	The reservoir of VPHEP project shall be fluctuating between EL 1267 m to 1252.5 m after the commissioning of Project. Moreover, E-Flow shall be maintained vide Gazette Notification dtd.10.10.2018 of MoWR, RD&GR for reducing the impacts on the aquatic life.
(v)	Water depth sensors shall be installed at suitable locations to monitor e-flow. Hourly data to be collected and converted to discharge data. The Gauge and Discharge data in the form of Excel Sheet be submitted to the Regional Office, MoEF&CC and to the CWC on weekly basis.	The reservoir of VPHEP project shall be fluctuating between EL 1267 m to 1252.5 m after the commissioning of Project. Moreover, E-Flow shall be maintained vide Gazette Notification dtd.10.10.2018 of MoWR, RD&GR for the reducing the impacts on the aquatic life.
(vi)	Mixed irrigation shall be practiced and necessary awareness be given to all the farmers and trained in the use of such systems. Proper crops selection shall be carried out for making irrigation facility more effective.	Not applicable
(vii)	On Farm Development (OFD) works like	Not applicable

	landscaping, land levelling, drainage facilities, field irrigation channels and farm roads, etc. should be taken up in phased manner prior to the start of irrigation in the entire command area. The Command Area Development Plan should be strictly implemented as proposed in the EIA/ EMP report	
IV. Noise monitoring and prevention		
(i)	All the equipment likely to generate high noise shall be appropriately enclosed or inbuilt noise enclosures be provided so as to meet the ambient noise standards as notified under the Noise Pollution (Regulation and Control) Rules, 2000, as amended in 2010 under the Environment Protection Act (EPA), 1986.	The PUC certificate for the Light, Heavy Vehicles including for hired one and other construction equipment are being undertaken as per prevailing Guidelines, Rules and acts & renewed from time to time. The controlled blasting is being undertaken involving non electric delay detonation technique. Blasting is done during day time at pre-notified time only. Blast pattern & vibration is monitored by Central Institute of Mining and Fuel Research (CIMFR), Roorkee. No blasting is done during night & no disturbance is created for wild life habitat. M/s PCRI-BHEL, Haridwar and M/s Haryana Test House, Panipat recognized by MoEF&CC has been engaged to monitor the Environmental Parameters that includes Noise as well. The monitoring is being conducted at regular intervals as stipulated. The last set of monitoring was conducted through M/s PCRI-BHEL, Haridwar in the month of Dec' 2022 & M/s Haryana Test House, Panipat during March' 2023. Reports have been received and all parameters are within permissible limit. A new approval for PCRI for monitoring of Environmental parameters has been obtained from the competent authority and preparation of new work order is under process. Also, for Third Party Monitoring of EMP, M/s WAPCOS (a PSU) has been engaged. 1st Six monthly report for period Jan-June' 2022 has been received and the monitoring work is under progress.

(ii)	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.	M/s PCRI-BHEL, Haridwar and M/s Haryana Test House, Panipat recognized by MoEF&CC has been engaged to monitor the Environmental Parameters that includes Noise as well. The monitoring is being conducted at regular intervals as stipulated. The last set of monitoring was conducted through M/s PCRI-BHEL, Haridwar in the month of Dec' 2022 & M/s Haryana Test House, Panipat during March' 2023. Reports have been received and all parameters are within permissible limit. A new approval for PCRI for monitoring of Environmental parameters has been obtained from the competent authority and preparation of new work order is under process. Also, for Third Party Monitoring of EMP, M/s WAPCOS (a PSU) has been engaged. 1st Six monthly report for period Jan-June' 2022 has been received and the monitoring work is under progress.
V. Catchment Area Treatment Plan		
(i)	Catchment Area Treatment (CAT) Plan as proposed in the EIA/EMP report shall be implemented in consultation with the State Forest Department and shall be implemented in synchronization with the construction of the project.	Total Implementation value for CAT is Rs. 47 Crs., the total amount of Rs. 47 Crs stands deposited by THDCIL in CAMPA fund. DFO, Badrinath Forest Division is the Nodal Officer for CAT Plan. DPR for CAT along with micro plans has been approved during December 2017. Forest Deptt. is executing activities as per approved DPR. Out of total 47 Crs., expenditure of Rs. 31.82 Cr (approx.) has been made by Forest Deptt. till Nov' 2023 under CAT Plan of VPHEP. Matter was also discussed in the 4th meeting of Multi-Disciplinary Committee constituted by MoEF&CC, New Delhi under the chairmanship of PCCF-HoFF, GoUK held on 22.08.2022 at Van Bhawan, Dehradun. The Chairman - MDC, PCCF-HoFF, has directed the concerned Forest officials to take all-out efforts to for early completion of these activities. DFO Badrinath, Nodal Officer has been requested for earliest completion of works under CAT Plan of VPHEP.
VI. Waste management		
(i)	Muck disposal be carried out only in the approved and earmarked sites. The dumping sites shall be	Dumping of muck is being done at designated / identified area & well above the high flood level.

	located sufficiently away from the HFL of the river. Efforts be made to reuse the muck for construction and other filling purposes and balanced be disposed of at the designated disposal sites. Once the muck disposal sites are inactive, proper treatment measures like both engineering and biological measures be carried out so that sites are stabilized quickly.	Engineering measures such as construction of gabion faced reinforced earth wall with uniaxial geo-grid reinforcement are adopted at dumping site. Benches are being developed to discontinue the slopes in dumpyards. Biological measures such as formation of Micro-benches (kyaries), laying of top soil, plantation of vetivar grass, manuring etc. are also being undertaken at site for slope stabilization. Plantation of Vetivar (Chrysopogon Zizanioides) in approx. 15,000 sqm. area has been completed till March' 2023 at DY- 4. For Biological measures at Muck dumping sites, plantation of local plant species (such as Ghingar, Hinsalu, Nirgundi, Kilmoda, Kingod, etc) will also be done along with Vetiver Grass as suggested during the 1st meeting of the monitoring cell constituted by Hon'ble NGT under the chairmanship of Chief Secretary, GoUK held on 19.01.2023.
(ii)	Solid waste management should be planned in details. Land filling of plastic waste shall be avoided and instead be used for various purposes as envisaged in the EIA/EMP reports. Efforts be made to avoid one time use of plastics.	Solid Waste, Hazardous/E-waste/others are being disposed-off as per prevalent rules and regulation of MoEF&CC, CPCB etc. The Hazardous/E-waste/Biomedical waste generated at site is handed over to authorized agency for safe disposal and recycling. Necessary infrastructure facility for Solid Waste Management has been constructed in the Project Colony. Solid waste generated is safely collected and handed over to Nagar Panchayat, Pipalkoti for safe disposal. At construction sites and labour camps, separate bins are placed for biodegradable and non-biodegradable Solid waste. The waste so collected is handed over to Nagar Panchayat (Joshimath) at Dam Site and Nagar Panchayat (Pipalkoti) at Power House Site. Additionally, 01 nos. mini-truck has been procured through SEWA-THDC and donated to Nagar Panchayat, Pipalkoti for collection of Solid waste. Meeting was done with Executive Officer in charge of the Nagar Panchayat to discuss safe disposal of waste at Pipalkoti. Initiatives like replacing plastic water bottle with reusable Glass bottles in meetings have been implemented at Project.
VII. Green Belt, EMP Cost, Fisheries and Wildlife Management		
(i)	Based on the recommendation of Cumulative Impact Assessment and Carrying capacity study of	MEFR shall be ensured after commissioning of the Project as per latest Gazette Notification dtd. 10.10.2018 of MoWR,RD&GR, GoI.

	river basin or as per the ToR conditions or minimum 15% of the average flow of four consecutive leanest months, whichever value is higher, shall be released as environmental flow.	
(ii)	Detailed information on species composition particular to fish species from previous study/literature be inventorized and proper management plan shall be prepared for in-situ conservation in the streams, tributaries of river and the main river itself for which adequate budget provision be made and followed strictly.	The Fish Management Plan for VPHEP has been prepared through Indian Council of Agricultural Research – Directorate of Coldwater Fisheries Research (ICAR-DCFR), Bhimtal as per the recommendations of the Wildlife Institute of India, Dehradun. Based on the findings of the survey/primary data, construction of Fish Hatchery has been recommended by ICAR-DCFR under the Fish Management Plan. In the EMP 2007, the Budget provisions for Fisheries Management was 65 Lakhs, which has been revised to 429 Lakhs in the EMP 2021, out of which 279 Lakhs has already been incurred till now.
(iii)	Wildlife Conservation Plan prepared for both core and buffer zones shall be implemented in consultation with the local State Forest Department.	The Project does not fall under Core & Buffer zone.
(iv)	To enrich the habitat of the project site, plantation shall be raised as envisaged in the EIA/EMP report. Plantation to be developed along the periphery of the reservoir in multi-layers with local indigenous species in consultation with the local State Forest Department.	Green Belt Development is being implemented under the Consultancy of noted Environmentalist Sh. Jagat Singh Chaudhary alias “Junglee” and with the help of Forest Deptt. Broad Leaved, Fast Growing plant species (Jacaranda, Silver Oak, Jamun, Neem, Amrood, Padam, Bamboo etc.) have also been planted as suggested by “Jungli Ji”. Till March’ 2023, cumulatively 8800 nos. (approx.) trees are planted. Maintenance of plants is being done regularly.
(v)	Compensatory afforestation programme shall be implemented as per the plan approved.	Compensatory Afforestation and other works (Roadside Plantation, construction of 4 feet high pillar etc.) is being done by the State Forest Department, GoUK. Requisite funds have already been deposited by THDCIL in CAMPA. However, the funds yet to be released by the CAMPA to the concerned Forest Deptt. THDCIL is continuously pursuing the issue with Senior Forest Officials at Dehradun and at Divisional Level.

		The 48 Ha land stands diverted for CA works against the existing 48 Ha land which was not suitable for plantation and further Forest Dept. has also informed that advance soil works in the land has been completed and plantation will be carried out during July-August 2023. Till March' 2023 Compensatory Afforestation works in 52.507 Ha area has been completed by State Forest Department.
(vi)	Fish ladder /pass as envisaged in the EIA/EMP report shall be provided for migration of fishes. Regular monitoring of this facility be carried out to ensure its effectiveness.	The Fish Management Plan for VPHEP has been prepared through Indian Council of Agricultural Research – Directorate of Coldwater Fisheries Research (ICAR-DCFR), Bhimtal. Based on the findings of the survey/primary data, construction of Fish Hatchery has been recommended by ICAR-DCFR under the Fish Management Plan as Fish Ladder / pass was not found feasible.
VIII. Public hearing and Human health issues		
(i)	Resettlement & Rehabilitation plan be implemented in consultation with the State Govt. as approved by the State Govt.	Land Compensation as assessed & decided by Land Acquisition Officer is being disbursed through Special Land Acquisition Officer (SLAO) in accordance to the provisions of LA Act. About 95% PAF's have received payment from SLAO. Besides SLAO Payment, Project is extending various other benefits to the Project Affected Families in accordance to the R&R Policy of Project, framed based on NRRP-2007 & considering the World Bank Operational Policy. The Affected Families are getting cash benefits in the form of various Grants. Apart from above, Project is complying with the Social Obligation details are annexed at Annexure A-1.
(ii)	Budget provisions made for the community and social development plan including community welfare schemes shall be implemented in toto.	The budget provision of Rs 1930 Lakh is already earmarked under Corporate Environment Responsibility. Social Obligation details are annexed at Annexure A-1 .
(iii)	Preventive measures viz. fuming and spraying of mosquito control shall be done in and around the labour colonies, affected villages, stagnated pools,	Shall be complied with.

	etc. Provisions be made to not to create any stagnated pools to avoid creation of breeding grounds of the vector borne diseases	
(iv)	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Contractor has established residential accommodation/camps with Toilets, bathrooms, drinking water & Community mess for its workers. Septic cum Soak pit tank have also been constructed at camp sites for safe disposal of sewage. First Aid centers with Para-medical staff have been established by the contractor at all work sites with Ambulance facility.
(v)	Labour force to be engaged for construction works shall be examined thoroughly and adequately treated before issuing them work permit. Medical facilities shall be provided at the construction sites.	Pre-Employment Medical checkup is undertaken before induction and issuing Work Permit to the labours. Also, Medical examination & vaccination of workmen is done from time to time. Treatment as & when required is also administered.
(vi)	Early Warning Telemetric system shall be installed in the upper catchment area of the project for advance intimation of flood forecast.	In the U/s of VPHEP, NTPC has Installed EWS (early warning system) at Tapovan Vishnugad HEP. The EWS Installation work has been completed by NPTC & is now Functioning. Day to day data monitoring with NTPC Control Room Joshimathis being done by THDCIL, VPHEP Project. Satellite Phones working at Dam site, Power House/ Administrative Block and TRT Outfall and their respective numbers has been shared with NTPC officials for 24*7 communication for any Emergency situation. Installation of Radar based automatic water level recorders at different location of upstream & downstream tributaries of river Alaknanda is in progress through design department, Rishikesh as guided/suggested by competent authority in the virtual meeting held on dated 12-10-2022. Satellite phones have started working at Dam site, Power House/ Administrative Block and TRT downstream site. Mobile Phone Communication System is also being used. Electric Manually operated Siren system has been installed to warn population of D/s of the Project at Dam site, Power house & TRT down-stream site and working properly.

		Caution/ warning sign boards have been installed from Helang to Chamoli Market.
(vii)	Emergency preparedness plan be made for any eventuality of the dam failure and shall be implemented as per the Dam Break Analysis	Disaster Management Plan is already prepared for the Project.
IX. Corporate Environment Responsibility		
(i)	The project proponent shall comply with the provisions contained in this Ministry's OM vide F. No. 22-65 / 2017-IA. III dated 1st May, 2018, as applicable, regarding Corporate Environment Responsibility.	The provision of CER has been included under the EMP 2021 of VPHEP. The same shall be complied with.
(ii)	Skill mapping be undertaken for the youths of the affected project area and based on the skill mapping, necessary trainings to the youths be provided for their long time livelihood generation.	Complied with. For details please refer point no. xii of Additional Terms & Conditions.
(iii)	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/ deviation/ violation of the environmental/ forest/ wildlife norms/ conditions. The company shall have defined system of reporting infringements/ deviation/ violation of the environmental/ forest/ wildlife norms/ conditions and/ or shareholders/ stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	The Environment Policy of THDCIL is already under place and is also displayed at THDCIL website. Website Link of the Environment Policy is as below: https://thdc.co.in/content/environment-policy
(iv)	A separate Environmental Cell both at the project	The THDCIL has placed a separate Environment Deptt. at Head quarter /

	and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.	Corporate office as well as at Project site. The Deptt. is headed by a Chief General Manager level at Corporate office who reports to the Management of the organization. At Project level the Deptt. is headed by Addl. General Manger level which reports to the Head of Project. Both the Deptts. has been deployed with well qualified professionals and staff.
(v)	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/ Regional Office along with the Six Monthly Compliance Report.	The responsibility Matrix is already included in the EIA-EMP of the Project. The funds earmarked under EMP will not be diverted for any other purpose.
(vi)	Post EIA and SIA be prepared for the project through a third party and evaluation report be submitted to the Ministry after five years of commissioning of the project.	As stipulated, study to be conducted after 5 years of commissioning of Project.
(vii)	Multi-Disciplinary Committee (MDC) be constituted with experts from Ecology, Forestry, Wildlife, Sociology, Soil Conservation, Fisheries, NGO, etc. to oversee implementation of various environmental safeguards proposed in EIA/EMP report during construction of the project. The monitoring report of the Committee shall be uploaded in the website of the Company.	Based on the suggestions of the Additional Director, MoEF&CC R.O. Dehradun (Jan 2017 visit), the Multi-Disciplinary Committee has been re-constituted vide MoEF&CC letter no. J-12011/29/2007-IA-1 dated 10.10.2017. The 1 st meeting of Multi-Disciplinary Committee under the chairmanship of PCCF-HoFF, GoUK held on 28.07.2018 at Project site. The 2 nd meeting of Multi-Disciplinary Committee was held on 28.02.2020 under the chairmanship of PCCF-HOFF, GoUK at Van Bhawan Dehradun & 3 rd meeting of Multi-Disciplinary Committee was held on 31.07.2021 under the chairmanship of PCCF-HOFF, GoUK at Van Bhawan. Dehradun.

		The 4 th MDC meeting was held on 22.08.2022 under the chairmanship of PCCF-HoFF,GoUK at Van Bhawan, Dehradun.
(viii)	Formation of Water User Association/ Co-operative be made involvement of the whole community be ensured for discipline use of available water for irrigation purposes	Not applicable
X. Miscellaneous		
(i)	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by 5 prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	The EC has been published in two (02) local newspapers namely Amar Ujala& Hindustan on 01.09.2021. Details have been provided in the previous report. The EC of the Project has been uploaded on the website of THDCIL. The website link of the EC is as below: https://thdc.co.in/sites/default/files/EC_2021_0.pdf
(ii)	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	The copy of EC has been distributed to DM, SDMs, DFOs and Heads of Local Bodies, Panchayats and Municipal Bodies. Details have been already provided in the previous report.
(iii)	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	Complied with. https://thdc.co.in/content/environment-monitoring
(iv)	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Complied with.

(v)	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	The Environment Statement for each Financial Year is being regularly submitted to UKPCB. Last Environment Statement (Form-V) for FY 2021-22 has been submitted to UKPCB vide letter dtd. 29.09.2022 and same is uploaded on company's website https://thdc.co.in/content/environment-monitoring
(vi)	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project. vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government. viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	The Project is under active construction stage and is complying with all the stipulations / commitments / recommendations of the UKPCB, EIA-EMP as well as Public Hearing. Before commissioning of the Project, Ministry will be well informed including its RO.
(vii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC)	No expansion / modifications of the Project is planned.
(viii)	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Noted and shall be complied with.
(ix)	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory	Noted.

(x)	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Additional Conditions, if any, stipulated by the Ministry in the future shall be complied with.
(xi)	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data/ information/ monitoring reports.	Full cooperation and logistic support, as and when required, will be ensured by Project.
(xii)	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment(Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/ High Courts and any other Court of Law relating to the subject matter.	Noted and complied with.
(xiii)	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010	Appeal No. 21/2021 filed by Dr. Bharat Jhunjhunwala before NGT on dated 08.10.2021. Vide Order dtd. 16.08.2022, the Hon'ble Court has disposed-off the appeal and upheld the grant of EC of VPHEP and laid some additional conditions.

ANNEXURE - IV

COMMITMENTS OF PROJECT DURING PUBLIC HEARING ON 09.01.2007

S. No	ISSUES RAISED	STATUS AS ON MARCH' 2023
1	Negative impact on Environment due to Project's Activities shall not take place and provisions shall be made as per the standards and approval from competent level shall be obtained.	As per Environmental studies undertaken, no significant impacts have been noticed. However, EMP envisages precautionary measures to prevent occurrence of negative impacts and action is being taken accordingly.
2	Geological structures around the project area shall not be affected, In this regard, permission from concerned department shall be taken after Detailed investigations and implementation of recommendations shall be ensured.	• Work is being undertaken only in areas where approval has been accorded by concerned authorities / agencies. • No Incidence or deviation noticed during Reporting period • Work in project area is done with due precautions such as mechanical excavation, controlled blasting, vibration monitoring etc.
3	Minimum water flow shall be ensured in river Alaknanda in such a way that the aquatic fauna is not adversely affected and also there is no impact on water quality.	MEFR shall be ensured as per latest Gazette Notification dtd. 10.10.2018 of MoWR, RD&GR, GoI.
4	There shall be no negative impact on Area's Forest resources, Flora, Fauna and life style of the people, due to Project's activities. In this regard, proper appropriate measures shall be taken and permission from concerned department shall be taken.	• Environment Management measures are properly taken care off. Entry of workforce is restricted in forest area. • Contractor is running Community mess for workforce. • Labors camps have been constructed at different locations and in isolation from local villagers. Meanwhile hired accommodation and community mess is being provided by contractor. • Nevertheless awareness programmes are being conducted to safeguard flora and fauna.
5	During all stages of Project, Local people shall be given job opportunities on priority basis.	Based on the requirement, direct & indirect job opportunities are being extended among local people on priority basis at THDCIL & Contractors Level. Employment opportunities includes:

		• Direct/Indirect job opportunities in THDCIL & with Contractor • Award of petty Contracts • Hiring of Vehicles • Livelihood Activities Details are indicated at Annexure-A1 under Employment.
6	Arrangements as per standards/policy shall be ensured for Project Affected Persons and Complete compensation of the acquired land shall be released to the concerned in time.	Land Compensation as assessed & decided by Land Acquisition Officer is being disbursed through Special Land Acquisition Officer (SLAO) in accordance with the provisions of LA Act. About 95% PAF's have received payment from SLAO. Besides SLAO Payment, Project is extending various other benefits to the Project Affected Families in accordance with the R&R Policy of Project, framed based on NRRP-2007 & considering the World Bank Operational Policy. The Affected Families are getting cash benefits in the form of various Grants. like Fuel & fodder, Widow assistance etc. Also, VPHEP-THDCIL has employed 625 Project Affected Persons directly or indirectly and through Contractor HCC Apart from above, Project is complying with the Social Obligation & the details are as per Annexure-A1.
7	The explosives in construction related activities shall be used only in avoidable situations in minimum required quantity.	• Explosive used in avoidable situations only & in minimum quantity. • The controlled blasting is being undertaken involving non electric delay detonation technique • Blasting is done during day time only and at pre-notified time. Blast pattern & vibration is monitored by Central Institute of Mining and Fuel Research (CIMFR), Roorkee.
8	Various facilities developed for the project shall be available for the people of the area and community development works shall be carried out in nearby villages.	Various facilities, awareness programs etc. under Community Development have been made available for the Project Affected Villages including surrounding villages that comprise of; Construction of Pathways, Waiting shelters, Community buildings, Road widening, Hill side slope protection works, Solar street lights for villages, furniture & sports kits for community, water supply schemes, Teaching aids & furniture to

		schools, Construction of additional classrooms & toilets, promotion of sports & cultural activities, awareness camps on social & environmental aspects, health camps & awareness camps on HIV AIDS, Pulse Polio etc. New awareness drive regarding Menstrual Hygiene and gender sensitization named “Saheli” is initiated by THDCIL during 2022-23. This drive covered all 27 project affected villages along with 5 schools. As of now more than 1400 women and girls benefitted through our awareness drive. Saheli has achieved the set target and will continue to benefit the girls and women of the project affected villages and schools through awareness drives in the future.
9	A Comprehensive Disaster Management Plan shall be prepared for the project and the recommendations of the Plan shall be complied.	A Comprehensive Disaster Management Plan has been prepared.
10	THDC shall ensure the development of Affected villages Forest Rehabilitation, as per directions of Uttarakhand Government and with the help of Local People.	• The development activities like construction of pathway, minor water supply schemes etc. under affected villages are being executed through involvement of local people. • A provision of involving local population also exists under CAT plan.
11	Labors and their families, working in the construction works of the Project shall be properly vaccinated.	Medical examination of workforce is done prior to induction and properly vaccinated whenever needed. Medical camps are also organized for labors.
12	The proper development of religious places and Shamshan Ghats nearby the riverbank shall be ensured.	The aspect has been covered under Community Development activities at Point No. 8 above.
13	The treatment of sewage generated by the Labors engaged in construction works of the Project shall be ensured by means of Septic Tank and soak pits.	At each camp site; One Community latrine per 20 persons was provided. Each camp is equipped with septic cum soak pits. The effluent is being disposed-off in septic cum soak tanks.
14	To provide all necessary Project related information to local people, a Public Information Centre shall be established and completed	Project has established a Public Information Center (PIC) in Project area. Necessary information related to Technical, Social & Environmental aspects are displayed and are available in PIC.

	information shall be provided to the people.	
15	Complete details related to the project shall be published through Press and the views /opinions of the people shall properly solve.	Project related information is being published in the local newspapers from time to time. Grievance Redressal Mechanism resolves the issues of affected population in accordance with R&R Policy of VPHEP. Also, such grievances are being resolved in presence of local administration. VPHEP-THDCIL is maintaining Consultancy matrix to address any issues coming from Project affected villages.

ANNEXURE A-1

SOCIAL RESPONSIBILITIES:

CONSTRUCTION OF COMMON PROPERTY RESOURCES:

In addition to the compensation / Grants provided by SLAO/ THDCIL, common property resources like Pathways, drinking water facility, Street Light, Primary School, Panchayat Ghar, Anganwari Kendra etc has been constructed at self resettlement sites.

LOSS OF FUEL & FODDER:

Each entitled household in the affected habitation is being paid 100 days of Minimum Agriculture Wages per year for a period of 5 yrs. On the recommendations of the World Bank, THDCIL has increased disbursement of Fuel & Fodder Grants from 5 years to 8 years. The amount is paid as a grant / assistance towards the loss of fuel and fodder. Around 2600 households are getting benefited through this assistance.

COMMUNITY DEVELOPMENT WORKS:

Under Community development various works have been taken up in the Project affected villages i.e.; construction of Pathways, Waiting shelters, Community buildings, Road widening, Hill side slope protection works, Solar street lights for villages, furniture & sports kits for community, water supply schemes, Teaching aids & furniture to schools, Construction of additional classrooms & toilets, promotion of sports & cultural activities, awareness camps on social & environmental aspects, health camps & awareness camps on HIV AIDS, Pulse Polio etc.

LIVELIHOOD ACTIVITIES:

Various activities have also been taken up to create livelihood opportunities. These are Dairy Development, Poultry, Tailoring, Stitching, Wool Knitting, Bee Keeping, Mushroom cultivation, vermin composting to promote organic farming, plantation, etc. Awareness programs for Project affected people are also organized with the help of various State Govt. Deptts i.e. Horticulture, Agriculture, Tourism, Animal Husbandry, etc., give awareness on various schemes, subsidies, technical assistance, etc., to convince local youth to opt for self-employed income generation activities. Around 500 beneficiaries are benefited from these programs.

On the recommendations of the World Bank, the work towards “Engagement of Specialized Agency to help Prepare Livelihood Development / Employment Generation Plan & its Implementation in relation to VPHEP” was awarded to M/s MRIDA Renergy & Development Pvt. Ltd, New Delhi commenced on 03.01.2020. The agency has completed the Draft Baseline survey/final baseline survey & submitted the draft strategy report by 31.03.2021. The final strategy report for Phase -1 (7 villages) was submitted on 03/09/2021.

As of now total of 28 nos. Polyhouses have been installed by M/s Mrida, and 58 PAPs have received Bee-Boxes (2 each) out of which 36 bee keeping units are operating successfully, 17 are partially operating and bees in 5 units are dead. M/s MRIDA has started a stitching center at Mayapur, and the first batch of stitching center was completed. Since its inception, a total of 86

enrolments have been received, upto Aug' 2022. A total of 12 farmers have benefited from Farm Machinery Bank interventions in Guniyala.

VOCATIONAL TRAININGS:

Apart from above, Vocational Trainings in hotel management, Excavator operator, Electrician, Fitter, Refrigerating & Air Conditioning and other skill enhancement activities, etc. are also undertaken, in coordination with various institutes like GMR Foundation, Dr. Reddy Foundation, and Industrial Training Institutes in nearby areas. Around 300 beneficiaries are benefited through these programs. Two computer training centers have been started by M/s MRIDA. Approx. 60 students PAPs have received basic computer training from these centers.

EDUCATION:

To promote Education the Project has undertaken various activities i.e.; Scholarship to Project affected Meritorious/Poor/ Girls students, Construction of additional class rooms & toilets, providing teaching aids & uniform, assistance for getting admission in ITIs, assistance to schools for cultural activities etc. Around 1400 students having approx. 800 girls have been benefitted through scholarship program of THDCIL till Academic year 2018-19. The above assistance has been kept on hold as the schools were closed due to COVID-19 pandemic.

HEALTH:

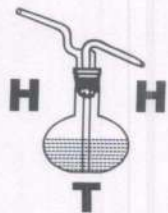
The project is helping PAPs by facilitating them to THDCILs Dispensaries established in the Project Campus. OPD / IPD facility including medicines is given free of cost to PAPs. In addition to this Medical health camps are organized in project affected villages and Ambulance facility is also provided to the needy PAPs free of cost. The Health camps have been immensely beneficial for local population & nearby areas that include people from project affected villages of Project. Approx. 50,000 beneficiaries having approx. 25,490 people from community have been administered treatment in the dispensary. A new well-equipped pathology lab is established on 01.07.2022 in the dispensary.

VPHEP-THDCIL launched an awareness drive "Saheli". This drive covered all 27 affected villages including Schools in and around the project with the aim to spread awareness about menstrual health and taboos and inform about their rights. VPHEP-THDCIL is also distributing hygiene kits, including sanitary pads, dusting powder, and intimate hygiene wash through this awareness drive. As of now more than 1400 women and girls have benefitted through our awareness drive. Saheli has achieved the set target and will continue to benefit the girls and women of the project affected villages and schools through awareness drives in the future.

One mini-truck TATA ACE 1.8 cum has been handed over to Nagar Panchayat, Pipalkoti, District Chamoli on the 9th June, 2020 through SEWA, THDCIL, Rishikesh under Corporate Social Responsibility (CSR). The vehicle is used for transportation of Garbage to Disposal sites under their control. The Garbage generated at THDCIL, Project Complex, VPHEP is also being addressed by Nagar Panchayat, Pipalkoti.

EMPLOYMENT:

Keeping in view that the Hydro Projects are capital intensive with the State of the Art Technology and therefore do not offer much employment opportunity, particularly in unskilled category, the option of providing job with THDCIL as per policy is not considered as a rehabilitation option. However, as on date approx. 3000 persons have been provided direct / indirect employment opportunities in Project HCC / THDCIL/ Contractors/ Hiring of vehicles/Lease land for various purposes etc.



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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/WT/230407004

ULR No. : TC781123200000814F

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
5	Copper (as Cu)	mg/l	BLQ(LOQ:0.001)	0.05 Max.	1.5 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
6	Iron (as Fe)	mg/l	BLQ(LOQ:0.050)	1.0 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
7	Manganese (as Mn)	mg/l	BLQ(LOQ:0.001)	0.1 Max.	0.3 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
8	Selenium (as Se)	mg/l	BLQ(LOQ:0.005)	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
9	Silver (as Ag)	mg/l	BLQ(LOQ:0.001)	0.1 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
10	Zinc (as Zn)	mg/l	BLQ(LOQ:0.05)	5.0 Max.	15 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
TOXIC SUBSTANCES						
1	Cadmium (as Cd)	mg/l	BLQ(LOQ:0.001)	0.003 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
2	Lead (as Pb)	mg/l	BLQ(LOQ:0.001)	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
3	Mercury (as Hg)	mg/l	BLQ(LOQ:0.0005)	0.001 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
4	Nickel (as Ni)	mg/l	BLQ(LOQ:0.001)	0.02 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
5	Total Arsenic (as As)	mg/l	BLQ(LOQ:0.001)	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
6	Total Chromium (as Cr)	mg/l	BLQ(LOQ:0.001)	0.05 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
7	Cyanide (as CN)	mg/l	BLQ(LOQ:0.02)	0.05 Max.	No Relaxation	IS 3025 (P-27) :2021
Discipline - Biological , Group - Water						
Bacteriological Requirements						
1	Coliform	Per 100 ml	Absent	Shall Not be Detectable	No Relaxation	IS:15185:2016
2	E.coli	Per 100 ml	Absent	Shall Not be Detectable	No Relaxation	IS:15185:2016

End of Report

Remarks : Analysed parameters of water sample confirms to IS 10500:2012 specification with respect to above test parameters.

BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Review by
11/4/23

Nao Jyoti Gupta
H.O.D. (Biological)
11/04/2023

Md. Asfak Ansari
Sr. Manager (Env.)
11/04/23

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/WT/230407005
ULR No. : TC781123200000815F
Party's Ref No. : Nil
Booking Date : 07/04/2023
Period of Testing : 07/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description : Drinking Water Sample (S-2)
Type of Industry : Construction Company
Date of sampling : 04/04/2023
Date of receipt of sample : 07/04/2023
Environmental Condition : Temp. 19°C, Humidity 50%
Sampling Reference Protocol : IS 1622 : 1981

Sample Name : Drinking Water Sample (S-2)
Sample quantity : 5 Ltr. + 250 ml in sterilized bottle
Sample Location : Nr. Office Dam site
Purpose of analysis : Monitoring
Sampling Done by : By our lab. Representative

REFERENCE TO PROTOCOL : IS 10500:2012(Amend No. 4 Nov. 2021)

TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
.Discipline - Chemical , Group -Water						
Organoleptic and Physical Parameter's						
1	Colour (Hazen)	-	1.0	5 Max.	15 Max.	IS 3025 (P-4)-2021
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (P-5)-2018
3	pH	-	8.06	6.5-8.5	No Relaxation	IS 3025 (P-11)-1983
4	Turbidity (NTU)	-	<1.0	1 Max.	5 Max.	IS 3025 (P-10)-1984
5	Total Dissolved Solids (TDS)	mg/l	326.0	500 Max.	2000 Max.	IS 3025 (P-16)-1984
General parameters Concerning Substances undesirable in excessive amounts						
1	Total Ammonia (as N)	mg/l	BLQ(LOQ:0.2)	0.5 Max.	No Relaxation	IS 3025 (P-34)-2021
2	Calcium (as Ca)	mg/l	54.5	75 Max.	200 Max.	IS 3025 (P-40)-1991
3	Chloride (as Cl)	mg/l	7.50	250 Max.	1000 Max.	IS 3025 (P-32)-1988
4	Fluoride (as F)	mg/l	0.3	1.0 Max.	1.5 Max.	APHA (4500 F)
5	Magnesium (as Mg)	mg/l	30.68	30 Max.	100 Max.	IS 3025 (P-46)-1994
6	Nitrate (as NO ₃)	mg/l	4.20	45 Max.	No Relaxation	IS 3025 (P-34)-2021
7	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BLQ(LOQ:0.0004)	0.001 Max.	0.002 Max.	IS 3025 (P-43)-1992
8	Sulphate (as SO ₄)	mg/l	40.3	200 Max.	400 Max.	IS 3025 (P-24)-1986
9	Total Alkalinity (as CaCO ₃)	mg/l	224.0	200 Max.	600 Max.	IS 3025 (P-23)-1986
10	Total Hardness (as CaCO ₃)	mg/l	262.0	200 Max.	600 Max.	IS 3025 (P-21)-2009
Discipline- Chemical, Group-Residue in Water						
METALS						
1	Aluminium (as Al)	mg/l	BLQ(LOQ:0.010)	0.03 Max.	0.2 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
2	Barium (as Ba)	mg/l	0.014	0.7 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
3	Molybdenum (as Mo)	mg/l	0.005	0.07 Max	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
4	Boron (as B)	mg/l	BLQ(LOQ:0.050)	0.5 Max.	2.4 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/WT/230407005

ULR No. : TC781123200000815F

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
5	Copper (as Cu)	mg/l	0.002	0.05 Max.	1.5 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
6	Iron (as Fe)	mg/l	BLQ(LOQ:0.050)	1.0 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
7	Manganese (as Mn)	mg/l	BLQ(LOQ:0.001)	0.1 Max.	0.3 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
8	Selenium (as Se)	mg/l	BLQ(LOQ:0.005)	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
9	Silver (as Ag)	mg/l	BLQ(LOQ:0.001)	0.1 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
10	Zinc (as Zn)	mg/l	BLQ(LOQ:0.05)	5.0 Max.	15 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
TOXIC SUBSTANCES						
1	Cadmium (as Cd)	mg/l	BLQ(LOQ:0.001)	0.003 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
2	Lead (as Pb)	mg/l	BLQ(LOQ:0.001)	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
3	Mercury (as Hg)	mg/l	BLQ(LOQ:0.0005)	0.001 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
4	Nickel (as Ni)	mg/l	BLQ(LOQ:0.001)	0.02 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
5	Total Arsenic (as As)	mg/l	0.007	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
6	Total Chromium (as Cr)	mg/l	BLQ(LOQ:0.001)	0.05 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
7	Cyanide (as CN)	mg/l	BLQ(LOQ:0.02)	0.05 Max.	No Relaxation	IS 3025 (P-27) :2021
Discipline - Biological , Group - Water						
Bacteriological Requirements						
1	Coliform	Per 100 ml	Absent	Shall Not be Detectable	No Relaxation	IS:15185:2016
2	E.coli	Per 100 ml	Absent	Shall Not be Detectable	No Relaxation	IS:15185:2016

End of Report

Remarks : Analysed parameters of water sample confirms to IS 10500:2012 specification with respect to permissible limits for the above test parameters.
BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Review by

Nao Jyoti Gupta
H.O.D. (Biological)

Md. Asif Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd
Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/WT/230407006
ULR No. : TC781123200000816F
Party's Ref No. : Nil
Booking Date : 07/04/2023
Period of Testing : 07/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description : Drinking Water Sample (S-3)
Type of Industry : Construction Company
Date of sampling : 04/04/2023
Date of receipt of sample : 07/04/2023
Environmental Condition : Temp. 19°C, Humidity 50%
Sampling Reference Protocol : IS 1622 : 1981

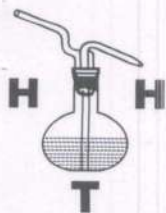
Sample Name : Drinking Water Sample (S-3)
Sample quantity : 5 Ltr. + 250 ml in sterilized bottle
Sample Location : DP Mess
Purpose of analysis : Monitoring
Sampling Done by : By our lab. Representative

REFERENCE TO PROTOCOL : IS 10500:2012(Amend No. 4 Nov. 2021)

TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
Discipline - Chemical , Group -Water						
Organoleptic and Physical Parameter's						
1	Colour (Hazen)	-	1.0	5 Max.	15 Max.	IS 3025 (P-4)-2021
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (P-5)-2018
3	pH	-	7.96	6.5-8.5	No Relaxation	IS 3025 (P-11)-1983
4	Turbidity (NTU)	-	<1.0	1 Max.	5 Max.	IS 3025 (P-10)-1984
5	Total Dissolved Solids (TDS)	mg/l	210.0	500 Max.	2000 Max.	IS 3025 (P-16)-1984
General parameters Concerning Substances undesirable in excessive amounts						
1	Total Ammonia (as N)	mg/l	BLQ(LOQ:0.2)	0.5 Max.	No Relaxation	IS 3025 (P-34)-2021
2	Calcium (as Ca)	mg/l	38.1	75 Max.	200 Max.	IS 3025 (P-40)-1991
3	Chloride (as Cl)	mg/l	5.50	250 Max.	1000 Max.	IS 3025 (P-32)-1988
4	Fluoride (as F)	mg/l	0.33	1.0 Max.	1.5 Max.	APHA (4500 F)
5	Magnesium (as Mg)	mg/l	18.51	30 Max.	100 Max.	IS 3025 (P-46)-1994
6	Nitrate (as NO ₃)	mg/l	5.40	45 Max.	No Relaxation	IS 3025 (P-34)-2021
7	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BLQ(LOQ:0.0004)	0.001 Max.	0.002 Max.	IS 3025 (P-43)-1992
8	Sulphate (as SO ₄)	mg/l	22.5	200 Max.	400 Max.	IS 3025 (P-24)-1986
9	Total Alkalinity (as CaCO ₃)	mg/l	148.0	200 Max.	600 Max.	IS 3025 (P-23)-1986
10	Total Hardness (as CaCO ₃)	mg/l	171.0	200 Max.	600 Max.	IS 3025 (P-21)-2009
Discipline- Chemical, Group-Residue in Water						
METALS						
1	Aluminium (as Al)	mg/l	BLQ(LOQ:0.010)	0.03 Max.	0.2 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
2	Barium (as Ba)	mg/l	0.015	0.7 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
3	Molybdenum (as Mo)	mg/l	0.006	0.07 Max	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
4	Boron (as B)	mg/l	BLQ(LOQ:0.050)	0.5 Max.	2.4 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/WT/230407006

ULR No. : TC781123200000816F

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
5	Copper (as Cu)	mg/l	0.004	0.05 Max.	1.5 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
6	Iron (as Fe)	mg/l	BLQ(LOQ:0.050)	1.0 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
7	Manganese (as Mn)	mg/l	BLQ(LOQ:0.001)	0.1 Max.	0.3 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
8	Selenium (as Se)	mg/l	BLQ(LOQ:0.005)	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
9	Silver (as Ag)	mg/l	BLQ(LOQ:0.001)	0.1 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
10	Zinc (as Zn)	mg/l	BLQ(LOQ:0.05)	5.0 Max.	15 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
TOXIC SUBSTANCES						
1	Cadmium (as Cd)	mg/l	BLQ(LOQ:0.001)	0.003 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
2	Lead (as Pb)	mg/l	BLQ(LOQ:0.001)	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
3	Mercury (as Hg)	mg/l	BLQ(LOQ:0.0005)	0.001 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
4	Nickel (as Ni)	mg/l	BLQ(LOQ:0.001)	0.02 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
5	Total Arsenic (as As)	mg/l	0.008	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
6	Total Chromium (as Cr)	mg/l	BLQ(LOQ:0.001)	0.05 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
7	Cyanide (as CN)	mg/l	BLQ(LOQ:0.02)	0.05 Max.	No Relaxation	IS 3025 (P-27) :2021
Discipline - Biological , Group - Water						
Bacteriological Requirements						
1	Coliform	Per 100 ml	Absent	Shall Not be Detectable	No Relaxation	IS:15185:2016
2	E.coli	Per 100 ml	Absent	Shall Not be Detectable	No Relaxation	IS:15185:2016

End of Report

Remarks : Analysed parameters of water sample confirms to IS 10500:2012 specification with respect to above test parameters.

BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Review by
[Signature]
7/4/23

[Signature]
11/04/2023
Nao Jyoti Gupta
H.O.D. (Biological)

[Signature]
11/04/23
Md. Asfak Ansari
Sr. Manager (Env.)

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HARYANA TEST HOUSE

& Consultancy Services

50-C, Sector-25 Part-II, HUDA, PANIPAT-132 103 (HR.)

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TC-7811



An ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Certified Laboratory

TEST REPORT

Issued To:

Hindustan Construction Company Ltd
Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/WT/230407007
ULR No. : TC781123200000817F
Party's Ref No. : Nil
Booking Date : 07/04/2023
Period of Testing : 07/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description : Drinking Water Sample (S-4)
Type of Industry : Construction Company
Date of sampling : 04/04/2023
Date of receipt of sample : 07/04/2023
Environmental Condition : Temp. 19°C, Humidity 50%
Sampling Reference Protocol : IS 1622 : 1981

Sample Name : Drinking Water Sample (S-4)
Sample quantity : 5 Ltr. + 250 ml in sterilized bottle
Sample Location : Office Pantry (Power House)
Purpose of analysis : Monitoring
Sampling Done by : By our lab. Representative

REFERENCE TO PROTOCOL : IS 10500:2012(Amend No. 4 Nov. 2021)

TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
.Discipline - Chemical , Group -Water						
Organoleptic and Physical Parameter's						
1	Colour (Hazen)	-	1.0	5 Max.	15 Max.	IS 3025 (P-4)-2021
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (P-5)-2018
3	pH	-	7.9	6.5-8.5	No Relaxation	IS 3025 (P-11)-1983
4	Turbidity (NTU)	-	<1.0	1 Max.	5 Max.	IS 3025 (P-10)-1984
5	Total Dissolved Solids (TDS)	mg/l	268.0	500 Max.	2000 Max.	IS 3025 (P-16)-1984
General parameters Concerning Substances undesirable in excessive amounts						
1	Total Ammonia (as N)	mg/l	BLQ(LOQ:0.2)	0.5 Max.	No Relaxation	IS 3025 (P-34)-2021
2	Calcium (as Ca)	mg/l	52.1	75 Max.	200 Max.	IS 3025 (P-40)-1991
3	Chloride (as Cl)	mg/l	19.99	250 Max.	1000 Max.	IS 3025 (P-32)-1988
4	Fluoride (as F)	mg/l	0.4	1.0 Max.	1.5 Max.	APHA (4500 F)
5	Magnesium (as Mg)	mg/l	20.45	30 Max.	100 Max.	IS 3025 (P-46)-1994
6	Nitrate (as NO3)	mg/l	1.5	45 Max.	No Relaxation	IS 3025 (P-34)-2021
7	Phenolic Compounds (as C6H5OH)	mg/l	BLQ(LOQ:0.0004)	0.001 Max.	0.002 Max.	IS 3025 (P-43)-1992
8	Sulphate (as SO4)	mg/l	17.3	200 Max.	400 Max.	IS 3025 (P-24)-1986
9	Total Alkalinity (as CaCO3)	mg/l	184.0	200 Max.	600 Max.	IS 3025 (P-23)-1986
10	Total Hardness (as CaCO3)	mg/l	214.0	200 Max.	600 Max.	IS 3025 (P-21)-2009
Discipline- Chemical, Group-Residue in Water						
METALS						
1	Aluminium (as Al)	mg/l	BLQ(LOQ:0.010)	0.03 Max.	0.2 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
2	Barium (as Ba)	mg/l	0.011	0.7 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
3	Molybdenum (as Mo)	mg/l	0.007	0.07 Max	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
4	Boron (as B)	mg/l	BLQ(LOQ:0.050)	0.5 Max.	2.4 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18

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TC-7811



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TEST REPORT

Issued To:

Hindustan Construction Company Ltd
Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/WT/230407007
ULR No. : TC781123200000817F
Party's Ref No. : Nil
Booking Date : 07/04/2023
Period of Testing : 07/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
5	Copper (as Cu)	mg/l	0.004	0.05 Max.	1.5 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
6	Iron (as Fe)	mg/l	BLQ(LOQ:0.050)	1.0 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
7	Manganese (as Mn)	mg/l	BLQ(LOQ:0.001)	0.1 Max.	0.3 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
8	Selenium (as Se)	mg/l	BLQ(LOQ:0.005)	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
9	Silver (as Ag)	mg/l	BLQ(LOQ:0.001)	0.1 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
10	Zinc (as Zn)	mg/l	BLQ(LOQ:0.05)	5.0 Max.	15 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
TOXIC SUBSTANCES						
1	Cadmium (as Cd)	mg/l	BLQ(LOQ:0.001)	0.003 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
2	Lead (as Pb)	mg/l	BLQ(LOQ:0.001)	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
3	Mercury (as Hg)	mg/l	BLQ(LOQ:0.0005)	0.001 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
4	Nickel (as Ni)	mg/l	BLQ(LOQ:0.001)	0.02 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
5	Total Arsenic (as As)	mg/l	0.008	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
6	Total Chromium (as Cr)	mg/l	BLQ(LOQ:0.001)	0.05 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
7	Cyanide (as CN)	mg/l	BLQ(LOQ:0.02)	0.05 Max.	No Relaxation	IS 3025 (P-27) :2021
Discipline - Biological , Group - Water						
Bacteriological Requirements						
1	Coliform	Per 100 ml	Absent	Shall Not be Detectable	No Relaxation	IS:15185:2016
2	E.coli	Per 100 ml	Absent	Shall Not be Detectable	No Relaxation	IS:15185:2016

End of Report

Remarks : Analysed parameters of water sample confirms to IS 10500:2012 specification with respect to permissible limits for the above test parameters.
BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Review by
11/04/23

Nao Jyoti Gupta
H.O.D. (Biological)
11/04/2023

Md. Asfak Ansari
Sr. Manager (Env.)
11/04/23

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd
Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/WT/230407008
ULR No. : TC781123200000818F
Party's Ref No. : Nil
Booking Date : 07/04/2023
Period of Testing : 07/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description : Drinking Water Sample (S-5)
Type of Industry : Construction Company
Date of sampling : 04/04/2023
Date of receipt of sample : 07/04/2023
Environmental Condition : Temp. 19°C, Humidity 50%
Sampling Reference Protocol : IS 1622 : 1981

Sample Name : Drinking Water Sample (S-5)
Sample quantity : 5 Ltr. + 250 ml in sterilized bottle
Sample Location : PR WA Camp. (Batula - 2)
Purpose of analysis : Monitoring
Sampling Done by : By our lab. Representative

REFERENCE TO PROTOCOL : IS 10500:2012(Amend No. 4 Nov. 2021)

TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
.Discipline - Chemical , Group -Water						
Organoleptic and Physical Parameter's						
1	Colour (Hazen)	-	1.0	5 Max.	15 Max.	IS 3025 (P-4)-2021
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (P-5)-2018
3	pH	-	7.84	6.5-8.5	No Relaxation	IS 3025 (P-11)-1983
4	Turbidity (NTU)	-	<1.0	1 Max.	5 Max.	IS 3025 (P-10)-1984
5	Total Dissolved Solids (TDS)	mg/l	240.0	500 Max.	2000 Max.	IS 3025 (P-16)-1984
General parameters Concerning Substances undesirable in excessive amounts						
1	Total Ammonia (as N)	mg/l	BLQ(LOQ:0.2)	0.5 Max.	No Relaxation	IS 3025 (P-34)-2021
2	Calcium (as Ca)	mg/l	43.3	75 Max.	200 Max.	IS 3025 (P-40)-1991
3	Chloride (as Cl)	mg/l	22.99	250 Max.	1000 Max.	IS 3025 (P-32)-1988
4	Fluoride (as F)	mg/l	0.35	1.0 Max.	1.5 Max.	APHA (4500 F)
5	Magnesium (as Mg)	mg/l	13.64	30 Max.	100.Max.	IS 3025 (P-46)-1994
6	Nitrate (as NO3)	mg/l	2.40	45 Max.	No Relaxation	IS 3025 (P-34)-2021
7	Phenolic Compounds (as C6H5OH)	mg/l	BLQ(LOQ:0.0004)	0.001 Max.	0.002 Max.	IS 3025 (P-43)-1992
8	Sulphate (as SO4)	mg/l	16.8	200 Max.	400 Max.	IS 3025 (P-24)-1986
9	Total Alkalinity (as CaCO3)	mg/l	168.0	200 Max.	600 Max.	IS 3025 (P-23)-1986
10	Total Hardness (as CaCO3)	mg/l	164.0	200 Max.	600 Max.	IS 3025 (P-21)-2009
Discipline- Chemical, Group-Residue in Water						
METALS						
1	Aluminium (as Al)	mg/l	BLQ(LOQ:0.010)	0.03 Max.	0.2 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
2	Barium (as Ba)	mg/l	0.016	0.7 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
3	Molybdenum (as Mo)	mg/l	0.008	0.07 Max	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
4	Boron (as B)	mg/l	BLQ(LOQ:0.050)	0.5 Max.	2.4 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/WT/230407008

ULR No. : TC781123200000818F

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
5	Copper (as Cu)	mg/l	0.005	0.05 Max.	1.5 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
6	Iron (as Fe)	mg/l	BLQ(LOQ:0.050)	1.0 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
7	Manganese (as Mn)	mg/l	BLQ(LOQ:0.001)	0.1 Max.	0.3 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
8	Selenium (as Se)	mg/l	BLQ(LOQ:0.005)	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
9	Silver (as Ag)	mg/l	BLQ(LOQ:0.001)	0.1 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
10	Zinc (as Zn)	mg/l	BLQ(LOQ:0.05)	5.0 Max.	15 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
TOXIC SUBSTANCES						
1	Cadmium (as Cd)	mg/l	BLQ(LOQ:0.001)	0.003 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
2	Lead (as Pb)	mg/l	BLQ(LOQ:0.001)	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
3	Mercury (as Hg)	mg/l	BLQ(LOQ:0.0005)	0.001 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
4	Nickel (as Ni)	mg/l	BLQ(LOQ:0.001)	0.02 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
5	Total Arsenic (as As)	mg/l	0.008	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
6	Total Chromium (as Cr)	mg/l	BLQ(LOQ:0.001)	0.05 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
7	Cyanide (as CN)	mg/l	BLQ(LOQ:0.02)	0.05 Max.	No Relaxation	IS 3025 (P-27) :2021
Discipline - Biological , Group - Water						
Bacteriological Requirements						
1	Coliform	Per 100 ml	Absent	Shall Not be Detectable	No Relaxation	IS:15185:2016
2	E.coli	Per 100 ml	Absent	Shall Not be Detectable	No Relaxation	IS:15185:2016

End of Report

Remarks : Analysed parameters of water sample confirms to IS 10500:2012 specification with respect to above test parameters.

BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Review by

Nao Jyoti Gupta
H.O.D. (Biological)

Md. Asfak Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To: Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	Report No. : HTH/WT/230407003 ULR No. : TC781123200000813F Party's Ref No. : Nil Booking Date : 07/04/2023 Period of Testing : 07/04/2023 To 11/04/2023 Reporting Date : 11/04/2023
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Sample Description : Ground Water Sample	Sample Name : Borewell Water
Type of Industry : Construction Company	Sample quantity : 5 Ltr. + 250 ml in sterilized bottle
Date of sampling : 04/04/2023	Sample Location : Mess (Power House)
Date of receipt of sample : 07/04/2023	Purpose of analysis : Monitoring
Environmental Condition : Temp. 19°C, Humidity 50%	Sampling Done by : By our lab. Representative
Sampling Reference Protocol : IS 1622 : 1981	

REFERENCE TO PROTOCOL : IS 10500:2012(Amend No. 4 Nov. 2021)

TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
Discipline - Chemical , Group -Water						
Organoleptic and Physical Parameter's						
1	Colour (Hazen)	-	1.0	5 Max.	15 Max.	IS 3025 (P-4)-2021
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (P-5)-2018
3	pH	-	7.81	6.5-8.5	No Relaxation	IS 3025 (P-11)-1983
4	Turbidity (NTU)	-	<1.0	1 Max.	5 Max.	IS 3025 (P-10)-1984
5	Total Dissolved Solids (TDS)	mg/l	290.0	500 Max.	2000 Max.	IS 3025 (P-16)-1984
General parameters Concerning Substances undesirable in excessive amounts						
1	Total Ammonia (as N)	mg/l	BLQ(LOQ:0.2)	0.5 Max.	No Relaxation	IS 3025 (P-34)-2021
2	Calcium (as Ca)	mg/l	47.7	75 Max.	200 Max.	IS 3025 (P-40)-1991
3	Chloride (as Cl)	mg/l	8.0	250 Max.	1000 Max.	IS 3025 (P-32)-1988
4	Fluoride (as F)	mg/l	0.35	1.0 Max.	1.5 Max.	APHA (4500 F)
5	Magnesium (as Mg)	mg/l	28.0	30 Max.	100 Max.	IS 3025 (P-46)-1994
6	Nitrate (as NO ₃)	mg/l	1.20	45 Max.	No Relaxation	IS 3025 (P-34)-2021
7	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BLQ(LOQ:0.0004)	0.001 Max.	0.002 Max.	IS 3025 (P-43)-1992
8	Sulphate (as SO ₄)	mg/l	20.8	200 Max.	400 Max.	IS 3025 (P-24)-1986
9	Total Alkalinity (as CaCO ₃)	mg/l	207.0	200 Max.	600 Max.	IS 3025 (P-23)-1986
10	Total Hardness (as CaCO ₃)	mg/l	234.0	200 Max.	600 Max.	IS 3025 (P-21)-2009
Discipline- Chemical, Group-Residue in Water						
METALS						
1	Aluminium (as Al)	mg/l	BLQ(LOQ:0.010)	0.03 Max.	0.2 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
2	Barium (as Ba)	mg/l	0.015	0.7 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
3	Molybdenum (as Mo)	mg/l	BLQ(LOQ:0.001)	0.07 Max	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
4	Boron (as B)	mg/l	BLQ(LOQ:0.050)	0.5 Max.	2.4 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18

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HARYANA TEST HOUSE

& Consultancy Services

50-C, Sector-25 Part-II, HUDA, PANIPAT-132 103 (HR.)

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd
Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/WT/230407003
ULR No. : TC781123200000813F
Party's Ref No. : Nil
Booking Date : 07/04/2023
Period of Testing : 07/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
5	Copper (as Cu)	mg/l	BLQ(LOQ:0.001)	0.05 Max.	1.5 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
6	Iron (as Fe)	mg/l	BLQ(LOQ:0.050)	1.0 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
7	Manganese (as Mn)	mg/l	BLQ(LOQ:0.001)	0.1 Max.	0.3 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
8	Selenium (as Se)	mg/l	BLQ(LOQ:0.005)	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
9	Silver (as Ag)	mg/l	BLQ(LOQ:0.001)	0.1 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
10	Zinc (as Zn)	mg/l	0.148	5.0 Max.	15 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
TOXIC SUBSTANCES						
1	Cadmium (as Cd)	mg/l	BLQ(LOQ:0.001)	0.003 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
2	Lead (as Pb)	mg/l	BLQ(LOQ:0.001)	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
3	Mercury (as Hg)	mg/l	BLQ(LOQ:0.0005)	0.001 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
4	Nickel (as Ni)	mg/l	BLQ(LOQ:0.001)	0.02 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
5	Total Arsenic (as As)	mg/l	0.002	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
6	Total Chromium (as Cr)	mg/l	BLQ(LOQ:0.001)	0.05 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
7	Cyanide (as CN)	mg/l	BLQ(LOQ:0.02)	0.05 Max.	No Relaxation	IS 3025 (P-27) :2021
Discipline - Biological , Group - Water						
Bacteriological Requirements						
1	Coliform	Per 100 ml	Absent	Shall Not be Detectable	No Relaxation	IS:15185:2016
2	E.coli	Per 100 ml	Absent	Shall Not be Detectable	No Relaxation	IS:15185:2016

End of Report

Remarks : Analysed parameters of water sample confirms to IS 10500:2012 specification with respect to permissible limits for the above test parameters.
BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Reviewed by

Nao Jyoti Gupta
H.O.D. (Biological)

Md. Asif Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd
Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230404025
ULR No. : TC781123100002520F
Party's Ref No. : Nil
Booking Date : 04/04/2023
Period of Testing : 04/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description

: Effluent Water Sample (Batching Plant Dam Site)
Type of Industry : Construction Company
Sample type : Effluent Water Sample (Batching Plant Dam Site)
Date of sampling : 03/04/2023
Date of receipt of sample : 04/04/2023
Sample Location : Batching Plant Dam Site
Sample quantity : 2 Ltr.
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

TEST RESULTS

S.N. Test Parameters	Unit	Result	Limit as per EP Act. 1986, Schedule-VI (Inland Surface Water)	Test Method
Discipline : Chemical, Group : Waste Water				
1 Odour	-	Odourless	--	IS 3025 (Part 5): 2018
2 pH	-	7.74	5.5 - 9.0	IS 3025 (Part 11): 2022
3 Total Suspended Solids	mg/L	64.0	100 Max	IS 3025 (Part 17): 1984
4 Chemical Oxygen Demand(COD)	mg/L	86.0	250 Max	IS 3025 (Part 58): 2006
5 Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	9.8	30 Max	IS 3025 (Part 44): 1993
6 Oil & Grease	mg/L	BLQ (LOQ 0.5)	10 Max	IS 3025 (Part 39): 2021

End of Report

Remarks : BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Review by

Md. Asfak Ansari
Sr. Manager (Env.)

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Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230404026
ULR No. : TC781123100002521F
Party's Ref No. : Nil
Booking Date : 04/04/2023
Period of Testing : 04/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description : Effluent Water Sample (Batching Plant Near Casting Yard)

Type of Industry : Construction Company
Sample type : Effluent Water Sample (Batching Plant Near Casting Yard)
Date of sampling : 03/04/2023
Date of receipt of sample : 04/04/2023
Sample Location : Batching Plant Near Casting Yard
Sample quantity : 2 Ltr.
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

TEST RESULTS

S.N.	Test Parameters	Unit	Result	Limit as per EP Act, 1986, Schedule-VI (Inland Surface Water)	Test Method
Discipline : Chemical, Group : Waste Water					
1	Odour	-	Odourless	--	IS 3025 (Part 5): 2018
2	pH	-	7.92	5.5 - 9.0	IS 3025 (Part 11): 2022
3	Total Suspended Solids	mg/L	48.0	100 Max	IS 3025 (Part 17): 1984
4	Chemical Oxygen Demand(COD)	mg/L	70.0	250 Max	IS 3025 (Part 58): 2006
5	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	10.4	30 Max	IS 3025 (Part 44): 1993
6	Oil & Grease	mg/L	BLQ (LOQ 0.5)	10 Max	IS 3025 (Part 39): 2021

End of Report

Remarks : BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Review by

Md. Asfak Ansari

Sr. Manager (Env.)

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TEST REPORT

Issued To:

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Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
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Report No. : HTH/EP/230404027

ULR No. : TC781123100002522F

Party's Ref No. : Nil

Booking Date : 04/04/2023

Period of Testing : 04/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

Sample Description

: Effluent Water Sample (Batching Plant Power House)

Type of Industry

: Construction Company

Sample type

: Effluent Water Sample (Batching Plant Power House)

Date of sampling

: 03/04/2023

Date of receipt of sample

: 04/04/2023

Sample Location

: Batching Plant Power House

Sample quantity

: 2 Ltr.

Purpose of analysis

: Monitoring

Sample collected/ supplied by

: By our Lab. Representative

TEST RESULTS

S.N. Test Parameters	Unit	Result	Limit as per EP Act. 1986, Schedule-VI (Inland Surface Water)	Test Method
Discipline : Chemical, Group : Waste Water				
1 Odour		Odourless	--	IS 3025 (Part 5): 2018
2 pH		7.46	5.5 - 9.0	IS 3025 (Part 11): 2022
3 Total Suspended Solids	mg/L	49.0	100 Max	IS 3025 (Part 17): 1984
4 Chemical Oxygen Demand(COD)	mg/L	90.0	250 Max	IS 3025 (Part 58): 2006
5 Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	9.2	30 Max	IS 3025 (Part 44): 1993
6 Oil & Grease	mg/L	BLQ (LOQ 0.5)	10 Max	IS 3025 (Part 39): 2021

End of Report

Remarks : BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Review by
11-4-23

Md. Asif Ansari
Sr. Manager (Env.)
11-04-23

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TEST REPORT

Issued To:

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Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230404028
ULR No. : TC781123100002523F
Party's Ref No. : Nil
Booking Date : 04/04/2023
Period of Testing : 04/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description

: Effluent Water Sample (DP Mess Outlet-Dam Site)

Type of Industry : Construction Company
Sample type : Effluent Water Sample (DP Mess Outlet-Dam Site)
Date of sampling : 03/04/2023
Date of receipt of sample : 04/04/2023
Sample Location : DP Mess Outlet-Dam Site
Sample quantity : 2 Ltr.
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

TEST RESULTS

S.N.	Test Parameters	Unit	Result	Limit as per EP Act. 1986, Schedule-VI (Inland Surface Water)	Test Method
Discipline : Chemical, Group : Waste Water					
1	Odour	-	Odourless	--	IS 3025 (Part 5): 2018
2	pH	-	7.24	5.5 - 9.0	IS 3025 (Part 11): 2022
3	Total Suspended Solids	mg/L	52.0	100 Max	IS 3025 (Part 17): 1984
4	Chemical Oxygen Demand(COD)	mg/L	140.0	250 Max	IS 3025 (Part 58): 2006
5	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	18.2	30 Max	IS 3025 (Part 44): 1993
6	Oil & Grease	mg/L	1.8	10 Max	IS 3025 (Part 39): 2021

End of Report

Review by
11.4.23

Auth. Sign:
Md. Astak Ansari
11/4/23
Sr. Manager (Env.)

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TEST REPORT

Issued To:

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Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230404029
ULR No. : TC781123100002524F
Party's Ref No. : Nil
Booking Date : 04/04/2023
Period of Testing : 04/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description

Effluent Water Sample (Sedimentation Tank- Crusher)

Type of Industry : Construction Company
Sample type : Effluent Water Sample (Sedimentation Tank- Crusher)
Date of sampling : 03/04/2023
Date of receipt of sample : 04/04/2023
Sample Location : Sedimentation Tank- Crusher
Sample quantity : 2 Ltr.
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

TEST RESULTS

S.N. Test Parameters	Unit	Result	Limit as per EP Act. 1986, Schedule-VI (Inland Surface Water)	Test Method
Discipline : Chemical, Group : Waste Water				
1 Odour	-	Odourless	--	IS 3025 (Part 5): 2018
2 pH	-	7.93	5.5 - 9.0	IS 3025 (Part 11): 2022
3 Total Suspended Solids	mg/L	24.0	100 Max	IS 3025 (Part 17): 1984
4 Chemical Oxygen Demand(COD)	mg/L	52.0	250 Max	IS 3025 (Part 58): 2006
5 Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	6.8	30 Max	IS 3025 (Part 44): 1993
6 Oil & Grease	mg/L	BLQ (LOQ 0.5)	10 Max	IS 3025 (Part 39): 2021

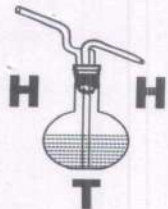
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Remarks : BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Review by

Md. Asfak Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd
Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230404030
ULR No. : TC781123100002525F
Party's Ref No. : Nil
Booking Date : 04/04/2023
Period of Testing : 04/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description

Effluent Water Sample (Sedimentation Tank- Dam Site)

Type of Industry : Construction Company
Sample type : Effluent Water Sample (Sedimentation Tank- Dam Site)
Date of sampling : 03/04/2023
Date of receipt of sample : 04/04/2023
Sample Location : Sedimentation Tank- Dam Site
Sample quantity : 2 Ltr.
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

TEST RESULTS

S.N.	Test Parameters	Unit	Result	Limit as per EP Act. 1986, Schedule-VI (Inland Surface Water)	Test Method
Discipline : Chemical, Group : Waste Water					
1	Odour	-	Odourless	--	IS 3025 (Part 5): 2018
2	pH	-	7.63	5.5 - 9.0	IS 3025 (Part 11): 2022
3	Total Suspended Solids	mg/L	54.0	100 Max	IS 3025 (Part 17): 1984
4	Chemical Oxygen Demand(COD)	mg/L	68.0	250 Max	IS 3025 (Part 58): 2006
5	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	9.1	30 Max	IS 3025 (Part 44): 1993
6	Oil & Grease	mg/L	BLQ (LOQ 0.5)	10 Max	IS 3025 (Part 39): 2021

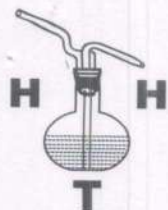
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Sr. Manager (Env.)

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd
Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230404031
ULR No. : TC781123100002526F
Party's Ref No. : Nil
Booking Date : 04/04/2023
Period of Testing : 04/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description

: Effluent Water Sample (Sedimentation Tank- Power House)

Type of Industry : Construction Company
Sample type : Effluent Water Sample (Sedimentation Tank- Power House)
Date of sampling : 03/04/2023
Date of receipt of sample : 04/04/2023
Sample Location : Sedimentation Tank- Power House
Sample quantity : 2 Ltr.
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

TEST RESULTS

S.N.	Test Parameters	Unit	Result	Limit as per EP Act. 1986, Schedule-VI (Inland Surface Water)	Test Method
Discipline : Chemical, Group : Waste Water					
1	Odour	-	Odourless	--	IS 3025 (Part 5): 2018
2	pH	-	7.93	5.5 - 9.0	IS 3025 (Part 11): 2022
3	Total Suspended Solids	mg/L	56.0	100 Max	IS 3025 (Part 17): 1984
4	Chemical Oxygen Demand(COD)	mg/L	84.0	250 Max	IS 3025 (Part 58): 2006
5	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	11.2	30 Max	IS 3025 (Part 44): 1993
6	Oil & Grease	mg/L	BLQ (LOQ 0.5)	10 Max	IS 3025 (Part 39): 2021

End of Report

Remarks : BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Review by
11/04/23

Md. Asfak Ansari
Sr. Manager (Env.)
11/04/23

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No.

: HTH/EP/230404032

ULR No.

: TC781123100002527F

Party's Ref No.

: Nil

Booking Date

: 04/04/2023

Period of Testing

: 04/04/2023 To 11/04/2023

Reporting Date

: 11/04/2023

Sample Description

: Effluent Water Sample (DP Mess Outlet-Power House)

Type of Industry

: Construction Company

Sample type

: Effluent Water Sample (DP Mess Outlet-Power House)

Date of sampling

: 03/04/2023

Date of receipt of sample

: 04/04/2023

Sample Location

: DP Mess Outlet-Power House

Sample quantity

: 2 Ltr.

Purpose of analysis

: Monitoring

Sample collected/ supplied by

: By our Lab. Representative

TEST RESULTS

S.N. Test Parameters

Unit

Result

Limit as per EP Act, 1986,
Schedule-VI (Inland
Surface Water)

Test Method

Discipline : Chemical, Group : Waste Water

1 Odour

Odourless

2 pH

6.94

3 Total Suspended Solids

72.0

4 Chemical Oxygen Demand(COD)

184.0

5 Biochemical Oxygen Demand (BOD) 3 Days at 27°C

23.9

6 Oil & Grease

2.8

5.5 - 9.0

100 Max

250 Max

30 Max

10 Max

IS 3025 (Part 5): 2018

IS 3025 (Part 11): 2022

IS 3025 (Part 17): 1984

IS 3025 (Part 58): 2006

IS 3025 (Part 44): 1993

IS 3025 (Part 39): 2021

End of Report

Rev. 1

Md. Asif Ansari
Sr. Manager (Env.)

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Page No.: 1 of 1



HARYANA TEST HOUSE

& Consultancy Services

50-C, Sector-25 Part-II, HUDA, PANIPAT-132 103 (HR.)

Contact : (Off.) 86077-70160, 0180-4067223, (Env.)86077-70164, (BM) 86077-70166, (Food) 86077-70169
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TEST REPORT

Issued To: Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	Report No. : HTH/EP/230407048 ULR No. : TC781123100002531F Party's Ref No. : Nil Booking Date : 07/04/2023 Period of Testing : 07/04/2023 To 11/04/2023 Reporting Date : 11/04/2023
--	--

Sample Description : Indoor Air Quality

Type of Industry : Construction Company
Date & time of sampling : 05/04/2023
Sample Location : Inside Adit To HRT
Instrument used : RDS Model APM- 460 BL (Sr. No. 3036 DTD 2017)
Instrument Calibration Status : Calibrated (upto 29.03.2024)
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our lab. Representative

A. Observations:

1. Sampling flow rate (Avg.) : 1.25 m3/min
2. Total volume of air sampled : 600.00 m3
3. Period of sampling : 8 Hrs

S.N.	Test Parameters	Unit	Result	Requirement as per OSHA	Test Method
Discipline: Chemical, Group: Atmospheric Pollution					
1	Respirable Aerosols Mass	mg/m3	2.208	5.0 Max	NIOSH 600 : 1998
2	Sulphur Dioxide (SO2)	mg/m3	0.018	13 Max	ASTMD-2914 : 2015
3	Nitrogen Dioxide (NO2)	mg/m3	0.043	9.0 Max	NIOSH 6014 : 1994
4	Carbon Monoxide (CO)	mg/m3	0.916	55 Max	NIOSH 6604 :1996
5	Carbon Dioxide (as CO2)	mg/m3	3225.6	9000 Max	HTH/QF/7.2/2/CH-02, SOP No-16
6	Formaldehyde (HCHO)	mg/m3	BLQ(LOQ:1.25)		NIOSH 3500 : 1994

End of Report

Remarks : Limit for Air Contaminants as per OSHA.

Kimh
11.04.2023
Review by



Md. Asfak Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407048

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

Sample Description : Indoor Air Quality

Type of Industry : Construction Company
Date & time of sampling : 05/04/2023
Sample Location : Inside Adit To HRT
Instrument used : RDS Model APM- 460 BL (Sr. No. 3036 DTD 2017)
Instrument Calibration Status : Calibrated (upto 29.03.2024)
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our lab. Representative

A. Observations:

1. Sampling flow rate (Avg.) : 1.25 m³/min
2. Total volume of air sampled : 600.00 m³
3. Period of sampling : 8 Hrs

S.N. Test Parameters	Unit	Result	Requirement as per OSHA	Test Method
Discipline: Chemical, Group: Atmospheric Pollution				
1 Silica Content	µg/m ³	39.0	50 Max	APHA
2 Methane	mg/m ³	BLQ(LOQ:0.00025)	736 Max	By GC-FID

End of Report

Remarks : Limit for Air Contaminants as per OSHA.

Kimh
11-04-2023
Review by

Md. Asfak Ansari
Sr. Manager (Env.)
11/04/23



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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407049

ULR No. : TC781123100002532F

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

Sample Description : Indoor Air Quality

Type of Industry

: Construction Company

Date & time of sampling

: 05/04/2023

Sample Location

: Inside TRT Adit Tunnel

Instrument used

: RDS Model APM- 460 BL (Sr. No. 3045 DTD 2017)

Instrument Calibration Status

: Calibrated (upto 24.12.2023)

Purpose of analysis

: Monitoring

Sample collected/ supplied by

: By our lab. Representative

A. Observations:

1. Sampling flow rate (Avg.)

: 1.22 m³/min

2. Total volume of air sampled

: 585.60 m³

3. Period of sampling

: 8 Hrs

S.N.	Test Parameters	Unit	Result	Requirement as per OSHA	Test Method
Discipline: Chemical, Group: Atmospheric Pollution					
1	Respirable Aerosols Mass	mg/m ³	1.744	5.0 Max	NIOSH 600 : 1998
2	Sulphur Dioxide (SO ₂)	mg/m ³	0.020	.13 Max	ASTMD-2914 : 2015
3	Nitrogen Dioxide (NO ₂)	mg/m ³	0.040	9.0 Max	NIOSH 6014 : 1994
4	Carbon Monoxide (CO)	mg/m ³	1.031	55 Max	NIOSH 6604 :1996
5	Carbon Dioxide (as CO ₂)	mg/m ³	3218.4	9000 Max	HTH/QF/7.2/2/CH-02, SOP No-16
6	Formaldehyde (HCHO)	mg/m ³	BLQ(LOQ:1.25)	-	NIOSH 3500 : 1994

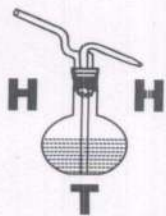
End of Report

Remarks : Limit for Air Contaminants as per OSHA.

Review by
K. H. 11.04.2023

Md. Asfak Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunagarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407049

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

Sample Description : Indoor Air Quality

Type of Industry : Construction Company
Date & time of sampling : 05/04/2023
Sample Location : Inside TRT Adit Tunnel
Instrument used : RDS Model APM- 460 BL (Sr. No. 3045 DTD 2017)
Instrument Calibration Status : Calibrated (upto 24.12.2023)
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our lab. Representative

A. Observations:

1. Sampling flow rate (Avg.) : 1.22 m³/min
2. Total volume of air sampled : 585.60 m³
3. Period of sampling : 8 Hrs

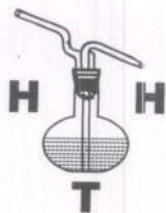
S.N.	Test Parameters	Unit	Result	Requirement as per OSHA	Test Method
Discipline: Chemical, Group: Atmospheric Pollution					
1	Silica Content	µg/m ³	42.0	50 Max	APHA
2	Methane	mg/m ³	BLQ(LOQ:0.00025)	736 Max	By GC-FID

End of Report

Remarks : Limit for Air Contaminants as per OSHA.

Review by
11-04-2023

Md. Asfak Ansari
Sr. Manager (Env.)



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TC-7811



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TEST REPORT

Issued To:

Hindustan Construction Company Ltd
Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407050

ULR No. : TC781123100002533F

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

Sample Description : Indoor Air Quality

Type of Industry : Construction Company
Date & time of sampling : 05/04/2023
Sample Location : Inside MAT Tunnel
Instrument used : RDS Model APM- 860 (Sr. No. 228 DTK 2016)
Instrument Calibration Status : Calibrated (upto 29.03.2024)
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our lab. Representative

A. Observations:

1. Sampling flow rate (Avg.) : 1.21 m³/min
2. Total volume of air sampled : 580.80 m³
3. Period of sampling : 8 Hrs

S.N. Test Parameters	Unit	Result	Requirement as per OSHA	Test Method
Discipline: Chemical, Group: Atmospheric Pollution				
1 Respirable Aerosols Mass	mg/m ³	1.932	5.0 Max	NIOSH 600 : 1998
2 Sulphur Dioxide (SO ₂)	mg/m ³	0.021	13 Max	ASTMD-2914 : 2015
3 Nitrogen Dioxide (NO ₂)	mg/m ³	0.039	9.0 Max	NIOSH 6014 : 1994
4 Carbon Monoxide (CO)	mg/m ³	0.687	55 Max	NIOSH 6604 : 1996
5 Carbon Dioxide (as CO ₂)	mg/m ³	3238.2	9000 Max	HTH/QF/7.2/2/CH-02, SOP No-16
6 Formaldehyde (HCHO)	mg/m ³	BLQ(LOQ:1.25)	-	NIOSH 3500 : 1994

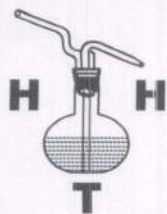
End of Report

Remarks : Limit for Air Contaminants as per OSHA.

Kimh
11-04-2023
Review by

Md. Asrak Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To:

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Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407050

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

Sample Description : Indoor Air Quality

Type of Industry : Construction Company
Date & time of sampling : 05/04/2023
Sample Location : Inside MAT Tunnel
Instrument used : RDS Model APM- 860 (Sr. No. 228 DTK 2016)
Instrument Calibration Status : Calibrated (upto 29.03.2024)
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our lab. Representative

A. Observations:

1. Sampling flow rate (Avg.) : 1.21 m³/min
2. Total volume of air sampled : 580.80 m³
3. Period of sampling : 8 Hrs

S.N.	Test Parameters	Unit	Result	Requirement as per OSHA	Test Method
Discipline: Chemical, Group: Atmospheric Pollution					
1	Silica Content	µg/m ³	45.0	50 Max	APHA By GC-FID
2	Methane	mg/m ³	BLQ(LOQ:0.00025)	736 Max	

End of Report

Remarks : Limit for Air Contaminants as per OSHA.

Kimh
11.04.2023
Review by

Md. Asif Ansari
11/04/23
Sr. Manager (Env.)



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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407051

ULR No. : TC781123100002534F

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

Sample Description : Indoor Air Quality

Type of Industry : Construction Company

Date & time of sampling : 06/04/2023

Sample Location : Inside DT Tunnel

Instrument used : RDS Model APM- 460 BL (Sr. No. 3036 DTD 2017)

Instrument Calibration Status : Calibrated (upto 29.03.2024)

Purpose of analysis : Monitoring

Sample collected/ supplied by : By our lab. Representative

A. Observations:

1. Sampling flow rate (Avg.) : 1.27 m³/min
2. Total volume of air sampled : 607.20 m³
3. Period of sampling : 8 Hrs

S.N.	Test Parameters	Unit	Result	Requirement as per OSHA	Test Method
Discipline: Chemical, Group: Atmospheric Pollution					
1	Respirable Aerosols Mass	mg/m ³	1.525	5.0 Max	NIOSH 600 : 1998
2	Sulphur Dioxide (SO ₂)	mg/m ³	0.019	13 Max	ASTMD-2914 : 2015
3	Nitrogen Dioxide (NO ₂)	mg/m ³	0.036	9.0 Max	NIOSH 6014 : 1994
4	Carbon Monoxide (CO)	mg/m ³	0.916	55 Max	NIOSH 6604 : 1996
5	Carbon Dioxide (as CO ₂)	mg/m ³	3117.6	9000 Max	HTH/QF/7.2/2/CH-02, SOP No-16
6	Formaldehyde (HCHO)	mg/m ³	BLQ(LOQ:1.25)	-	NIOSH 3500 : 1994

End of Report

Remarks : Limit for Air Contaminants as per OSHA.

Kimh
11/04/2023
Review by

Md. Asfak Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407051

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

Sample Description : Indoor Air Quality

Type of Industry : Construction Company
Date & time of sampling : 06/04/2023
Sample Location : Inside DT Tunnel
Instrument used : RDS Model APM- 460 BL (Sr. No. 3036 DTD 2017)
Instrument Calibration Status : Calibrated (upto 29.03.2024)
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our lab. Representative

A. Observations:

1. Sampling flow rate (Avg.) : 1.27 m³/min
2. Total volume of air sampled : 607.20 m³
3. Period of sampling : 8 Hrs

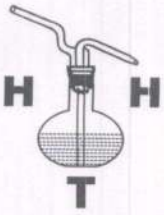
S.N.	Test Parameters	Unit	Result	Requirement as per OSHA	Test Method
Discipline: Chemical, Group: Atmospheric Pollution					
1	Silica Content	µg/m ³	36.0	50 Max	APHA
2	Methane	mg/m ³	BLQ(LOQ:0.00025)	736 Max	By GC-FID

End of Report

Remarks : Limit for Air Contaminants as per OSHA.

Kimh.
11-04-2023
Review by

Md. Asif Ansari
Sr. Manager (Env.)



HARYANA TEST HOUSE

& Consultancy Services

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd
Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407052
ULR No. : TC781123100002535F
Party's Ref No. : Nil
Booking Date : 07/04/2023
Period of Testing : 07/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description : Indoor Air Quality

Type of Industry : Construction Company
Date & time of sampling : 06/04/2023
Sample Location : Inside Destiling chem (DC) Tunnel
Instrument used : RDS Model APM- 460 BL (Sr. No. 3045 DTD 2017)
Instrument Calibration Status : Calibrated (upto 24.12.2023)
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our lab. Representative

A. Observations:

1. Sampling flow rate (Avg.) : 1.20 m³/min
2. Total volume of air sampled : 573.60 m³
3. Period of sampling : 8 Hrs

S.N. Test Parameters	Unit	Result	Requirement as per OSHA	Test Method
Discipline: Chemical, Group: Atmospheric Pollution				
1 Respirable Aerosols Mass	mg/m ³	1.639	5.0 Max	NIOSH 600 : 1998
2 Sulphur Dioxide (SO ₂)	mg/m ³	0.022	13 Max	ASTMD-2914 : 2015
3 Nitrogen Dioxide (NO ₂)	mg/m ³	0.039	9.0 Max	NIOSH 6014 : 1994
4 Carbon Monoxide (CO)	mg/m ³	0.802	55 Max	NIOSH 6604 : 1996
5 Carbon Dioxide (as CO ₂)	mg/m ³	3142.8	9000 Max	HTH/QF/7.2/2/CH-02, SOP No-16
6 Formaldehyde (HCHO)	mg/m ³	BLQ(LOQ:1.25)	-	NIOSH 3500 : 1994

End of Report

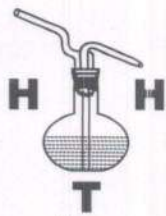
Remarks : Limit for Air Contaminants as per OSHA.

Kimh
11.04.2023
Review by

Md. Asfak Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407052

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

Sample Description : Indoor Air Quality

Type of Industry : Construction Company
Date & time of sampling : 06/04/2023
Sample Location : Inside Destiling chem (DC) Tunnel
Instrument used : RDS Model APM- 460 BL (Sr. No. 3045 DTD 2017)
Instrument Calibration Status : Calibrated (upto 24.12.2023)
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our lab. Representative

A. Observations:

1. Sampling flow rate (Avg.) : 1.20 m³/min
2. Total volume of air sampled : 573.60 m³
3. Period of sampling : 8 Hrs

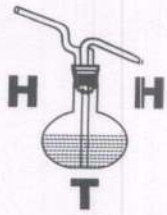
S.N.	Test Parameters	Unit	Result	Requirement as per OSHA	Test Method
Discipline: Chemical, Group: Atmospheric Pollution					
1	Silica Content	µg/m ³	42.0	50 Max	APHA
2	Methane	mg/m ³	BLQ(LOQ:0.00025)	736 Max	By GC-FID

End of Report

Remarks : Limit for Air Contaminants as per OSHA.

Kimh
11/04/2023
Review by

Md. Asfak Ansari
11/04/23
Sr. Manager (Env.)



HARYANA TEST HOUSE

& Consultancy Services

50-C, Sector-25 Part-II, HUDA, PANIPAT-132 103 (HR.)

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TEST REPORT

Issued To: Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	Report No. : HTH/EP/230407053 ULR No. : TC781123100002536F Party's Ref No. : Nil Booking Date : 07/04/2023 Period of Testing : 07/04/2023 To 11/04/2023 Reporting Date : 11/04/2023
--	--

Sample Description : Indoor Air Quality

Type of Industry : Construction Company
Date & time of sampling : 06/04/2023
Sample Location : Inside Ventilation Tunnel
Instrument used : RDS Model APM- 860 (Sr. No. 228 DTK 2016)
Instrument Calibration Status : Calibrated (upto 29.03.2024)
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our lab. Representative

A. Observations:

1. Sampling flow rate (Avg.) : 1.23 m³/min
2. Total volume of air sampled : 588.00 m³
3. Period of sampling : 8 Hrs

S.N.	Test Parameters	Unit	Result	Requirement as per OSHA	Test Method
Discipline: Chemical, Group: Atmospheric Pollution					
1	Respirable Aerosols Mass	mg/m ³	1.807	5.0 Max	NIOSH 600 : 1998
2	Sulphur Dioxide (SO ₂)	mg/m ³	0.023	13 Max	ASTMD-2914 : 2015
3	Nitrogen Dioxide (NO ₂)	mg/m ³	0.041	9.0 Max	NIOSH 6014 : 1994
4	Carbon Monoxide (CO)	mg/m ³	0.687	55 Max	NIOSH 6604 : 1996
5	Carbon Dioxide (as CO ₂)	mg/m ³	3178.8	9000 Max	HTH/QF/7.2/2/CH-02, SOP No-16
6	Formaldehyde (HCHO)	mg/m ³	BLQ(LOQ:1.25)		NIOSH 3500 : 1994

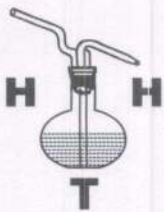
End of Report

Remarks : Limit for Air Contaminants as per OSHA.

Kirh.
11.04.2023
Review by

Md. Asfak Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407053

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

Sample Description : Indoor Air Quality

Type of Industry : Construction Company
Date & time of sampling : 06/04/2023
Sample Location : Inside Ventilation Tunnel
Instrument used : RDS Model APM- 860 (Sr. No. 228 DTK 2016)
Instrument Calibration Status : Calibrated (upto 29.03.2024)
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our lab. Representative

A. Observations:

1. Sampling flow rate (Avg.) : 1.23 m³/min
2. Total volume of air sampled : 588.00 m³
3. Period of sampling : 8 Hrs

S.N. Test Parameters	Unit	Result	Requirement as per OSHA	Test Method
Discipline: Chemical, Group: Atmospheric Pollution				
1 Silica Content	µg/m ³	47.0	50 Max	APHA
2 Methane	mg/m ³	BLQ(LOQ:0.00025)	736 Max	By GC-FID

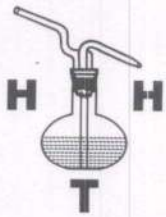
End of Report

Remarks : Limit for Air Contaminants as per OSHA.

Kimh.
11.04.2023
Review by

Md. Asfak Ansari
Sr. Manager (Env.)

NOISE LEVEL MONITORING



HARYANA TEST HOUSE

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TEST REPORT

Issued To: Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	Report No. : HTH/EP/230407054 ULR No. : TC781123100002505F Party's Ref No. : Nil Booking Date : 07/04/2023 Period of Testing : 07/04/2023 To 11/04/2023 Reporting Date : 11/04/2023
Sample Description : Noise Level Monitoring-Work Place	

Type of Industry : Construction Company
Sample Location : Inside TRT Tunnel
Instrument used : Sound Level Meter (HTH/AP/12/SLM-01)
Instrument Calibration Status : Calibrated (upto 06.07.2023)
Date of measurement : 05/04/2023
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Inside TRT Tunnel	78.4	80.2	81.9	82.3	84.2	82.6

TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A")
		Lmin	Lmax	Leq	
1	Inside TRT Tunnel	78.4	84.2	82.0	90 max.

End of Report

Remarks : Leq:- It is an energy mean of the noise level over a specified period
Standard limits as per OSHA, Standard Number : 1910.95

Kimh
11/04/2023
Review by

Md. Asfak Ansari
Sr. Manager (Env.)
11/04/23

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TEST REPORT

Issued To: Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	Report No. : HTH/EP/230407055 ULR No. : TC781123100002506F Party's Ref No. : Nil Booking Date : 07/04/2023 Period of Testing : 07/04/2023To 11/04/2023 Reporting Date : 11/04/2023
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Sample Description : Noise Level Monitoring-Work Place

Type of Industry	: Construction Company
Sample Location	: Inside Ventilation Tunnel
Instrument used	: Sound Level Meter (HTH/AP/12/SLM-01)
Instrument Calibration Status	: Calibrated (upto-06.07.2023)
Date of measurement	: 05/04/2023
Purpose of analysis	: Monitoring
Sample collected/ supplied by	: By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Inside Ventilation Tunnel	80.4	81.2	82.3	83.6	82.6	83.2

TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A")
		Lmin	Lmax	Leq	
1	Inside Ventilation Tunnel	80.4	83.6	82.4	90 max.

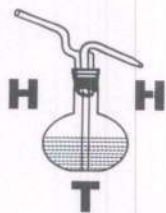
End of Report

Remarks : Leq:- It is an energy mean of the noise level over a specified period
Standard limits as per OSHA, Standard Number : 1910.95

K.M.H.
11/04/2023
Review by

Md. Asfak Ansari
Sr. Manager (Env.)
11/04/23

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TEST REPORT

Issued To: Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	Report No. : HTH/EP/230407056 ULR No. : TC781123100002507F Party's Ref No. : Nil Booking Date : 07/04/2023 Period of Testing : 07/04/2023 To 11/04/2023 Reporting Date : 11/04/2023
Sample Description : Noise Level Monitoring-Work Place	

Type of Industry	: Construction Company
Sample Location	: Inside MAT Tunnel
Instrument used	: Sound Level Meter (HTH/AP/12/SLM-01)
Instrument Calibration Status	: Calibrated (upto 06.07.2023)
Date of measurement	: 05/04/2023
Purpose of analysis	: Monitoring
Sample collected/ supplied by	: By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Inside MAT Tunnel	80.9	81.1	82.6	83.4	82.7	82.9

TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A")
		Lmin	Lmax	Leq	
1	Inside MAT Tunnel	80.9	83.4	82.4	90 max.

End of Report

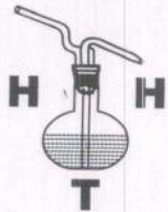
Remarks : Leq:- It is an energy mean of the noise level over a specified period
Standard limits as per OSHA, Standard Number : 1910.95

Kimh.
11.04.2023
Review by

Md. Asfak Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To: Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	Report No. : HTH/EP/230407057 ULR No. : TC781123100002508F Party's Ref No. : Nil Booking Date : 07/04/2023 Period of Testing : 07/04/2023 To 11/04/2023 Reporting Date : 11/04/2023
Sample Description : Noise Level Monitoring- Ambient Noise (Industrial Area)	

Type of Industry	: Construction Company
Sample Location	: Near HRT & DC Tunnel Bridge
Instrument used	: Sound Level Meter (HTH/AP/12/SLM-02)
Instrument Calibration Status	: Calibrated (upto 08.04.2023)
Date of measurement	: 06/04/2023
Purpose of analysis	: Monitoring
Sample collected/ supplied by	: By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Near HRT & DC Tunnel	71.2	70.4	72.3	73.9	74.2	71.6

TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near HRT & DC Tunnel	70.4	74.2	72.5	75 max.

End of Report

Remarks : Leq:- It is an energy mean of the noise level over a specified period
CPCB Standard as per Noise Pollution Rules, 2000

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd
Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407058
ULR No. : TC781123100002509F
Party's Ref No. : Nil
Booking Date : 07/04/2023
Period of Testing : 07/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description : Noise Level Monitoring- Ambient Noise (Industrial Area)

Type of Industry : Construction Company
Sample Location : Near Crusher Area
Instrument used : Sound Level Meter (HTH/AP/12/SLM-02)
Instrument Calibration Status : Calibrated (upto 08.04.2023)
Date of measurement : 06/04/2023
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Near Crusher Area	72.3	72.9	73.5	74.1	73.1	72.4

TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Crusher Area	72.3	74.1	73.1	75 max.

End of Report

Remarks : Leq:- It is an energy mean of the noise level over a specified period
CPCB Standard as per Noise Pollution Rules, 2000

T

hobhik
Review by 11.4.23

Md. Asfak Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To: Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	Report No. : HTH/EP/230407059 ULR No. : TC781123100002510F Party's Ref No. : Nil Booking Date : 07/04/2023 Period of Testing : 07/04/2023 To 11/04/2023 Reporting Date : 11/04/2023
--	--

Sample Description : Noise Level Monitoring- Ambient Noise (Residential Area)

Type of Industry	: Construction Company
Sample Location	: Near Batula Village
Instrument used	: Sound Level Meter (HTH/AP/12/SLM-02)
Instrument Calibration Status	: Calibrated (upto 08.04.2023)
Date of measurement	: 06/04/2023
Purpose of analysis	: Monitoring
Sample collected/ supplied by	: By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Near Batula Village	52.9	49.8	47.6	53.1	50.4	51.5

TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Batula Village	47.6	53.1	51.3	55 max.

End of Report

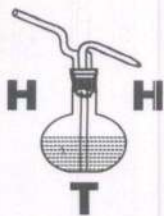
Remarks : Leq:- It is an energy mean of the noise level over a specified period
CPCB Standard as per Noise Pollution Rules, 2000

Signature: *[Signature]*
Date: 11/4/23

Review by

Signature: *[Signature]*
Date: 11/04/23
Md. Asfak Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd
Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407060
ULR No. : TC781123100002511F
Party's Ref No. : Nil
Booking Date : 07/04/2023
Period of Testing : 07/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description : Noise Level Monitoring- Ambient Noise (Industrial Area)

Type of Industry : Construction Company
Sample Location : Near Main Office (Dam Site)
Instrument used : Sound Level Meter (HTH/AP/12/SLM-02)
Instrument Calibration Status : Calibrated (upto 08.04.2023)
Date of measurement : 06/04/2023
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Near Main Office (Dam Site)	71.2	74.2	71.2	72.3	73.9	74.2

TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Main Office (Dam Site)	71.2	74.2	73.0	75 max.

End of Report

Remarks : Leq:- It is an energy mean of the noise level over a specified period
CPCB Standard as per Noise Pollution Rules, 2000

Review by 11.4.23

Md. Asif Ansari
Sr. Manager (Env.)



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TEST REPORT

Issued To: Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	Report No. : HTH/EP/230407061 ULR No. : TC781123100002512F Party's Ref No. : Nil Booking Date : 07/04/2023 Period of Testing : 07/04/2023 To 11/04/2023 Reporting Date : 11/04/2023
Sample Description : Noise Level Monitoring- Ambient Noise (Residential Area)	

Type of Industry : Construction Company
Sample Location : Near Siyasin Colony
Instrument used : Sound Level Meter (HTH/AP/12/SLM-02)
Instrument Calibration Status : Calibrated (upto 08.04.2023)
Date of measurement : 06/04/2023
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Near Siyasin Colony	46.9	48.4	52.0	50.5	51.6	49.8

TEST RESULTS

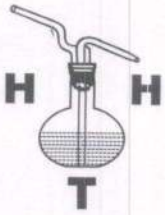
S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Siyasin Colony	46.9	52.0	50.2	55 max.

End of Report

Remarks : Leq:- It is an energy mean of the noise level over a specified period
CPCB Standard as per Noise Pollution Rules, 2000

Md. Asfak Ansari
Sr. Manager (Env.)

- Note :
1. The results contained in this test report pertains only to the sample tested not for the whole lot.
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& Consultancy Services

50-C, Sector-25 Part-II, HUDA, PANIPAT-132 103 (HR.)

Contact : (Off.) 86077-70160, 0180-4067223, (Env.)86077-70164, (BM) 86077-70166, (Food) 86077-70169
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



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TEST REPORT

Issued To: Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	Report No. : HTH/EP/230407062 ULR No. : TC781123100002513F Party's Ref No. : Nil Booking Date : 07/04/2023 Period of Testing : 07/04/2023 To 11/04/2023 Reporting Date : 11/04/2023
Sample Description : Noise Level Monitoring- Ambient Noise (Residential Area)	

Type of Industry	: Construction Company
Sample Location	: Near Haat/ Harsari Village
Instrument used	: Sound Level Meter (HTH/AP/12/SLM-02)
Instrument Calibration Status	: Calibrated (upto 08.04.2023)
Date of measurement	: 06/04/2023
Purpose of analysis	: Monitoring
Sample collected/ supplied by	: By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Near Haat/Harsari Village	48.1	49.5	47.6	49.2	52.8	53.1

TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Haat/Harsari Village	47.6	53.1	50.6	55 max.

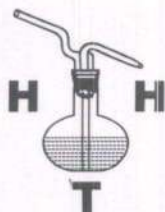
End of Report

Remarks : Leq:- It is an energy mean of the noise level over a specified period
CPCB Standard as per Noise Pollution Rules, 2000.



Md. Asfak Ansari
Sr. Manager (Env.)

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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407063

ULR No. : TC781123100002514F

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

Sample Description : Noise Level Monitoring- Ambient Noise (Industrial Area)

Type of Industry : Construction Company
Sample Location : Near Camp Helong
Instrument used : Sound Level Meter (HTH/AP/12/SLM-02)
Instrument Calibration Status : Calibrated (upto 08.04.2023)
Date of measurement : 06/04/2023
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Near Camp Helong	71.2	72.3	70.6	64.2	68.4	68.9

TEST RESULTS

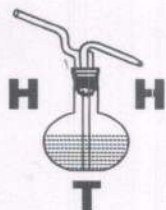
S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Camp Helong	64.2	72.3	69.9	75 max.

End of Report

Remarks : Leq:- It is an energy mean of the noise level over a specified period
CPCB Standard as per Noise Pollution Rules, 2000

Reviewed by:

Md. Asfak Ansari
Sr. Manager (Env.)



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TC-7811



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TEST REPORT

Issued To: Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	Report No. : HTH/EP/230407064 ULR No. : TC781123100002515F Party's Ref No. : Nil Booking Date : 07/04/2023 Period of Testing : 07/04/2023 To 11/04/2023 Reporting Date : 11/04/2023
Sample Description : Noise Level Monitoring- Ambient Noise (Industrial Area)	

Type of Industry : Construction Company
Sample Location : Near Boiler Section
Instrument used : Sound Level Meter (HTH/AP/12/SLM-02)
Instrument Calibration Status : Calibrated (upto 08.04.2023)
Date of measurement : 06/04/2023
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Near Boiler Section	70.4	71.2	72.3	73.9	74.2	73.6

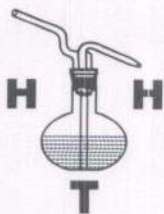
TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Boiler Section	70.4	74.2	72.8	75 max.

End of Report

Remarks : Leq:- It is an energy mean of the noise level over a specified period
CPCB Standard as per Noise Pollution Rules, 2000

Signature
Md. Asfak Ansari
Sr. Manager (Env.)
11/04/23



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TEST REPORT

Issued To:

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Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407065
ULR No. : TC781123100002516F
Party's Ref No. : Nil
Booking Date : 07/04/2023
Period of Testing : 07/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description : Noise Level Monitoring- Ambient Noise (Industrial Area)

Type of Industry : Construction Company
Sample Location : Near Workshop
Instrument used : Sound Level Meter (HTH/AP/12/SLM-02)
Instrument Calibration Status : Calibrated (upto 08.04.2023)
Date of measurement : 06/04/2023
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Near Workshop	69.2	70.1	71.2	72.3	73.9	74.1

TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Workshop	69.2	74.1	72.2	75 max.

End of Report

Remarks : Leq:- It is an energy mean of the noise level over a specified period
CPCB Standard as per Noise Pollution Rules, 2000

Review by

Md. Asfak Ansari

Sr. Manager (Env.)



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TEST REPORT

Issued To:

Hindustan Construction Company Ltd
Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407066
ULR No. : TC781123100002517F
Party's Ref No. : Nil
Booking Date : 07/04/2023
Period of Testing : 07/04/2023 To 11/04/2023
Reporting Date : 11/04/2023

Sample Description : Noise Level Monitoring- Ambient Noise (Industrial Area)

Type of Industry : Construction Company
Sample Location : Near Main Office (Power House)
Instrument used : Sound Level Meter (HTH/AP/12/SLM-02)
Instrument Calibration Status : Calibrated (upto 08.04.2023)
Date of measurement : 06/04/2023
Purpose of analysis : Monitoring
Sample collected/ supplied by : By our Lab. Representative

OBSERVATION

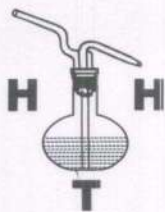
S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Near Main Office (Power House)	73.6	72.9	71.1	72.6	73.3	73.8

TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Main Office (Power House)	71.1	73.8	73.0	75 max.

End of Report

Remarks : Leq:- It is an energy mean of the noise level over a specified period
CPCB Standard as per Noise Pollution Rules, 2000



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TEST REPORT

Issued To:

Hindustan Construction Company Ltd

Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur,
Distt-Chamoli (U.K.) 246472

Report No. : HTH/EP/230407067

ULR No. : TC781123100002518F

Party's Ref No. : Nil

Booking Date : 07/04/2023

Period of Testing : 07/04/2023 To 11/04/2023

Reporting Date : 11/04/2023

Sample Description : Noise Level Monitoring- Ambient Noise (Industrial Area)

Type of Industry	: Construction Company
Sample Location	: Near Batching Plant
Instrument used	: Sound Level Meter (HTH/AP/12/SLM-02)
Instrument Calibration Status	: Calibrated (upto 08.04.2023)
Date of measurement	: 06/04/2023
Purpose of analysis	: Monitoring
Sample collected/ supplied by	: By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Near Batching Plant	72.7	73.2	72.6	71.2	70.4	71.9

TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Batching Plant	70.4	73.2	72.1	75 max.

End of Report

Remarks : Leq:- It is an energy mean of the noise level over a specified period
CPCB Standard as per Noise Pollution Rules, 2000



Md. Asfak Ansari

Sr. Manager (Env.)



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TEST REPORT

Issued To: Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	Report No. : HTH/EP/230407068 ULR No. : TC781123100002519F Party's Ref No. : Nil Booking Date : 07/04/2023 Period of Testing : 07/04/2023 To 11/04/2023 Reporting Date : 11/04/2023
--	--

Sample Description : Noise Level Monitoring- Ambient Noise (Industrial Area)

Type of Industry	: Construction Company
Sample Location	: Near Haul Road
Instrument used	: Sound Level Meter (HTH/AP/12/SLM-02)
Instrument Calibration Status	: Calibrated (upto 08.04.2023)
Date of measurement	: 06/04/2023
Purpose of analysis	: Monitoring
Sample collected/ supplied by	: By our Lab. Representative

OBSERVATION

S.N.	Point of Measurement	I	II	III	IV	V	VI
Discipline - Chemical, Group - Atmospheric Pollution -							
1	Near Haul Road	73.4	72.6	73.9	74.2	73.9	72.4

TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Haul Road	72.4	74.2	73.5	75 max.

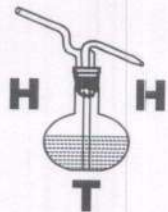
*** End of Report ***

Remarks : Leq:- It is an energy mean of the noise level over a specified period
CPCB Standard as per Noise Pollution Rules, 2000

[Signature]
11/04/23

Md. Asfak Ansari

Sr. Manager (Env.)



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TEST REPORT

Issued to:

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Vishunugarh Pipal Koti Hydro- Electric Project
Mayapur, Distt-Chamoli (U.K.) 246472

Report No: HTH/M/230404004, Dt.: 04.04.2023

Reporting Date : 10.04.2023

Party's Ref No: Nil

Sample Description: Ambient-Air Monitoring (24 Hrs for the Quarter of January to March 2023)

Sampling location : TRT Road (Near Durgapur School)
Instrument Used : Respirable Dust Sampler, Fine Particulate (PM_{2.5}) Sampler
Whether Condition : Clear Sky
Sampling duration : 24 Hrs

Test Results

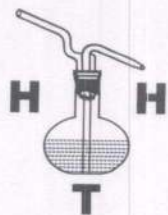
Parameters	PM ₁₀ (µg/ m ³)	PM _{2.5} (µg/ m ³)	SO ₂ (µg/ m ³)	NO _x (µg/ m ³)
Time Weighted Average	24 hrs	24 hrs	24 hrs	24 hrs
DATE OF SAMPLING				
02.03.2023	65.1	42.2	11.4	24.6
06.03.2023	69.2	33.8	12.6	27.6
09.03.2023	71.2	38.6	15.6	29.5
13.03.2023	75.3	44.3	16.7	28.6
16.03.2023	72.5	48.1	18.3	29.8
20.03.2023	73.2	48.9	15.3	31.2
23.03.2023	70.2	37.6	13.4	32.1
27.03.2023	69.5	36.4	12.3	34.6
30.03.2023	73.2	40	12.2	29.1
Minimum	65.1	33.8	11.4	24.6
Maximum	75.3	48.9	18.3	34.6
Average	71.0	41.1	14.2	29.7
Standard Limit As per (NAAQS) MoEF notification Nov. 2009	100 max.	60 max.	80 max.	80 max.

Mgr. (Lab.) / Sr. Chemist

Authorised Signatory

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TEST REPORT

Issued to:

M/s Hindustan Construction Company Ltd.,
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Mayapur, Distt-Chamoli (U.K.) 246472

Report No: HTH/M/230404005, Dt.: 04.04.2023

Reporting Date : 10.04.2023

Party's Ref No: Nil

Sample Description: Ambient-Air Monitoring (24 Hrs for the Quarter of January to March 2023)

Sampling location : TRT Road / Colony at Siyasin
Instrument Used : Respirable Dust Sampler, Fine Particulate (PM_{2.5}) Sampler
Whether Condition : Clear Sky
Sampling duration : 24 Hrs

Test Results

Parameters	PM ₁₀ (µg/ m ³)	PM _{2.5} (µg/ m ³)	SO ₂ (µg/ m ³)	NO _x (µg/ m ³)
Time Weighted Average	24 hrs	24 hrs	24 hrs	24 hrs
DATE OF SAMPLING				
02.03.2023	69.5	39.2	11.8	26.4
06.03.2023	70.1	31.4	15.4	28.6
09.03.2023	67.8	33.3	19.3	29.8
13.03.2023	70.5	37.5	13.7	31.4
16.03.2023	67.3	38.2	17.3	29.9
20.03.2023	75.6	40.7	12.1	27.6
23.03.2023	69.7	35.8	15.1	23.6
27.03.2023	72.9	32.6	12.7	28.3
30.03.2023	75.4	33.9	16.4	29.8
Minimum	67.3	31.4	11.8	23.6
Maximum	75.6	40.7	19.3	31.4
Average	71.0	35.8	14.9	28.4
Standard Limit As per (NAAQS) MoEF notification Nov. 2009	100 max.	60 max.	80 max.	80 max.

Mgr. (Lab.) / Sr. Chemist

Authorised Signatory

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TEST REPORT

Issued to:

M/s Hindustan Construction Company Ltd.,
Vishunugarh Pipal Koti Hydro- Electric Project
Mayapur, Distt-Chamoli (U.K.) 246472

Report No: HTH/M/230404006, Dt.: 04.04.2023

Reporting Date : 10.04.2023

Party's Ref No: Nil

Sample Description: Ambient-Air Monitoring (24 Hrs for the Quarter of January to March 2023)

Sampling location : Power House at Haat/Harsan
Instrument Used : Respirable Dust Sampler, Fine Particulate (PM_{2.5}) Sampler
Whether Condition : Clear Sky
Sampling duration : 24 Hrs

Test Results

Parameters	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)
Time Weighted Average	24 hrs	24 hrs	24 hrs	24 hrs
DATE OF SAMPLING				
02.03.2023	70.5	39.2	17.8	28.4
06.03.2023	63.3	36.7	16.5	28.9
09.03.2023	60.7	40.8	17.5	35.3
13.03.2023	72.1	43.1	14.4	31.1
16.03.2023	67.2	43.4	14.8	33.7
20.03.2023	78.2	43.1	16.7	32.2
23.03.2023	65.6	39.5	18.3	30.2
27.03.2023	67.5	35.4	13.4	27.6
30.03.2023	62.9	37.7	16.1	28.8
Minimum	60.7	35.4	13.4	27.6
Maximum	78.2	43.4	18.3	35.3
Average	67.6	39.9	16.2	30.7
Standard Limit As per (NAAQS) MoEF notification Nov. 2009	100 max.	60 max.	80 max.	80 max.

Mgr. (Lab.) / Sr. Chemist

Authorised Signatory

(Page 1 of 1)

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 4. This report is only for your guidance, and not for legal purposes, commercial decision, and for advertisement.
 5. Samples will be destroyed after one month from the date of issue of test report unless otherwise specified.
 6. Total liability of Haryana Test House is limited to the invoiced amount only.
 7. The details received from customer on its own responsibility. Lab does not confirm about it and hence does not taken any responsibility whatsoever.



HARYANA TEST HOUSE

& Consultancy Services

50-C, Sector-25 Part-II, HUDA, PANIPAT-132 103 (HR.)

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An ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Certified Laboratory

TEST REPORT

Issued to:

M/s Hindustan Construction Company Ltd.,
Vishunugarh Pipal Koti Hydro- Electric Project
Mayapur, Distt-Chamoli (U.K.) 246472

Report No: HTH/M/230404007, Dt.: 04.04.2023

Reporting Date : 10.04.2023

Party's Ref No: Nil

Sample Description: Ambient-Air Monitoring (24 Hrs for the Quarter of January to March 2023)

Sampling location : Dam Site (Near Office)
Instrument Used : Respirable Dust Sampler, Fine Particulate (PM_{2.5}) Sampler
Whether Condition : Clear Sky
Sampling duration : 24 Hrs

Test Results

Parameters	PM ₁₀ (µg/ m ³)	PM _{2.5} (µg/ m ³)	SO ₂ (µg/ m ³)	NO _x (µg/ m ³)
Time Weighted Average	24 hrs	24 hrs	24 hrs	24 hrs
DATE OF SAMPLING				
02.03.2023	70.3	32.9	10.7	27.6
06.03.2023	69.2	37.6	12.4	29.5
09.03.2023	70.2	36.7	17.5	23.3
13.03.2023	71.6	45.3	13.5	28.4
16.03.2023	68.9	37.3	14.9	26.7
20.03.2023	77.6	39.3	13.4	25.6
23.03.2023	73.4	28.4	12.7	30.3
27.03.2023	75.4	32.6	13.4	29.5
30.03.2023	71.6	33.4	12.8	29.2
Minimum	68.9	28.4	10.7	23.3
Maximum	77.6	45.3	17.5	30.3
Average	72.0	35.9	13.5	27.8
Standard Limit As per (NAAQS) MoEF notification Nov. 2009	100 max.	60 max.	80 max.	80 max.

Mgr (Lab.) / Sr. Chemist

Authorised Signatory

(Page 1 of 1)

- Note :
1. The results contained in this test report pertains only to the sample tested not for the whole lot.
 2. Test report shall not be reproduce in whole or in part and cannot be used as an evidence in the court of Law.
 3. Sample not drawn by HTH unless otherwise specified.
 4. This report is only for your guidance, and not for legal purposes, commercial decision, and for advertisement.
 5. Samples will be destroyed after one month from the date of issue of test report unless otherwise specified.
 6. Total liability of Haryana Test House is limited to the invoiced amount only.
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