



# टीएचडीसी इंडिया लिमिटेड THDC INDIA LIMITED

(भारत सरकार एवं उ. प्र. सरकार का संयुक्त उपक्रम)  
(A Joint Venture of Govt. of India & Govt. of U.P.)  
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सं० टीएचडीसी/सं०/सा० एवं पर्या०/सं०-117/ 105200

दिनांक : 10-08-2022

सेवा में,

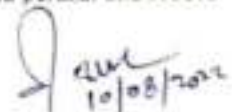
- 1.) Shri Pankaj Agarwal, IFS  
Deputy Director General of Forests (C)  
पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय,  
उत्तर केन्द्रीय क्षेत्रीय कार्यालय,  
25, मुन्नाष रोड, देहरादून - 248001
- 2.) सदस्य - सचिव,  
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय,  
आई.ए. डिपार्टमेंट (आर.वी. एवं एन.ई.पी.),  
वायु विंग, कमरा सं० 303, इंदिरा पर्यावरण भवन  
जोर बाग रोड, नई दिल्ली - 110 003

**विषय:** 17<sup>th</sup> Six monthly progress report (January - 2022 to June 2022) 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-12011/29/2007-1A.1 dtd. 22.08.2007 and subsequent denovo clearance on dated 26.08.2021 issued by MoEF&CC, please find enclosed herewith the 17<sup>th</sup> 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.

Thanking You,

  
10/08/2022  
(विपिन षपतियाल)

उप० महाप्रबंधक (पर्यावरण)

संसद्भक: उपरोक्तानुसार

प्रतिलिपि: सादर सूचनाार्थ

1. आधिशारी निदेशक (परियोजना), टीएचडीसीआईएन, गीपनकोटी
2. मुख्य महाप्रबंधक (सामाजिक एवं पर्यावरण), टीएचडीसीआईएन, कृषिकेश

प्रधान कार्यालय : गंगा भवन, प्रगतपुरम, बाई पास रोड, रीशिकेश-249 201

Corporate Office : GANGA BHAWAN, PRAGATIPURAM, BYPASS ROAD, RISHIKESH - 249201

पंजीकृत कार्यालय :- भागीरथी भवन (टॉप टेरिस) भागीरथीपुरम, टिहरी - गढ़वाल - 249201

Regd. Office : Bhagirathi Bhawan (Top Terrace), Bhagirathipuram, Tehri-garhwal-249001

टेलीफोन- 0135-2439463, Telefax : 0135-2439463, Website Address : www.thdc.gov.in

("हिंदी को राजभाषा बनाना, भाषा का प्रान नहीं अगितु देरभियान का प्रान है")

# SIX MONTHLY PROGRESS REPORT ON ENVIRONMENTAL ASPECTS

Period Jan' 2022 to June' 2022

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

	b) Others	<b>b) Others (Exclusive of above 'a')</b> Forest: 71.912 Ha. Non-Forest: 31.639 Ha. (Private) Transferred to Project by PWD : 9.539 Ha.
8.	<b>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.</b> a) SC /ST /Tribal's b) Others	Attached as <b><u>Annexure - II</u></b>
9.	<b>Financial details</b> a) <b>Project cost as originally planned and subsequent revised estimates and the years of price reference.</b>  b) <b>Actual expenditure incurred on the Project so far.</b>  c) <b>Allocations made for Environmental Management Plan.</b>	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 June' 2022 is Rs. 2586.37 Cr.  c) Rs. 109.53 Crs (As per EMP of VPHEP formulated during July' 2021)
10.	<b>Forest Land requirements</b> a) <b>Status of approval for diversion of forest land for non -forestry use</b>  b) <b>The status of clear felling in forest land</b>	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	<b>Status of construction</b> a) Date of commencement (actual and/planned) b) Date of completion (actual or planned)	a) 17.01.2014  b) Revised: The completion of the Project is expected in March-25.
12.	<b>Reason for the delay if the project is yet to be started.</b>	NIL
13.	<b>Details of site visit</b> 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 conducted on 22.02.2016.  Based on the suggestions of the Additional Director, MoEF&CC, R.O. Dehradun (Jan'

	<p>b) By Regional Office</p>	<p>2017 visit), the Multi-Disciplinary Committee has been re-constituted vide MoEF&amp;CC letter no. J-12011/29/2007-IA-I dated 10.10.2017.</p> <p>The reconstituted Multi-Disciplinary Committee (MDC) under the chairmanship of PCCF-HoFF, Uttarakhand has visited the project site on 28.07.2018.</p> <p>The 3<sup>rd</sup> meeting of reconstituted MDC under the chairmanship of PCCF-HoFF, Uttarakhand was held on 31.07.2021 at Van Bhawan, Dehradun.</p> <p>The R&amp;R Monitoring Committee has been constituted by District Magistrate, Chamoli on 09.11.2009.</p> <p>a) Dr. S.C. Katiyar, Addl. Director (S), MoEF&amp;CC, North Central Regional Office, Dehradun visited the VPHE Project on 09.01.2017 &amp; 10.01.2017.</p> <p>b) Dr. S. C. Garkoti, Advisor, MoEF&amp;CC, New Delhi along with Dr. S. C. Katiyar, Addl. Director (S), MoEF&amp;CC, North Central Regional Office, Dehradun has visited the VPHEP site on 02.08.2017 &amp; 03.08.2017.</p> <p>c) Dr. S.C. Katiyar, Addl. Director (S), MoEF&amp;CC, North Central Regional Office, Dehradun has visited the VPHE Project on 28.07.2018.</p> <p>d) Sh. Pankaj Agarwal, Addl. PCCF and Dr. S. C. Katiyar, Addl. Director, MoEF&amp;CC, Regional Office, Dehradun has visited the VPHE Project on 11-12 Nov 2018.</p> <p>e) Dr. Krishnendu Mondal, Scientist – C, MoEF&amp;CC, Regional Office, Dehradun has visited the VPHEP Project on 12-13 Oct' 2020.</p>
<p><b>14.</b></p>	<p><b>Brief Note on the status of Compliance of the conditions stipulated by MoEFCC</b></p>	<p>A brief note on status of conditions stipulated by MOEF is enclosed as <b>Annexure - III.</b></p>

**ENVIRONMENTAL MANAGEMENT PLAN**  
(PHYSICAL ACHIEVEMENT IN REPORTING PERIOD)

S. NO.	PLAN	ACHIEVEMENT
1	Development of Herbal Garden	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Approx. Rs. 20.40 lakhs have been incurred on various works related to the development of the Herbal Garden.</li> <li>• Medicinal plants like Harad (Terminalia Chebula), Lemon Grass (Cymbogogonfelxuusus), Sarpghandha (Rauvolfia Serpentiina), Aloe Vera etc. planted.</li> </ul>
2	Road Side Plantation	<ul style="list-style-type: none"> <li>• Requisite funds have been deposited under CAMPA for implementation.</li> <li>• Matter is under persuasion with State Forest Deptt. for start of works.</li> </ul>
3	Wildlife Protection (related to NDBR & KWLS)	<ul style="list-style-type: none"> <li>• <b>Wildlife Protection:</b> <ul style="list-style-type: none"> <li>– Two (02) nos. Watch Towers has been installed at identified locations at Powerhouse and TBM sites nearby the boundary of KWLS.</li> <li>– Ten nos. Camera Traps were procured on the recommendation of E&amp;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 Forest officials on 12.06.2019.</li> <li>– Controlled Blasting techniques are being practiced and the same is being monitored by construction contractor through Central Institute of Mining &amp; Fuel Research (CIMFR), Roorkee. Report up to Mar' 2022 have been received.</li> <li>– Environment Awareness Program has been organized at VPHEP during Dec' 2021 in the presence of noted Environmentalist Sh. Jagat Singh Chaudhary alias “Jungli Ji” and Forest Deptt. officials.</li> <li>– Awareness Programs are being organized from time to time.</li> </ul> </li> </ul>
4	Compensatory Afforestation in 120.27 Ha	<ul style="list-style-type: none"> <li>• 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.</li> <li>• THDCIL is continuously pursuing the issue with Senior Forest Officials at Dehradun and at Divisional Level.</li> <li>• Issue was also discussed in the meeting of Multi-Disciplinary Committee constituted by MoEF&amp;CC, New Delhi under the chairmanship of PCCF-HoFF, GoUK held on 31.07.2021 at Van Bhawan, Dehradun.</li> <li>• The Chairman - MDC, PCCF-HoFF, has directed the concerned Forest officials to take all-out efforts to for early completion of these activities and directed DFO, Badrinath to assess the suitability of the existing 48 Ha land w.r.t. plantation at the earliest and send across a proposal to HoFF through APCCF-Projects, providing for alternate land for</li> </ul>

		<p>plantation in case the existing 48 Ha is not suitable for plantation.</p> <ul style="list-style-type: none"> <li>Till Mar'22 Compensatory Afforestation works in 41 Ha area has been completed out of 120.27 Ha by State Forest Department. Balance 79 Ha area is to be done by Forest Department.</li> </ul>
5	Catchment Area Treatment Plan	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>State Forest Deptt., Uttarakhand is executing activities as per approved DPR. An expenditure of Rs. 31.25 Cr (approx.) has been made by Forest Deptt. till Mar' 2022 under CAT Plan of VPHEP.</li> <li>Issue of slow progress of CAT Plan was also discussed in the meeting of Multi-Disciplinary Committee constituted by MoEF&amp;CC, New Delhi under the chairmanship of PCCF-HoFF, GoUK held on 31.07.2021 at Van Bhawan, Dehradun.</li> <li>DFO, Badrinath Forest Division (Nodal Officer) appraised that slow progress is due to non release of funds from CAMPA.</li> <li>The Chairman - MDC, PCCF-HoFF, has directed the concerned Forest officials to take all-out efforts to for early completion of these activities.</li> <li>DFO Badrinath, Nodal Officer has been requested for earliest completion of works under CAT Plan of VPHEP.</li> </ul>
6	Muck Management Plan	<ul style="list-style-type: none"> <li>Dumping of muck is being done at designated / identified area &amp; 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.</li> <li>Work of plantation of Vetivar (<i>Chrysopogon Zizanioides</i>) grass as slope stabilization measure at Siyasain dumping site (DY-4) has been started in September 2018.</li> <li>Plantation in approx. 13,000 sqm. area has been completed at DY-4.</li> <li>M/s HCC Ltd. has been instructed to ensure necessary reclamation works at all Disposal sites.</li> <li>Details of muck management till Dec' 2021, is as under; <ul style="list-style-type: none"> <li>➤ Muck generated (Approx.) = 21.35 Lacs m<sup>3</sup></li> <li>➤ Muck utilized (Approx.) = 3.62 Lacs m<sup>3</sup></li> <li>➤ Muck dumped (Approx.) = 17.73 Lacs m<sup>3</sup></li> </ul> </li> </ul>
7	Fish Management Plan	<ul style="list-style-type: none"> <li>The Consultancy Services for preparation &amp; supporting Implementation of Fish Management Plan for VPHEP have been awarded to Directorate of Coldwater Fisheries Research (ICAR-DCFR), Bhimtal.</li> <li>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.</li> <li>Final Report has been received from ICAR-DCFR. ICAR-DCFR has recommended to construct Snow Trout Fish Hatchery. A MoU has been signed with M/s UPRNN for a total value of 268.26 lakhs for construction of Fish Hatchery nearby Jaisal Nala at some part of DY-5 area. Construction work is under progress.</li> <li>Also, A one week training on Aquatic Biodiversity in Feb' 2020, has also been conducted for the Executives of</li> </ul>

		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)	<ul style="list-style-type: none"> <li>Green Belt Development is being implemented under the Consultancy of noted Environmentalist Sh. Jagat Singh Chaudhary alias “Junglee”. Broad Leaved, Fast Growing plant species have also been planted as suggested by “Jungli Ji” and Forest Deptt.</li> <li>Till June’ 2022, cumulatively 8600 nos. (approx.) trees are planted. Maintenance of plants is being done regularly.</li> </ul>
9	Restoration of Quarry Site	<ul style="list-style-type: none"> <li>Till June’ 2022, no Quarry site has been opened for excavation / mining.</li> <li>All statutory clearances for Gadi Quarry have been obtained. Mining from Gadi Quarry has not yet been started.</li> <li>The quarrying is yet to commence. However, the quarry areas will to be restored after completion of quarrying operations.</li> </ul>
10	Solid Waste Management	<p><b>VPHEP COLONY</b></p> <ul style="list-style-type: none"> <li>The Solid Waste is collected at source, stored in bins and transported through vehicle for handing over to Nagar Panchayat, Chamoli for safe disposal.</li> <li>Necessary infrastructure for SWM facility constructed nearby the VPHEP colony area.</li> <li>Roadside Bins (Separate bins for Organic and Inorganic Waste) etc. have been procured and installed at appropriate locations for proper collection of waste.</li> <li>Additionally, 01 nos. dumper 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.</li> </ul> <p><b>M/S HCC LTD. – WORKER/LABOR CAMPS</b></p> <ul style="list-style-type: none"> <li>Necessary provisions have been kept for Waste Collection, Handling, Segregation, Disposal process under the contractor’s EMP.</li> <li>Separate bins are placed at labor camps and construction sites for biodegradable and non-biodegradable wastes.</li> <li>The waste collected is handed over to Nagar Palika / Panchayat.</li> <li>Wastes (Hazardous/E-waste/others) being stored in storage yard for safe disposal and handed over to authorized vendors only.</li> </ul>
11	Road Construction	<ul style="list-style-type: none"> <li>During Road Construction all precautionary measures for soil erosion, slope stability, drainage to be taken care as per Indian Standards</li> <li>Regular Water Sprinkling is being done for dust suppression.</li> <li>Provision for water drainage along the road line is provided where ever required.</li> </ul>
12	Sanitary Facility Labor Camp	<ul style="list-style-type: none"> <li>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 &amp; Batula (Haat-Kauria Road) for the Power House activities.</li> <li>Also, HCC has hired various private accommodations / hotels for accommodating the officers and workers at site.</li> </ul>

		<ul style="list-style-type: none"> <li>• The total number of staff / workers presently residing in these accommodations is 1780.</li> <li>• 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.</li> </ul>
13	Fuel	<ul style="list-style-type: none"> <li>• Community kitchen for labor / worker at camps being run on LPG.</li> <li>• Usage of approx. 10,560 nos. LPG cylinders have been reported by the contractor up to June' 2022.</li> </ul>
14	Public Health Delivery Plan	<p><b>Public Health Delivery system</b></p> <p>– <b>VPHEP, THDCIL</b></p> <ul style="list-style-type: none"> <li>• At VPHEP Complex, a Dispensary is operational with adequate number of beds.</li> <li>• Medical Staff includes Doctor, Nurse, Para medical staff, Dresser etc.</li> <li>• Additional facilities by engaging staff on contractual basis deputed. Ambulance deployed.</li> <li>• The Medical Facilities are extended free of cost among Project Affected people apart from local Population as well.</li> <li>• A well equipped pathology lab has also been started in the dispensary to support health checkup.</li> </ul> <p>– <b>M/s HCC</b></p> <ul style="list-style-type: none"> <li>• 01 nos. First Aid Centres operational at each at Power House, TBM and Dam site.</li> <li>• 01 nos. Dispensary located at Swami Vivekanand Hospital, Mayapur, Pipalkoti.</li> <li>• Para Medical Staff &amp; facilities deployed at First Aid Centers.</li> <li>• Ambulance facilities available at Power House, TBM and Dam.</li> <li>• Necessary treatment including required vaccination is being given to labors from time to time.</li> </ul>
15	Environmental Monitoring Plan	<p>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;</p> <p><b>Monitoring of Air/Water/Noise etc. by contractor:</b> The monitoring being conducted at different time intervals. Report from M/s HCC for Ambient Air, Indoor Air, Drinking water, Effluent water &amp; Noise level monitoring conducted during the period Apr'22 to June' 22 has been received and all parameters are found within the permissible limits.</p> <p><b>Monitoring of Incidence of Water Related Diseases:</b> 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.</p>



		<p>A Fresh MoU has been signed with CMO, District Hospital Chamoli on 23.05.2020 for further 03 years. Quarterly Monitoring reports upto June' 22 have been received.</p> <p><b>Ecological Monitoring:</b> MoU was signed with Post Graduate College, Gopeshwar for a period of 4 years. Annual Progress Report for the years 2015-16, 2016-17, 2017-18 &amp; 2018-19 has been received. 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 has been received.</p> <p><b>River Water Quality Monitoring:</b> Monitoring is being conducted at regular intervals through M/s PCRI BHEL Haridwar. Last set conducted recently during Mar' 2022, Parameters within permissible limits.</p> <p><b>Meteorological Monitoring:</b> Automatic Weather Stations (AWS) for Recording of Temperature, Wind Speed &amp; Direction, Humidity &amp; Rainfall has been installed at PH Site/Colony during mid-February 2016. AWS at Dam Site has been installed on 26.04.2016 at HCC Camp, Helang. One AWS dismantled from MJ-JT HEP has been reinstalled at Siyasain, VPHEP colony campus.</p>
16	Third Party Monitoring Mechanism for Environmental Works	<p>For Third Party Monitoring, M/s WAPCOS was engaged through Open Tender process &amp; agreement was signed on 10.10.2014. Final consolidated report from (2015-2018) has been received in August 2019.</p> <p>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.</p> <p>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. Inception Report has been received. Monitoring work is under progress.</p>
17	Third Party Monitoring Mechanism for CAT Works	<p>The MoU has been signed with ICFRE, Dehradun on 11.12.2014. Letter issued &amp; date of start reckoned as 10.08.2015. Half yearly Reports to be furnished at regular intervals. 9<sup>th</sup> Half yearly Report (April'20 to Sept'20) has been received.</p> <p>The monitoring works for additional period upto Dec. 2021 has been awarded to M/s ICFRE, Dehradun vide GM (S&amp;E), Rishikesh letter dtd. 25.02.2020. Susequently the work has been further extended for a period of Six months vide letter dated 23.06.2022.</p>
18	ISO 14001 & OHSAS 18001	VPHEP project unit is ISO 9001:2015, ISO 14001:2015 & OHSAS 45001 certified unit.
19	Archaeological Management Plan	<p>As per the EMP, following actions are to be taken, i.e.</p> <ul style="list-style-type: none"> <li>• The Laxmi Narayan Temple at Village Haat is to be preserved through ASI Dehradun.</li> <li>• A 10 Member Committee comprising 8 Members from Village Haat has been constituted by DM, Chamoli and 1<sup>st</sup></li> </ul>

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 18<sup>th</sup> 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.



## STATUS OF CONDITIONS ON ENVIRONMENT CLEARANCE

SL. NO.	BRIEF DESCRIPTION OF CONDITIONS	STATUS AS ON JUNE' 2022
<b>MoEF&amp;CC LETTER Dated: 22.08.2007</b>		
<b>PART - A: SPECIFIC CONDITIONS</b>		
1.	6202 hectare degraded Catchment Area of high category to be treated. CAT as has been proposed should be completed in three years.	<p>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.</p> <p>Forest Deptt. is executing activities as per approved DPR. An expenditure of Rs. 31.25 Cr (approx.) has been made by Forest Deptt. till Mar' 2022 under CAT Plan of VPHEP.</p> <p>Matter was also discussed in the 3<sup>rd</sup> meeting of Multi-Disciplinary Committee constituted by MoEF&amp;CC, New Delhi under the chairmanship of PCCF-HoFF, GoUK held on 31.07.2021 at Van Bhawan, Dehradun.</p> <p>In the said meeting, DFO, Badrinath Forest Division (Nodal Officer) appraised that slow progress is due to non release of funds from CAMPA.</p> <p>The Chairman - MDC, PCCF-HoFF, has directed the concerned Forest officials to take all-out efforts to for early completion of these activities.</p> <p>DFO Badrinath, Nodal Officer has been requested for earliest completion of works under CAT Plan of VPHEP.</p>
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	<p>Land Compensation as assessed &amp; 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.</p> <p>Besides SLAO Payment, Project is extending various other benefits to the Project Affected Families in accordance to the R&amp;R Policy of Project, framed based on NRRP-2007 &amp; considering the World Bank Operational Policy.</p>

	<p>“Vocation / job” or “financial assistance “in addition to various rehabilitation benefits as per the NRRP - 2003.</p>	<p>The Affected Families are getting cash benefits in the form of various Grants.</p> <p>Apart from above, Project is complying with the Social Obligation &amp; the details are annexed at <b><u>Annexure A-1</u></b>.</p>
3.	<p>A Monitoring Committee for R &amp; R should be constituted which must include representatives of project - affected persons from SC/ST category and a woman beneficiary.</p>	<p>Monitoring Committee has been constituted by DM, Chamoli; vide Order No. 725/26-MB (2008-09), Dt. 09.11.2009.</p>
4.	<p>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.</p>	<p>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 &amp; renewed from time to time.</p> <p>The controlled blasting is being undertaken involving non electric delay detonation technique.</p> <p>Blasting is done during day time at pre-notified time only. Blast pattern &amp; vibration is monitored by Central Institute of Mining and Fuel Research (CIMFR), Roorkee.</p> <p>No blasting is done during night &amp; no disturbance is created for wild life habitat.</p> <p>M/s PCRI-BHEL, Haridwar and M/s Harayana Test House, Panipat recognized by MoEF&amp;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 Mar’ 2022 &amp; M/s Haryana Test House, Panipat during May’ 2022. Reports have been received and all parameters are within permissible limit. Reports annexed at <b><u>Annexure A-2</u></b>.</p> <p>Also, for Third Party Monitoring of EMP, M/s WAPCOS (a PSU) has been engaged and the monitoring work is under progress.</p>

5.	Minimum Water Flow of 15.65 Cumecs (Revised by letter dtd. 31.05.2011) should be released downstream during lean season.	MEFR shall be ensured as per latest Gazette Notification dtd. 10.10.2018 of MoWR,RD&GR, GoI.
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 (Chrysopogon Zizanioides) in approx. 13,000 sqm. area has been completed till June' 2022 at DY- 4.
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 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 3 <sup>rd</sup> meeting of Multi-Disciplinary Committee constituted by MoEF&CC, New Delhi under the chairmanship of PCCF-HoFF, GoUK held on 31.07.2021 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.	The status towards Commitments made during Public Hearing is annexed as <b>Annexure – IV</b> .
<b>PART - B: GENERAL CONDITIONS</b>		
1.	Adequate free fuel arrangement should be made for the labour force engaged in the construction works at project cost so	Contractor is running Community mess for its employees & work force.  As per contractor report, approx. 10,560 nos. Commercial LPG Cylinders have been utilized

	that indiscriminate felling of trees is prevented.	in the Community Mess up to June' 2022.
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.	<ul style="list-style-type: none"> <li>• Community Kitchen established in Camps for Contractors Employees &amp; Workforce.</li> <li>• 01 nos. First Aid Centres operational at each at Power House, TBM and Dam site.</li> <li>• 01 nos. Dispensary located at Swami Vivekanand Hospital, Mayapur, Pipalkoti.</li> <li>• Para Medical Staff &amp; facilities deployed at First Aid Centers.</li> <li>• Ambulance facilities available at Power House, TBM &amp; Dam area.</li> <li>• Necessary treatment including required vaccination is being given to labors from time to time.</li> <li>• Recreational facilities have been provided at labor camps by the contractor.</li> </ul>
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 (Chrysopogon Zizanioides) in approx. 13,000 sqm area has been completed till June' 2022 at DY- 4.
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,	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 1 <sup>st</sup> Meeting was undertaken on 20.03.2015. The 2 <sup>nd</sup> Meeting of

	wildlife, soil conservation, NGO etc. to oversee the effective implementation of the suggested safeguard measures.	<p>committee was conducted on 22.02.2016.</p> <p>Based on the suggestions of the Additional Director, MoEF&amp;CC R.O. Dehradun (Jan 2017 visit), the Multi Disciplinary Committee has been re-constituted vide MoEF&amp;CC letter no. J-12011/29/2007-IA-1 dated 10.10.2017.</p> <p>The 1<sup>st</sup> meeting of Multi-Disciplinary Committee under the chairmanship of PCCF-HoFF, GoUK held on 28.07.2018 at Project site.</p> <p>The 2<sup>nd</sup> meeting of Multi-Disciplinary Committee was held on 28.02.2020 under the chairmanship of PCCF-HOFF, GoUK at Van Bhawan Dehradun &amp; 3<sup>rd</sup> meeting of Multi-Disciplinary Committee was held on 31.07.2021 under the chairmanship of PCCF-HOFF, GoUK at Van Bhawan. Dehradun. The Chairman - MDC, PCCF-HoFF, has directed the Forest Deptt. to take all out efforts for earliest completion of all the activities.</p>
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 02.03.2022.
<b>OTHER CONDITIONS</b>		
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.	<p>Full Logistic supports as and when required will be ensured by Project.</p> <p>a) Dr. S.C. Katiyar, Addl. Director (S), MoEF&amp;CC, North Central Regional Office, Dehradun visited the VPHE Project on 09.01.2017 &amp; 10.01.2017.</p> <p>b) Dr. S. C. Garkoti, Advisor, MoEF&amp;CC, New Delhi along with Dr. S. C. Katiyar, Addl. Director (S), MoEF&amp;CC, North Central Regional Office, Dehradun has visited the VPHEP site on 02.08.2017 &amp; 03.08.2017.</p> <p>c) Dr. S.C. Katiyar, Addl. Director (S), MoEF&amp;CC, North Central Regional Office, Dehradun has visited the VPHE Project on 28.07.2018.</p> <p>d) Sh. Pankaj Agarwal, Addl. PCCF and Dr. S. C. Katiyar, Addl. Director, MoEF&amp;CC, Regional Office, Dehradun has visited the VPHE Project on 11-12 Nov 2018.</p> <p>e) Dr. Krishnendu Mondal, Scientist – C, MoEF&amp;CC, Regional Office, Dehradun has visited the VPHEP Project on 12-13 Oct’ 2020.</p>



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.
<b>EC validity Extension vide MoEF&amp;CC Letter Dated: 25.04.2018</b>		
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.	<p>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.</p> <p>Terraces at dumpyards has been developed and benches are being developed to discontinue the slopes in dumpyards.</p> <p>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.</p>
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 silt is going into the downstream of the river.	<p>Benches are being developed to discontinue the slopes in dumpyards.</p> <p>Engineering measures such as construction of gabion faced reinforced earth wall with uniaxial geo-grid reinforcement are adopted at dumping site.</p> <p>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. 13,000 sqm. area has been completed till June’ 2022 at DY- 4.</p>
3.	The PP should ensure that in case of generation of any top soil, a site exclusively for topsoil dumping and	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.

	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.	
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

<b>Additional Terms &amp; Conditions</b>		
<b>S.No.</b>	<b>Brief Description of conditions</b>	<b>Status as on June' 2022</b>
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. 20.40 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 Serpentiina), Aloe Vera etc. planted.
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.  The details of vehicles deployed by the contractor are enclosed at <b>Annexure A-3</b> .
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 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.	<p>Report of Geological changes or catastrophic event within 10 km region shall be obtained from GSI and to be submitted to RO, MoEF&amp;CC.</p> <p>Also, a request letter for providing the details as required has already sent to GSI dated 10.02.2022. <b><u>(Annexure-GSI)</u></b></p> <p>Disaster Management plan was prepared and already shared with the last six monthly compliance report.</p>
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.	<p>Solid Waste, Hazardous/E-waste/others are being disposed-off as per prevalent rules and regulation of MoEF&amp;CC, CPCB etc.</p> <p>The Hazardous/E-waste/Biomedical waste generated at site is handed over to authorized agency for safe disposal and recycling.</p> <p>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.</p> <p>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.</p> <p>Additionally, 01 nos. dumper has been procured through SEWA-THDC and donated to Nagar Panchayat, Pipalkoti for collection of Solid waste.</p>
ix.	PP shall ensure the Ambient Air Quality Monitoring Stations for real time data display and regularly submit to respective RO, MoEF&CC.	The process to establish Ambient air Quality Station for real time data display is under advanced stage and will be established shortly.
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, 2013.	<p>Acquisition of entire private land was done prior to “Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013” The total compensation amount was deposited with the SLAO. No new Land is being acquired for the Project.</p> <p>Land Compensation as assessed &amp; 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</p>

		<p>payment from SLAO.</p> <p>Besides SLAO Payment, Project is extending various other benefits to the Project Affected Families in accordance to the R&amp;R Policy of Project, framed based on NRRP-2007 &amp; considering the World Bank Operational Policy.</p> <p>The Affected Families are getting cash benefits in the form of various Grants.</p> <p>Apart from above, Project is complying with the Social Obligation &amp; the details are annexed at <b>Annexure A-1</b>.</p>
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.	<p>An institutional mechanism has already been identified in the R&amp;R Policy of VPHEP as under:</p> <p>“Employment opportunity, if any, 100% recruitment at the level of workman (including technical &amp; ministerial) required to be done will be done first from the land oustees &amp; 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”.</p> <p>In addition, other provisions for economic/employment opportunities have been done as under:</p> <ol style="list-style-type: none"> <li>i. Employment with contracting agencies.</li> <li>ii. Allotment of shops/kiosk.</li> <li>iii. Award of petty contracts.</li> <li>iv. Vehicle hiring.</li> <li>v. PCO/Internet kiosk.</li> <li>vi. News paper vendors.</li> <li>vii. Any other opportunity deemed fit by the project.</li> </ol>

		Till date, 20 PAP's have been provided with permanent employment in THDCIL. In addition, around 1550 persons have been provided direct / indirect 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.	<p>Dumping of muck is being done at designated / identified area &amp; well above the high flood level.</p> <p>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.</p> <p>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.</p> <p>Plantation of Vetivar (<i>Chrysopogon Zizanioides</i>) in approx. 13,000 sqm. area has been completed till June' 2022 at DY- 4.</p>
xv.	A multi-specialty hospital to cater the need of people living within 10 km radius of the Project shall be established.	<p>The matter was discussed with District Administration for establishing Multi-specialty 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 boundaries.</p> <p>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</p>

		<p>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.</p> <p>An Architect M/s K.C. Kuriyal &amp; Associates, Dehradun has been engaged for preparation of DPR (Estimate) of the proposed building. Draft estimate of approx. Rs. 130.86 Lakhs (excluding GST &amp; Labour Cess) has been submitted by the Architect which is under checking by Project and District authorities. The construction work of the building will be started shortly.</p> <p>Also, a dispensary is already operational at VPHEP comprising of proper medical staff viz. Doctor, Nurse, Para-Medical staff, Dresser etc. 02 nos ambulance 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.</p>
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.	<p>The VPHEP Project has already distributed 110 Nos. of Solar lights to the PAFs &amp; surrounding areas of the project under the Community Development. Details of the same have been submitted with the previous report.</p> <p>Presently, 58 nos. of Solar Lights have been procured and shall be installed shortly in nearby villages as per the requirement raised by local authority for community development.</p>
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. 02 no. of Development Hub will be established by the M/s MIRDA



		<p>Energy&amp; Development Pvt. Lt. 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 at 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 centers for the youth from the PAFs also, leveraging the strength of the computer literacy of the Village Level Entrepreneurs (VLEs) and these centers.</p> <p>Distribution of Computers and other necessary facilities are being provided to primary schools under Community Development.</p>
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.	<p>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.</p> <p>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.</p>
xx.	A time bound action plan for compliance of each of the above condition will be submitted to RO, MoEF&CC within 3months.	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 Project, Environmental Clearance will be withdrawn.	Currently, no observations has been raised by RO, MoEF&CC.

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. ( <b><u>Annexure-MDC</u></b> )
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 by external authorized agencies.  The process for establishing Environment Monitoring Laboratory at Project has been initiated.
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 and approved by the Chief Wildlife Warden. The	In the EIA-EMP 2021, Schedule-I species has not been reported. The Compensatory Afforestation Plan & Catchment Area Treatment Plan is being implemented by State Forest Deptt., Uttarakhand. The Project does not fall

	<p>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)</p>	<p>under Core &amp; Buffer Zone. For Wildlife Protection, various measures have been undertaken at the Project. The details are as follows:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Ten nos. Camera Traps were procured on the recommendation of E&amp;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 Forest officials on 12.06.2019.</li> <li>• Controlled Blasting techniques are being practiced and the same is being monitored by construction contractor through Central Institute of Mining &amp; Fuel Research (CIMFR), Roorkee. Report up to Mar' 2022 have been received.</li> <li>• Environment Awareness Program has been organized at VPHEP during Dec' 2021 in the presence of noted Environmentalist Sh. Jagat Singh Chaudhary alias "<i>Jungli Ji</i>" and Forest Deptt. officials.</li> <li>• Awareness Programs are being organized from time to time.</li> </ul>
iv.	<p>The project proponent shall obtain Consent to Establish/ Operate under the provisions of Air (Prevention &amp; Control of Pollution) Act , 1981 and the Water (Prevention &amp; Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.</p>	<p>The CTE from UKPCB has been granted on 10.04.2007.</p>
v.	<p>NOC shall be obtained from National Commission of Seismic Design Parameters (NCSDS) of CWC.</p>	<p>NOC from National Commission of Seismic Design parameters (NCSDP) have already been obtained vide letter No CWC/2/2/2008/FE&amp;SA/425 dated 04.05.2008.</p>
vi.	<p>Necessary approval of CEA shall be obtained for those projects having the project cost more than Rs. 1,000 crore.</p>	<p>The approval from CEA has already been obtained vide letter dated 21.09.2006.</p>

<b>II. Air quality monitoring and preservation</b>		
(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.	<p>M/s PCRI-BHEL, Haridwar and M/s Harayana Test House, Panipat recognized by MoEF&amp;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 Mar' 2022 &amp; M/s Haryana Test House, Panipat during May' 2022. Reports have been received and all parameters are within permissible limit. Reports annexed at <b>Annexure A-2</b>.</p> <p>Also, for Third Party Monitoring of EMP, M/s WAPCOS (a PSU) has been engaged and the monitoring work is under progress.</p>
(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.	<p>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 &amp; renewed from time to time by the contractor.</p> <p>CCA from UKPCB has been obtained for Crusher &amp; Batching Plants by the contractor.</p> <p>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.</p>
(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.
<b>III. Water quality monitoring and preservation</b>		
(i)	Conjunctive use of surface water to be planned in the project to check water logging as well as to increase crops productivity. The field drains shall be connected with natural drainage system.	Not applicable
(ii)	Remodelling of existing natural drains (link	Not applicable

	drains) and connecting them with irrigated land through constructed field drains, collector tor drains, etc. are to be ensured on priority basis.	
(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.	The Cofferdam of concrete is a temporary construction for diverting the water at Dam site (upstream). No cofferdam has been constructed the downstream of the river. During the commissioning of the Project, the 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 the 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.	Shall be complied after commissioning of the Project.  Also, the installation and monitoring of e-flow shall be carried out as per the Gazette Notification of MoWR dated 10.10.2018 and data shall be submitted to RO, MoEF&CC.
(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 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	Not applicable

	Command Area Development Plan should be strictly implemented as proposed in the EIA/ EMP report	
<b>IV. Noise monitoring and prevention</b>		
(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.	<p>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 &amp; renewed from time to time.</p> <p>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 &amp; vibration is monitored by Central Institute of Mining and Fuel Research (CIMFR), Roorkee. No blasting is done during night &amp; no disturbance is created for wild life habitat.</p>
(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.	<p>M/s PCRI-BHEL, Haridwar and M/s Harayana Test House, Panipat recognized by MoEF&amp;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 Mar' 2022 &amp; M/s Haryana Test House, Panipat during May' 2022. Reports have been received and all parameters are within permissible limit. Reports annexed at <b>Annexure A-2</b>.</p> <p><del>Also, for Third Party Monitoring of EMP, M/s WAPCOS (a PSU) has been engaged and the monitoring work is under progress.</del></p>
<b>V. Catchment Area Treatment Plan</b>		
(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.	<p>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.</p> <p>Forest Deptt. is executing activities as per approved DPR. An expenditure of Rs. 31.25 Cr (approx.) has been made by Forest Deptt. till Mar' 2022 under CAT Plan of VPHEP.</p>

		<p>Matter was also discussed in the 3<sup>rd</sup> meeting of Multi-Disciplinary Committee constituted by MoEF&amp;CC, New Delhi under the chairmanship of PCCF-HoFF, GoUK held on 31.07.2021 at Van Bhawan, Dehradun.</p> <p>In the said meeting, DFO, Badrinath Forest Division (Nodal Officer) appraised that slow progress is due to non release of funds from CAMPA.</p> <p>The Chairman - MDC, PCCF-HoFF, has directed the concerned Forest officials to take all-out efforts to for early completion of these activities.</p> <p>DFO Badrinath, Nodal Officer has been requested for earliest completion of works under CAT Plan of VPHEP.</p>
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**VI. Waste management**

(i)	<p>Muck disposal be carried out only in the approved and earmarked sites. The dumping sites shall be 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.</p>	<p>Dumping of muck is being done at designated / identified area &amp; well above the high flood level.</p> <p>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.</p> <p>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. 13,000 sqm. area has been completed till June' 2022 at DY- 4.</p>
(ii)	<p>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.</p>	<p>Solid Waste, Hazardous/E-waste/others are being disposed-off as per prevalent rules and regulation of MoEF&amp;CC, CPCB etc.</p> <p>The Hazardous/E-waste/Biomedical waste generated at site is handed over to authorized agency for safe disposal and recycling.</p> <p>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.</p> <p>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.</p>

Additionally, 01 nos. dumper has been procured through SEWA-THDC and donated to Nagar Panchayat, Pipalkoti for collection of Solid waste.

**VII. Green Belt, EMP Cost, Fisheries and Wildlife Management**

(i)	Based on the recommendation of Cumulative Impact Assessment and Carrying capacity study of 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.	MEFR shall be ensured after commissioning of the Project as per latest Gazette Notification dtd. 10.10.2018 of MoWR,RD&GR, GoI.
(ii)	Detailed information on species composition particular to fish species from previous study/literature be inventorized and proper management plan shall be prepared for insitu 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. Accordingly, construction of Fish Hatchery at site is under progress. 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”. Broad Leaved, Fast Growing plant species have also been planted as suggested by “Jungli Ji” and Forest Deptt. Till June’ 2022, cumulatively 8600 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



		<p>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.</p> <p>THDCIL is continuously pursuing the issue with Senior Forest Officials at Dehradun and at Divisional Level.</p> <p>Till Mar'22 Compensatory Afforestation works in 41 Ha area has been completed by State Forest Department.</p>
(vi)	<p>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.</p>	<p>The Fish Management Plan for VPHEP has been prepared through Indian Council of Agricultural Research – Directorate of Coldwater Fisheries Research (ICAR-DCFR), Bhimtal.</p> <p>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. Accordingly construction of Fish Hatchery at site is under progress. Monitoring will be carried out after construction of Fish Hatchery.</p>
<b>VIII. Public hearing and Human health issues</b>		
(i)	<p>Resettlement &amp; Rehabilitation plan be implemented in consultation with the State Govt. as approved by the State Govt.</p>	<p>Land Compensation as assessed &amp; 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.</p> <p>Besides SLAO Payment, Project is extending various other benefits to the Project Affected Families in accordance to the R&amp;R Policy of Project, framed based on NRRP-2007 &amp; considering the World Bank Operational Policy.</p> <p>The Affected Families are getting cash benefits in the form of various Grants.</p> <p>Apart from above, Project is complying with the Social Obligation &amp; the details are annexed at <b>Annexure A-1</b>.</p>
(ii)	<p>Budget provisions made for the community and social development plan including community welfare schemes shall be implemented in toto.</p>	<p>The budget provision of Rs 1930 Lakh is already earmarked under Corporate Environment Responsibility. Social Obligation details are annexed at <b>Annexure A-1</b>.</p>

(iii)	Preventive measures viz. fuming and spraying of mosquito control shall be done in and around the labour colonies, affected villages, stagnated pools, etc. Provisions be made to not to create any stagnated pools to avoid creation of breeding grounds of the vector borne diseases	Condition is being complied.
(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.	Please refer details given at Point No. 12, 13 & 14 of <b>Annexure – I</b> .
(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.	The warning sirens and signboards have been installed nearby to the Project. Manpower deployed for monitoring the water level regularly.  The same is being regularly monitored by NHPC, which has been appointed as the Nodal Agency by MoP for EWS.
(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.
<b>IX. Corporate Environment Responsibility</b>		
(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.	<p>An institutional mechanism has already been identified in the R&amp;R Policy of VPHEP as under:</p> <p>“Employment opportunity, if any, 100% recruitment at the level of workman (including technical &amp; ministerial) required to be done will be done first from the land oustees &amp; 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:</p> <ul style="list-style-type: none"> <li>i. Employment with contracting agencies.</li> <li>ii. Allotment of shops/kiosk.</li> <li>iii. Award of petty contracts.</li> <li>iv. Vehicle hiring.</li> <li>v. PCO/Internet kiosk.</li> <li>vi. News paper vendors.</li> <li>vii. Any other opportunity deemed fit by the project.</li> </ul> <p>Till date, 20 PAP’s have been provided with permanent employment in THDCIL. In addition, around 1300 persons have been provided direct / indirect employment opportunities in main project construction company and through other modes as mentioned above.</p> <p>Moreover, Project has engaged an expert Agency M/s MRIDA Energy&amp; Development Pvt. Ltd, New Delhi towards the work “Engagement of Specialized Agency to help Prepare Livelihood Development / Employment Generation Plan &amp; its Implementation in relation to VPHEP” for supporting Livelihood Development / Employment Generation in the Project Affected villages.</p>
(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	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:

	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.	<a href="https://thdc.co.in/content/environment-policy">https://thdc.co.in/content/environment-policy</a>
(iv)	A separate Environmental Cell both at the project 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.	The THDCIL has placed a separate Environment Deptt. at Head quarter / 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.  The details of EMP implementation are attached at <b>Annexure – I</b> .
(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	Based on the suggestions of the Additional Director, MoEF&CC R.O.

	<p>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.</p>	<p>Dehradun (Jan 2017 visit), the Multi Disciplinary Committee has been re-constituted vide MoEF&amp;CC letter no. J-12011/29/2007-IA-1 dated 10.10.2017.</p> <p>The 1<sup>st</sup> meeting of Multi-Disciplinary Committee under the chairmanship of PCCF-HoFF, GoUK held on 28.07.2018 at Project site.</p> <p>The 2<sup>nd</sup> meeting of Multi-Disciplinary Committee was held on 28.02.2020 under the chairmanship of PCCF-HOFF, GoUK at Van Bhawan Dehradun &amp; 3<sup>rd</sup> meeting of Multi-Disciplinary Committee was held on 31.07.2021 under the chairmanship of PCCF-HOFF, GoUK at Van Bhawan. Dehradun. The Chairman - MDC, PCCF-HoFF, has directed the Foest Deptt. to take all out efforts for earliest completion of all the activities.</p> <p>Vide letter dtd. 07.07.2022, PCCF-HoFF, GoUK has been requested to provide a suitable date in the month of Jul-Aug 2022, for organizing next MDC meeting at the earliest.</p> <p>The MoM of the 3<sup>rd</sup> MDC meeting is attached at <b>Annexure-MoM</b> and same is being uploaded on THDCIL website along with six monthly compliance report.</p>
(viii)	<p>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</p>	<p>Not applicable</p>
<p><b>X. Miscellaneous</b></p>		
(i)	<p>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</p>	<p>The EC has been published in two (02) local newspapers namely Amar Ujala &amp; Hindustan on 01.09.2021. Details have been provided in the previous report.</p> <p>The EC of the Project has been uploaded on the website of THDCIL. The website link of the EC is as below:  <a href="https://thdc.co.in/sites/default/files/EC_2021_0.pdf">https://thdc.co.in/sites/default/files/EC_2021_0.pdf</a></p>

	proponent's website permanently.	
(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 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. The monitoring report is being upladed along with the six monthly compliance report at THDCIL website. <a href="https://www.thdc.co.in/content/environment-monitoring">https://www.thdc.co.in/content/environment-monitoring</a>
(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 for FY 2020-21 has been submitted to UKPCB vide letter dtd. 08.09.2021 and same is uploaded on company's website <a href="https://thdc.co.in/content/environment-monitoring">https://thdc.co.in/content/environment-monitoring</a>
(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	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.

	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.	
(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,	Noted and complied with.

	the Environment(Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans boundary 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.	
(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 Jhunjunwala before NGT on dated 08.10.2021. Matter is pending before the Hon'ble NGT.



## ANNEXURE - IV

### COMMITMENTS OF PROJECT DURING PUBLIC HEARING ON 09.01.2007

S. No	ISSUES RAISED	STATUS AS ON JUNE' 2022
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 in order 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.	<ul style="list-style-type: none"> <li>• Work is being undertaken only in areas where approval has been accorded by concerned authorities / agencies.</li> <li>• No Incidence or deviation noticed during Reporting period</li> <li>• Work in project area is done with due precautions such as mechanical excavation, controlled blasting, vibration monitoring etc.</li> </ul>
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.	<ul style="list-style-type: none"> <li>• Environment Management measures are properly taken care off. Entry of workforce is restricted in forest area.</li> <li>• Contractor is running Community mess for workforce.</li> <li>• 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.</li> <li>• Nevertheless awareness programmes are being conducted to safeguard flora and fauna.</li> </ul>
5	During all stages of Project, Local people shall be given job opportunities on priority basis.	<p>Based on the requirement, direct &amp; indirect job opportunities are being extended among local people on priority basis at THDCIL &amp; Contractors Level.</p> <p>Employment opportunities includes:</p>

		<ul style="list-style-type: none"> <li>• Direct/Indirect job opportunities in THDCIL &amp; with Contractor</li> <li>• Award of petty Contracts</li> <li>• Hiring of Vehicles</li> <li>• Livelihood Activities</li> </ul> <p>Details are indicated at <b>Annexure-A1</b> under Employment.</p>
6	<p>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.</p>	<p>Land Compensation as assessed &amp; 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.</p> <p>Besides SLAO Payment, Project is extending various other benefits to the Project Affected Families in accordance to the R&amp;R Policy of Project, framed based on NRRP-2007 &amp; considering the World Bank Operational Policy.</p> <p>The Affected Families are getting cash benefits in the form of various Grants.</p> <p>Apart from above, Project is complying with the Social Obligation &amp; the details are as per <b>Annexure-A1</b>.</p>
7	<p>The explosives in construction related activities shall be used only in avoidable situations in minimum required quantity.</p>	<ul style="list-style-type: none"> <li>• Explosive used in avoidable situations only &amp; in minimum quantity.</li> <li>• The controlled blasting is being undertaken involving non electric delay detonation technique</li> <li>• Blasting is done during day time only and at pre-notified time. Blast pattern &amp; vibration is monitored by Central Institute of Mining and Fuel Research (CIMFR), Roorkee.</li> </ul>
8	<p>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.</p>	<p>Various facilities, awareness programmes etc. under Community Development have been made available for the Project Affected Villages including surrounding villages that comprise of;</p> <p>Construction of Pathways, Waiting shelters, Community buildings, Road widening, Hill side slope protection works, Solar street lights for villages, furniture &amp; sports kits for community, water supply schemes, Teaching aids &amp; furniture to schools, Construction of additional classrooms &amp; toilets, promotion of sports &amp; cultural activities, awareness camps on social &amp; environmental aspects, health camps &amp; awareness camps on HIV AIDS, Pulse Polio etc. New awareness drive regarding</p>

		Menstrual Hygiene and gender sensitization named “Saheli” is initiated by THDCIL during 2022-23. This drive intent to cover all project affected villages in this year.
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.	<ul style="list-style-type: none"> <li>• The development activities like construction of pathway, minor water supply schemes etc. under affected villages are being executed through involvement of local people.</li> <li>• A provision of involving local population also exists under CAT plan.</li> </ul>
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 river bank 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	In order to provide all necessary Project related information to local people, a Public Information Centre shall be established and completed information shall be provided to the people.	Project has established a Public Information Centers (PIC`s) in Project area. Necessary information related to Technical, Social & Environmental aspects are displayed and are available in PIC`s.
15	Complete details related to the project shall be published through Press and the views /opinions of the people shall properly solve.	<p>Project related information is being published in the local newspapers from time to time.</p> <p>Grievance Redress Mechanism resolves the issues of affected population in accordance to R&amp;R Policy of VPHEP.</p>

## **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 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.

#### **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 ie; Horticulture, Agriculture, Tourism, Animal Husbandry etc to 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 through 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” awarded to M/s MRIDA Renergy & Development Pvt. Ltd, New Delhi commenced on 03.01.2020. The agency has completed Draft Base line survey/final base line survey & submitted draft strategy report on 31.03.2021. Final strategy report for Phase-1 (7 villages) was submitted on 03.09.2021.

Till date, 21 PAPs have received Polyhouses. 58 PAPs have received Bee-Boxes (2 each). M/s MRIDA has started a stitching centre in which approx. 30 women PAPs have received stitching training.

## **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. The same will be restarted from academic year 2022-23.

## **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. 30,000 beneficiaries having approx. 8,000 females have been administered treatment in the dispensary. A new well equipped pathology lab is established on 01.07.2022 in the dispensary.

One Hopper Dumper Tipper TATA ACE 1.8 CUM has been handed over to Nagar Panchyat, 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. 1550 persons have been provided direct / indirect employment opportunities in Project HCC / THDCIL/ Contractors/ Hiring of vehicles/Lease land for various purposes etc.

## Annexure- A3

<b>List of HCC Vehicles and equipment</b>				
<b>PROJECT:VISHNUGAD PIPALKOTI HYDRO ELECTRIC PROJECT -3347</b>				
<b>Sl. No.</b>	<b>File No.</b>	<b>Equipment</b>	<b>Log No</b>	<b>Registration No</b>
1	1	Tata Mobile 207 (Diesel Bouser)	T0500352	UK11CA 0685
2	2	Tata Tipper	T0901085	UK11CA 0675
3	3	Tata Tipper	T0901189	UK11CA 0669
4	4	Tata Hyva Dumper	T0900926	UK09CA 0292
5	6	16 Ton Tata Hyva Dumper	T0900903	UK09CA 0347
6	7	Ambulance	T0500191	UK11PA 0124
7	9	T.Mixer	T0100856	UK11CA 0682
8	10	T.Mixer	T0100864	UK11CA 0681
9	11	Water Tanker	T0100927	UK11CA 0676
10	12	Bus	T0500220	UK11PA 0122
11	13	Tata Tipper	T0901345	UK11CA 0680
12	14	Tata Tipper	T0901346	UK11CA 0679
13	15	10 Ton Flat Bed Truck	T0100828	UK11CA 0738
14	16	Water Tanker	T0100731	UK11CA 0673
15	17	Scissor lift mounted	T0100956	UK11CA 0739
16	18	Water Tanker	T0100928	UK11CA 0670
17	19	TATA Motors Goods Carriage	T0100929	UK11CA 0684
18	20	T.Mixer	T0100922	UK11CA 0671
19	21	TATA Motors 407	T0500322	UK11CA 0737
20	22	T.Mixer	T0100923	UK11CA 0674
21	23	Ambulance	T0500326	UK11PA 0121
22	24	Diesel Bowser	T0100926	UK11CA 0672
23	25	Hydraulic M Crane	H0900070	UK11CA 0686
24	27	Hydraulic M Crane	H0900106	UK11CA 0710
25	28	Tata Safari	T0600407	UK11 6974
26	29	Hydraulic Excavator Loader	H0400074	UK11CA 0627
27	30	Hydraulic Excavator Loader	H0400075	UK11CA 0625
28	31	Hydraulic Excavator Loader	H0400076	UK11CA 0626
29	32	Water Tanker	T0100939	UK11CA 0683
30	33	Truck	T0100941	UK11CA 0705
31	34	Vibratory Compactors	Q0500104	UK11 6947
32	35	T.Mixer	T0100659	UK09CA 0283
33	37	Truck Close Body (Service Van)	T0100687	UK11CA 0690

34	38	Truck Open Body	T0101013	UK11CA 0694
35	39	Tipper	T0901534	UK11CA 0733
36	40	Tipper	T0901533	UK11CA 0754
37	41	Tipper	T0901507	UK11CA 0732
38	42	Vibratory Compactors	Q0500100	UK11CA 0706
39	43	T.Mixer	T0100649	UK11CA 0709
40	45	Crane	H090094	UK11 7053
41	47	Tata Truck	T0100790	UK11CA 0740
42	48	Volvo Hyva	T0901418	UK11CA 0766
43	49	Volvo Hyva	T0901423	UK11CA 0770
44	50	Volvo Hyva	T0901422	UK11CA 0765
45	51	Volvo Hyva	T0901438	UK11CA 0764
46	52	Volvo Hyva	T0901437	UK11CA 0763
47	53	Volvo Hyva	T0901432	UK11CA 0771
48	54	Hyva	T0900979	UK11CA 0768
49	56	Hyva	T0901509	UK11CA 0759
50	57	Hyva	T0901506	UK11CA 0758
51	58	Hyva	T0901508	UK11CA 0762
52	59	TM	T0100648	UK11CA 0757
53	60	Hyva	T0901511	UK11CA 0760
54	61	Hyva	T0901512	UK11CA 0761
55	63	Loader	H0800118	UK11CA 0773
56	64	TM	T0101018	UK11CA 0831
57	65	TM	T0101017	UK11CA 0832
58	66	Water Tanker	T0100783	UK11CA 0834
59	68	JCB	H0400053	UK11CA 0837
60	69	Loader	H0800147	UK11CA 0838
61	70	Hyva	T0901091	NL02N0129
62	71	Hyva	T0900958	NL02N0128
63	72	Hyva	T0900976	NL02L8402
64	73	Hyva	T0900971	NL02L8278
65	74	Hyva	T0901093	NL02L8283
66	75	Hyva	T0900963	NL02N0830
67	76	Hyva	T0900960	NL02L0831
68	77	Hyva	T0900978	NL02N0826
69	78	Volvo Hyva	T09001436	UK11CA 0865
70	79	Truck	T0100758	UK11CA 0870

71	83	Transit Mixer	T0100596	RJ09EA 0181
72	84	Transit Mixer	T0100724	HP730165
73	85	Tatra Trucks	T0400112	WB73A 8792
74	86	T.Mixer	T0100757	WB73A 9056
75	87	Tata 407	T0500265	NL02N 7286
76	88	Innova	T0600368	UK11A 0198
77	89	LPT 1613	T0100932	AS09C 1355
78	90	Crane	G0700043	NL03A 7831
79	91	Ambulance	T0500320	UK11PA 0165
80	92	Transit Mixer	T0101091	UK14CA 2996
81	93	Transit Mixer	T0101092	UK14CA 2997
82	94	Loader New	H0800163	UK11CA 1335
83	95	Tata Chasis for Jet Pump	T0100575	RJ20GB 7096
84	96	Tipper Bharat Benz	T0901559	UK14CA 3056
85	97	Tipper Bharat Benz	T0901560	UK14CA 3057
86	98	Loader	H0800164	UK11CA 1336
87	99	Telehandler JCB	G0700078	UK07DX 1901
88	100	Telehandler JCB	G0700079	UK07DX 1902
89	101	Diesel Bowser	T0500361	HP49A 0695
90	102	Water Tanker	T0101022	HP49A 0709
91	103	Transit Mixer	T0100816	HP49A 0930
92	104	Transit Mixer	T0101052	HP49A 0799
93	105	Transit Mixer	T0101043	HP49A 0778
94	106	Scissor lift mounted	T0100887	UK09CA 0296
95	107	Scorpio	T0600402	UK11B 1368





टीएचडीसी इण्डिया लिमिटेड  
**THDC INDIA LIMITED**  
(Schedule - A, Mini Ratna PSU)

Annexure-MDC

No. THDC/RKSH/S&E/F-114/---307-(E)

Date: 27.01.2022

To,  
Sh. Lalit Kumar Bokalia,  
Scientist-'F',  
Ministry of Environment, Forest & Climate Change,  
Indra Paryavaren Bhawan,  
Vayu Wing, Jor Bagh,  
New Delhi-1100003.

**Subject: Reconstitution of Multi-Disciplinary Committee - Vishnugad Pipalkoti Hydroelectric Project (VPHEP) of 444 MW, located in district Chamoli, Uttarakhand reg.**

Dear Sir,

This has reference to the condition no. 4 (xxii) stipulated in the Environment Clearance granted to Vishnugad Pipalkoti Hydroelectric Project (VPHEP) accorded by MoEF&CC vide letter F.N. J-12011/10/2020-IA.I ( R ), dated 26<sup>th</sup> August, 2021. The said condition stipulates that 'The Multi-Disciplinary Committee needs to be reconstituted and the meeting needs to be held at regular basis'.

In this regard, this is to apprise that the existing Multi-Disciplinary Committee has been constituted by the MoEF&CC vide letter dated 10<sup>th</sup> October, 2017 is in function presently and the last meeting of the said committee was held on 31<sup>st</sup> July, 2021 (Copy of MoEF&CC letter is enclosed for ready reference).

Since the existing Multi-Disciplinary Committee has been constituted by the MoEF&CC, reconstitution of the same is expected at the end of the ministry. MoEF&CC, is therefore, requested to kindly consider reconstitution of the said Multi-Disciplinary Committee.

Encl.: As above.

  
(P.K. Naithani)  
GM (Social & Environment)  
THDCIL, Rishikesh

Copy to: Sh. Yogender Pal Singh, Scientist-E & Member Secretary, EAC (River Valley Projects), Ministry of Environment, Forest & Climate Change, Indra Paryavaren Bhawan, Vayu Wing, Jor Bagh, New Delhi-1100003- For kind information.

No. J-12011/29/2007-IA-1  
Ministry of Environment, Forest & Climate Change  
(IA-I Division)

Indira Paryavaran Bhawan,  
Vayu Wing, Jorbagh,  
New Delhi-110003

Dated: 10<sup>th</sup> October, 2017

To  
The General Manager (S&E)  
M/s THDC India Ltd  
Corporate Office, Rishikesh  
Pragatipuram, By Pass Road,  
Rishikesh - 249201 (Uttarakhand)

**Sub:** Re-constitution of Multidisciplinary committee to oversee the implementation of the suggested safeguard measure at 444 MW Vishnugad Pipalkoti Hydroelectric Project (VPHEP) located in Chamoli Distt, Uttarakhand-reg.

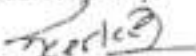
Sir,

With reference to above cited subject, the competent authority has approved the composition of formation of Multi Disciplinary Committee as below:-

S. No	Name/Post	Discipline	Nomination
1	PCCF HoFF GoUK		Chairman
2	General Manager (Project), VPHEP	Project Head	Co-Chairman
3	Dr. S.C. Katiyar, Assistant Director, Regional Office (North Central Zone), Dehradun	MoEF& CC Representative	Member
4	DFO, Badrinath Forest Division	Forestry	Member
5	DFO, Kedarnath Wildlife Division	Wildlife	Member
6	DFO, Alaknanda Soil Conservation, Gopeshwar	Soil Conservation	Member
7	Representative Environment Management Division, ICFRE, Dehradun	Ecology	Member
8	Dr. Kalyan Singh Rawat, Maiti Movement	Environmentalist/NGO	Member
9	Officer-in-Charge (Environment) Corporate Office THDCIL, Rishikesh.	-	Member
10	Director-in-charge, River Valley (MoEF) New Delhi.	-	Member
11	Officer-in-charge (Environment), VPHEP, THDCIL, Pipalkoti.	-	Member Secretary

2. Whenever MDC is convened, minutes of the meeting may be submitted to the undersigned including the Monitoring Cell of Ministry of Environment, Forest & Climate Change.

Yours faithfully,



(Dr. S. Kerketta)

Director (IA-I)

Telefax # 2469 5314



# टीएचडीसी इंडिया लिमिटेड THDC INDIA LIMITED

(भारत सरकार एवं उ. प्र. सरकार का संयुक्त उपक्रम)  
(A Joint Venture of Govt. of India & Govt. of U.P.)  
CIN : U45203UR1988GOI009822



पत्रांक: टीएचडीसी/आरकेएसएच /जीएस/जीजी/एफ-1881/ 354-4

दिनांक:-10.02.2022

सेवा में,  
उप महानिदेशक,  
भारतीय भूवैज्ञानिक सर्वेक्षण, देहरादून  
भोपालपानी, बडासी, रायपुर  
देहरादून, 248008

विषय: विष्णुगड- पीपलकोटी एचईपी की पर्यावरणीय स्वीकृति की शर्तों के सम्बन्ध में.

सन्दर्भ: वीपीएचईपी की पर्यावरणीय स्वीकृति एफ. न.-J-12011/10/2020-IA.I (R) दिनांक 26.08.21.

आदरणीय महोदय,

विष्णुगड- पीपलकोटी एचईपी (444 मेगावाट) अलकनन्दा नदी पर स्थित एक रन ऑफ़ रिबर जल विद्युत परियोजना है। इस प्रतिष्ठित परियोजना का निर्माण टीएचडीसी इंडिया लिमिटेड द्वारा किया जा रहा है।

विष्णुगड- पीपलकोटी एचईपी की पर्यावरणीय स्वीकृति 10 वर्षों के लिए अगस्त 2007 में टीएचडीसीआईएल के पक्ष में भारत सरकार के वन, पर्यावरण एवं जलवायु परिवर्तन मंत्रालय द्वारा स्वीकृत की गई थी जिसे की मंत्रालयके आदेश द्वारा 21st अगस्त 2020 तक बढ़ा दिया गया था। इसी क्रम में मंत्रालय ने संदर्भित पत्र के माध्यम से विष्णुगड- पीपलकोटी एचईपी की पर्यावरणीय स्वीकृति टीएचडीसीआईएल के पक्ष में पुनः स्वीकृत कर दी है। उक्त पर्यावरणीय स्वीकृति की नियम व शर्त संख्या VII में यह उल्लिखित है कि "Geological changes or catastrophic event within 10 Km 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 event which can affect the Dam, Management plan shall be prepared and submit to the RO, MoEF&CC".

उक्त नियम व शर्त की अनुपालन आख्या भारत सरकार के वन, पर्यावरण एवं जलवायु परिवर्तन मंत्रालय को टीएचडीसी इंडिया लिमिटेड के द्वारा प्रस्तुत की जानी है। आपसे अनुरोध है कि इस सन्दर्भ में वांछित जानकारी (दिसम्बर 2021 तक की) इस कार्यालय को उपलब्ध करवाने की कृपा करें।

धन्यवाद,

भवदीय

(संजय गोयल)

अपर महाप्रबंधक (भू-वि. एवं भू-तक.)  
टीएचडीसीआईएल, ऋषिकेश



सूचना का  
अधिकार  
RIGHT TO  
INFORMATION

प्रधान कार्यालय : गंगा भवन, प्रगतपुरम, चाई पास रोड, ऋषिकेश-249 201  
Corporate Office : GANGA BHAWAN, PRAGATIPURAM, BYPASS ROAD, RISHIKESH - 249201  
पंजीकृत कार्यालय :- भागीरथी भवन (टॉप टेरिस) भागीरथीपुरम, टिहरी - गढ़वाल - 249124  
Regd. Office : Bhagirathi Bhawan (Top Terrace), Bhagirathipuram, Tehri-garhwal-249124  
दूरभाष - 0135-2439463, Telefax : 0135-2439463, Website Address : www.thdc.gov.in

("हिन्दी को राजभाषा बनाए, भाषा का प्रश्न नहीं अफिनु देशभियान का प्रश्न है")





# टीएचडीसी इंडिया लिमिटेड THDC INDIA LIMITED

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(A Joint Venture of Govt. of India & Govt. of U.P.)  
CIN : U45203UR1988GOI009822



संलग्नक:-

1. पर्यावरणीय स्वीकृति एफ़. न.-J-12011/10/2020-IA.I (R) दिनांक 26.08.21.
2. विष्णुगड- पीपलकोटीपरियोजना के डीपीआर की चैप्टर-1: Introduction एवं चैप्टर-4: Geology & Geotechnical aspects की प्रति।

प्रतिलिपि (मूल प्रति पर नहीं)-

1. मुख्य महाप्रबंधक (परि.-सिविल), टीएचडीसी आई. एल., ऋषिकेश।
2. महाप्रबंधक (सामाजिक एवं पर्यावरण), टीएचडीसी आई. एल., ऋषिकेश।
3. उप महाप्रबंधक (भू-वि. एवं भू-तक.), टीएचडीसी आई. एल., ऋषिकेश, आवश्यक अग्रिम कार्यवाही हेतु।



प्रधान कार्यालय : गंगा भवन, प्रगतपुरम, बाईपास रोड, ऋषिकेश-249 201  
Corporate Office : GANGA BHAWAN, PRAGATIPURAM, BYPASS ROAD, RISHIKESH - 249201  
पंजीकृत कार्यालय :- भागीरथी भवन (टॉप टेरेस) भागीरथीपुरम, दिहरी - गढ़वाल - 249124  
Regd. Office : Bhagirathi Bhawan (Top Terrace), Bhagirathipuram, Tehri-garhwal-249124  
टेलीफोन- 0135-2439463, Telefax : 0135-2439463, Website Address : www.thdc.gov.in  
("हिन्दी को राजभाषा बनाना, भाषा का प्रश्न नहीं अर्थात् देशभक्ति का प्रश्न है")



**प्रदूषण नियंत्रण अनुसंधान संस्थान**  
 भारत हेवी इलेक्ट्रिकल्स लिमिटेड, रानीपुर, हरिद्वार (उत्तराखण्ड) -249403  
**POLLUTION CONTROL RESEARCH INSTITUTE**

(A Govt. of India – UNDP / UNIDO Project)  
 BHARAT HEAVY ELECTRICALS LIMITED  
 RANIPUR, HARIDWAR (U.K.) - 249 403

(Approved Lab under Environment (Protection) Act, 1986; EIA Consultancy by NABET, QCI)

**TEST REPORT**  
**AMBIENT AIR MONITORING**

Lab. Ref.: PCRI: Air & Noise: 2022-23 :058  
 Date: 26-04-2022

**A. GENERAL INFORMATION:**

1.	Name and address of Plant	:	M/s THDC India Ltd, Vishnugad Pipalkoti Hydro Electric Project, District-Chamoli (Uttarakhand)
2.	Work Order No.	:	21-0146-O-691
3.	Date of sampling	:	22.03.2022 to 23.03.2022
4.	Location of Sampling	:	Near Sanivali Club-Power House (PH)
5.	Method of Sampling	:	IS:5182 (Part-II-2001, Part-23-2006, Part-VI-2006), FID, NDIR & Gas Detection System, IS-5182 (Part-9), AAS, PM2.5 Sampler
6.	Duration of Sampling	:	24 Hours
7.	Sample collection by	:	PCRI, BHEL, Ranipur, Haridwar-249403 (UK)

**B. RESULTS OF AMBIENT AIR MONITORING:**

Sl. No.	Parameter	Unit	Obtained Value	NAAQ Standards*
1.	Particulate Matter less than 10 µm or PM <sub>10</sub>	µg/m <sup>3</sup>	65	100
2.	Particulate Matter less than 2.5 µm or PM <sub>2.5</sub>	µg/m <sup>3</sup>	31	60
3.	Sulphur Dioxide ( SO <sub>2</sub> )	µg/m <sup>3</sup>	BDL	80
4.	Nitrogen Dioxide ( NO <sub>2</sub> )	µg/m <sup>3</sup>	8	80
5.	Carbon Monoxide ( CO )	mg/m <sup>3</sup>	BDL	4
6.	Lead ( Pb )	µg/m <sup>3</sup>	BDL	1
7.	Ammonia ( NH <sub>3</sub> )	µg/m <sup>3</sup>	BDL	400
8.	Ozone ( O <sub>3</sub> )	µg/m <sup>3</sup>	47	180
9.	Benzene ( C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	BDL	5
10.	Benzo(a)pyrene ( BaP )	ng/m <sup>3</sup>	BDL	1
11.	Arsenic ( As )	ng/m <sup>3</sup>	BDL	6
12.	Nickel ( Ni )	ng/m <sup>3</sup>	BDL	20

BDL: Below Detectable Limit,

\*: National Ambient Air Quality Standards as per CPCB Notification N. Delhi, the 18 Nov. 2009 for Industrial, Residential and Rural Areas

Prepared by

(Ankur Mohan)  
 Engineer (PCRI)

Approved by

(Shailendra Kumar)  
 DGM (PCRI)

शैलेन्द्र कुमार/Shailendra Kumar  
 उप. महाप्रबन्धक/Dy. General Manager  
 Pollution Control Research Institute  
 प्रदूषण नियंत्रण अनुसंधान संस्थान  
 BHEL, Ranipur, Haridwar

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**TEST REPORT**  
**AMBIENT AIR MONITORING**

Lab. Ref.: PCRI: Air & Noise: 2022-23 :059  
Date: 26-04-2022

**A. GENERAL INFORMATION:**

1.	Name and address of Plant	:	M/s THDC India Ltd, Vishnugad Pipalkoti Hydro Electric Project, District-Chamoli (Uttarakhand)
2.	Work Order No.	:	21-0146-0-691
3.	Date of sampling	:	23.03.2022 to 24.03.2022
4.	Location of Sampling	:	Batching Plant-Dam Site
5.	Method of Sampling	:	IS:5182 (Part-II-2001, Part-23-2006, Part-VI-2006) , FID, NDIR & Gas Detection System, IS-5182 (Part-9), AAS, PM2.5 Sampler
6.	Duration of Sampling	:	24 Hours
7.	Sample collection by	:	PCRI, BHEL, Ranipur, Haridwar-249403 (UK)

**B. RESULTS OF AMBIENT AIR MONITORING:**

Sl. No.	Parameter	Unit	Obtained Value	NAAQ Standards*
1.	Particulate Matter less than 10 µm or PM <sub>10</sub>	µg/m <sup>3</sup>	51	100
2.	Particulate Matter less than 2.5 µm or PM <sub>2.5</sub>	µg/m <sup>3</sup>	25	60
3.	Sulphur Dioxide ( SO <sub>2</sub> )	µg/m <sup>3</sup>	BDL	80
4.	Nitrogen Dioxide ( NO <sub>2</sub> )	µg/m <sup>3</sup>	5	80
5.	Carbon Monoxide ( CO )	mg/m <sup>3</sup>	BDL	4
6.	Lead ( Pb )	µg/m <sup>3</sup>	BDL	1
7.	Ammonia ( NH <sub>3</sub> )	µg/m <sup>3</sup>	BDL	400
8.	Ozone ( O <sub>3</sub> )	µg/m <sup>3</sup>	41	180
9.	Benzene ( C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	BDL	5
10.	Benzo(a)pyrene ( BaP )	ng/m <sup>3</sup>	BDL	1
11.	Arsenic ( As )	ng/m <sup>3</sup>	BDL	6
12.	Nickel ( Ni )	ng/m <sup>3</sup>	BDL	20

BDL: Below Detectable Limit.

\*: National Ambient Air Quality Standards as per CPCB Notification N. Delhi, the 18 Nov. 2009 for Industrial, Residential and Rural Areas

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Approved by

(Shailendra Kumar)  
DGM (PCRI)

शैलेन्द्र कुमार/Shailendra Kumar

एच. महाप्रबन्धक/Dy. General Manager  
Pollution Control Research Institute

प्रदूषण नियंत्रण अनुसंधान संस्थान  
BHEL, Ranipur, Haridwar

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(Approved Lab under Environment (Protection) Act, 1986; EIA Consultancy by NABET, QCI)

**TEST REPORT**  
**AMBIENT AIR MONITORING**

Lab. Ref.: PCRI: Air & Noise: 2022-23 :060  
Date: 26-04-2022

**A. GENERAL INFORMATION:**

1.	Name and address of Plant	:	M/s THDC India Ltd, Vishnugad Pipalkoti Hydro Electric Project, District-Chamoli (Uttarakhand)
2.	Work Order No.	:	21-0146-0-691
3.	Date of sampling	:	24.03.2022 to 25.03.2022
4.	Location of Sampling	:	Near Temple
5.	Method of Sampling	:	IS:5182 (Part-II-2001, Part-23-2006, Part-VI-2006) , FID, NDIR & Gas Detection System, IS-5182 (Part-9), AAS, PM2.5 Sampler
6.	Duration of Sampling	:	24 Hours
7.	Sample collection by	:	PCRI, BHEL, Ranipur, Haridwar-249403 (UK)

**B. RESULTS OF AMBIENT AIR MONITORING:**

Sl. No.	Parameter	Unit	Obtained Value	NAAQ Standards*
1.	Particulate Matter less than 10 µm or PM <sub>10</sub>	µg/m <sup>3</sup>	56	100
2.	Particulate Matter less than 2.5 µm or PM <sub>2.5</sub>	µg/m <sup>3</sup>	26	60
3.	Sulphur Dioxide ( SO <sub>2</sub> )	µg/m <sup>3</sup>	BDL	80
4.	Nitrogen Dioxide ( NO <sub>2</sub> )	µg/m <sup>3</sup>	6	80
5.	Carbon Monoxide ( CO )	mg/m <sup>3</sup>	BDL	4
6.	Lead ( Pb )	µg/m <sup>3</sup>	BDL	1
7.	Ammonia ( NH <sub>3</sub> )	µg/m <sup>3</sup>	BDL	400
8.	Ozone ( O <sub>3</sub> )	µg/m <sup>3</sup>	44	180
9.	Benzene ( C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	BDL	5
10.	Benzo(a)pyrene ( BaP )	ng/m <sup>3</sup>	BDL	1
11.	Arsenic ( As )	ng/m <sup>3</sup>	BDL	6
12.	Nickel ( Ni )	ng/m <sup>3</sup>	BDL	20

BDL: Below Detectable Limit.

\*: National Ambient Air Quality Standards as per CPCB Notification N. Delhi, the 18 Nov. 2009 for Industrial, Residential and Rural Areas

Prepared by

(Ankur Mohan)  
Engineer (PCRI)

Approved by

(Shailendra Kumar)  
DGM (PCRI)

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शैलेन्द्र कुमार/Shailendra Kumar  
उप-महाप्रबन्धक/Dy. General Manager  
Pollution Control Research Institute  
प्रदूषण नियंत्रण अनुसंधान संस्थान  
BHEL, Ranipur, Haridwar





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**TEST REPORT**  
**WORKPLACE AIR MONITORING**

Lab. Ref.:PCR/ Air & Noise: 2022-23 :061

Date: 26-04-2022

**A. GENERAL INFORMATION:**

1.	Name and address of Plant	:	M/s THDC India Ltd, Vishnugad Pipalkoti Hydro Electric Project, District-Chamoli (Uttarakhand)
2.	Work Order No.	:	21-0146-O-691
3.	Date of sampling	:	22-03-2022
4.	Location of sampling point	:	Fabrication Workshop at DAM site
5.	Method of sampling	:	IS:5182 (Part-II-2001, Part-23-2006, Part-VI-2006), Work Place Sampler, Gas Chromatography and Gas Detection System
6.	Duration of Sampling	:	8 Hours
7.	Sample collection by	:	PCR/ B.H.E.L., Ranipur, Haridwar-Uttarakhand

**B. RESULTS OF WORKPLACE AIR MONITORING:**

Sl.No.	Parameter	Unit	Obtained Value	Adopted Values TLV-TWA (ACGIH)*
1.	Suspended Particulate Matter	mg/m <sup>3</sup>	0.15	10
2.	Suspended Particulate Matters 10 (RSPM)	mg/m <sup>3</sup>	0.09	-
3.	Sulphur Dioxide ( SO <sub>2</sub> )	mg/m <sup>3</sup>	BDL	5.2
4.	Nitrogen Dioxide ( NO <sub>2</sub> )	mg/m <sup>3</sup>	0.006	5.6
5.	Carbon Monoxide ( CO )	ppm	5	25
6.	Carbon Dioxide (CO <sub>2</sub> )	ppm	368	5000
7.	Hydro Carbons (HC)	ppm	BDL	-
8.	Acid Mist	mg/m <sup>3</sup>	BDL	-

BDL: Below Detectable Limit

TLV-TWA (ACGIH): Threshold limit Value-Time Weighted Average(ACGIH)

Prepared by

(Ankur Mohan)  
Engineer (PCR/)

Approved by

( Shailendra Kumar )  
DGM (PCR/)

शैलेन्द्र कुमार/Shailendra Kumar  
उप. महाप्रबन्धक/Dy. General Manager  
Pollution Control Research Institute  
प्रदूषण नियंत्रण अनुसंधान संस्थान  
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**POLLUTION CONTROL RESEARCH INSTITUTE**

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**TEST REPORT**  
**WORKPLACE AIR MONITORING**

Lab. Ref.: PCRI: Air & Noise: 2022-23 :062

Date: 26-04-2022

**A. GENERAL INFORMATION:**

1.	Name and address of Plant	:	M/s THDC India Ltd, Vishnugad Pipalkoti Hydro Electric Project, District-Chamoli (Uttarakhand)
2.	Work Order No.	:	21-0146-O-691
3.	Date of sampling	:	23-03-2022
4.	Location of sampling point	:	Fabrication Workshop at Power House
5.	Method of sampling	:	IS:5182 (Part-II-2001, Part-23-2006, Part-VI-2006), Work Place Sampler, Gas Chromatography and Gas Detection System
6.	Duration of Sampling	:	8 Hours
7.	Sample collection by	:	PCRI, B.H.E.L., Ranipur, Haridwar-Uttarakhand

**B. RESULTS OF WORKPLACE AIR MONITORING:**

Sl.No.	Parameter	Unit	Obtained Value	Adopted Values TLV-TWA (ACGIH)*
1.	Suspended Particulate Matter	mg/m <sup>3</sup>	0.18	10
2.	Suspended Particulate Matters 10 (RSPM)	mg/m <sup>3</sup>	0.11	-
3.	Sulphur Dioxide (SO <sub>2</sub> )	mg/m <sup>3</sup>	BDL	5.2
4.	Nitrogen Dioxide (NO <sub>2</sub> )	mg/m <sup>3</sup>	0.009	5.6
5.	Carbon Monoxide (CO)	ppm	4	25
6.	Carbon Dioxide (CO <sub>2</sub> )	ppm	371	5000
7.	Hydro Carbons (HC)	ppm	BDL	-
8.	Acid Mist	mg/m <sup>3</sup>	BDL	-

BDL: Below Detectable Limit

\*TLV-TWA (ACGIH): Threshold limit Value-Time Weighted Average (ACGIH)

Prepared by

(Ankur Mohan)  
Engineer (PCRI)

Approved by

(Shailendra Kumar)  
DGM (PCRI)

शैलेन्द्र कुमार/Shailendra Kumar  
उप. महाप्रबन्धक/Dy. General Manager  
Pollution Control Research Institute  
प्रदूषण नियंत्रण अनुसंधान संस्थान  
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**TEST REPORT**  
**WORKPLACE AIR MONITORING**

Lab. Ref.: PCRI: Air & Noise: 2022-23 :063

Date: 26-04-2022

**A. GENERAL INFORMATION:**

1.	Name and address of Plant	:	M/s THDC India Ltd, Vishnugad Pipalkoti Hydro Electric Project, District-Chamoli (Uttarakhand)
2.	Work Order No.	:	21-0146-0-691
3.	Date of sampling	:	24-03-2022
4.	Location of sampling point	:	Irritant Gases from UPS Batteries Room -Near Finance office
5.	Method of sampling	:	Work Place Sampler and Gas Detection System
6.	Duration of Sampling	:	8 Hours
7.	Sample collection by	:	PCRI, B.H.E.L., Ranipur, Haridwar-Uttarakhand

**B. RESULTS OF WORKPLACE AIR MONITORING:**

Sl.No.	Parameter	Unit	Obtained Value	Adopted Values TLV-TWA (ACGIH)*
1.	Hydrogen Sulphide	ppm	0.10	1
2.	Metallic fumes (Pb)	mg/m <sup>3</sup>	BDL	0.05
3.	Ammonia	ppm	BDL	25
4.	Acid Mist	mg/m <sup>3</sup>	BDL	-

BDL: Below Detectable Limit

**TLV-TWA (ACGIH):** Threshold limit Value-Time Weighted Average (ACGIH)

Prepared by

(Ankur Mohan)  
Engineer (PCRI)

Approved by

(Shailendra Kumar)  
DGM (PCRI)

शैलेन्द्र कुमार/Shailendra Kumar  
उप. महाप्रबन्धक/Dy. General Manager  
Pollution Control Research Institute  
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**TEST REPORT**  
**WORKPLACE NOISE MONITORING**

Lab. Ref.: PCRI: Air & Noise: 2022-23 :064-067

Date: 26.04.2022

**A. GENERAL INFORMATION:**

1	Name and address of Plant	:	M/s THDC India Ltd, Vishnugad Pipalkoti Hydro Electric Project, District-Chamoli (Uttarakhand)
2	Work Order No.	:	21-0146-O-691
3	Date of Measurement	:	24.03.2022
4	Instrument used	:	Sound Level Meter
5	Measurement carried out by	:	PCRI, BHEL, Ranipur, Haridwar-249403 (UK)

**B. RESULTS OF WORKPLACE NOISE MEASUREMENT:**

All measurement in dB (A)

Sl. No.	Location	Measured Values	Allowable Limit*
1.	Batching Plant DAM site	61	90 dB (A)
2.	Batching Plant Power House	69	
3.	Fabrication Workshop at DAM site	74	
4.	Fabrication Workshop at Power House site	63	

Leq. : Equivalent Sound Pressure Level

\*Allowable Limit: 90 dB(A) for 8 Hour Exposure Period as per OSHA

Prepared by

(Ankur Mohan)  
Engineer (PCRI)

Approved by

(Shailendra Kumar)  
DGM (PCRI)

शैलेन्द्र कुमार/Shailendra Kumar  
उप. महाप्रबन्धक/Dy. General Manager  
Pollution Control Research Institute  
प्रदूषण नियंत्रण अनुसंधान संस्थान  
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भारत हेवी इलेक्ट्रिकल्स लिमिटेड, रानीपुर, हरिद्वार (उत्तराखण्ड) -249403  
**POLLUTION CONTROL RESEARCH INSTITUTE**  
(A Govt. of India - UNDP / UNIDO Project)  
BHARAT HEAVY ELECTRICALS LIMITED  
RANIPUR, HARIDWAR (U.K.) - 249 403

(Approved Lab under Environment (Protection) Act, 1986; EIA Consultancy by NABET, QCI)

**TEST REPORT**

Lab Reference No: TL210979 Date: 25.04.2022  
Indentor THDC, PIPALKOTI, VISHNUGAD, JOSHIMATH, CHAMOLI,  
UTTARAKHAND.  
Customer's Ref. No.: THDCIL/VPHEP/Envr./F-037/237 DT. 18.12.2021  
Work Order No.: 21-0146-O-691  
Sample Collected by: Indentor Collection Date: 25.03.2022  
Sample/Job: River Water Sample from 3 KM D/S OF TRT O/L

PARAMETER	UNIT	OBTAINED VALUE	STANDARD LIMITS (IS 10500:2012)	
			Acceptable	Permissible
Alkalinity	mg/L	124	200	600
Aluminium (as Al)	mg/L	ND	0.03	0.2
Ammonia (as Total Ammonia - N)	mg/L	ND	0.5	NR
Arsenic (as As)	mg/L	ND	0.01	0.05
Barium (as Ba)	mg/L	ND	-	-
BOD	mg/L	1.2	-	-
Boron (as B)	mg/L	ND	0.5	1.0
Cadmium (as Cd)	mg/L	ND	0.003	NR
Calcium (as Ca)	mg/L	33.6	75	200
Chloride (as Cl)	mg/L	6	250	1000
Colour	Hazen	<5	5	15
Copper (as Cu)	mg/L	ND	0.05	1.5
Dissolved Oxygen	mg/L	7.6	-	-
Fluoride (as F)	mg/L	ND	1.0	1.5
Hardness (as CaCO <sub>3</sub> )	mg/L	120	200	600
Iron (as Fe)	mg/L	0.11	0.3	NR
Lead (as Pb)	mg/L	ND	0.01	NR
Magnesium (as Mg)	mg/L	8.7	30	100
Manganese (as Mn)	mg/L	ND	0.1	0.3
Mercury (as Hg)	mg/L	ND	0.001	NR

Contd..2

*Avinash*  
25/4/22  
अविनाश कुमार / Avinash Kumar  
प्रबन्धक / Manager  
Pollution Control Research Institute  
प्रदूषण नियंत्रण अनुसंधान संस्थान  
BHEL, Ranipur, Haridwar

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**POLLUTION CONTROL RESEARCH INSTITUTE**  
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**TEST REPORT**

-Page 2-

Lab Reference TL210979  
No:

Date: 25.04.2022

PARAMETER	UNIT	OBTAINED VALUE	STANDARD LIMITS (IS 10500:2012)	
			Acceptable	Permissible
Mineral Oil	mg/L	ND	0.5	NR
Nickel (as Ni)	mg/L	ND	0.02	NR
Nitrate (as NO <sub>3</sub> )	mg/L	0.55	45	NR
Odour	-	Agreeable	Agreeable	NR
pH	-	7.4	6.5-8.5	NR
Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	ND	0.001	0.002
Selenium (as Se)	mg/L	ND	0.01	NR
Silver (as Ag)	mg/L	ND	0.1	NR
Sulphate (as SO <sub>4</sub> )	mg/L	8.4	200	400
Sulphide (as S)	mg/L	ND	0.05	NR
Taste	-	Agreeable	Agreeable	NR
Total Coliform	MPN/100 mL	4	Absent	NR
Total Chromium	mg/L	ND	-	-
Total Dissolved Solids	mg/L	146	500	2000
Total Residual Chlorine	mg/L	ND	0.2	1.0
Total Suspended Solids	mg/L	16	-	-
Turbidity	NTU	0.95	1	5
Zinc (as Zn)	mg/L	0.01	5	15

ND - Not Detectable

NR - No Relaxation

*Avinash*  
25/4/22  
(Avinash Kumar)

प्रबंधक (PCRI)  
प्रबंधक/Manager  
Pollution Control Research Institute  
प्रदूषण नियंत्रण अनुसंधान संस्थान  
BHEL, Ranipur, Haridwar

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Lab Reference No: TL210980 Date: 25.04.2022  
Indentor THDC, PIPALKOTI, VISHNUGAD, JOSHIMATH, CHAMOLI, UTTARAKHAND.  
Customer's Ref. No.: THDCIL/VPHEP/Envr./F-037/237 DT. 18.12.2021  
Work Order No.: 21-0146-O-691  
Sample Collected by: Indentor Collection Date: 25.03.2022  
Sample/Job: River Water Sample from 1 KM D/S OF TRT O/L

PARAMETER	UNIT	OBTAINED VALUE	STANDARD LIMITS (IS 10500:2012)	
			Acceptable	Permissible
Alkalinity	mg/L	112	200	600
Aluminium (as Al)	mg/L	ND	0.03	0.2
Ammonia (as Total Ammonia - N)	mg/L	ND	0.5	NR
Arsenic (as As)	mg/L	ND	0.01	0.05
Barium (as Ba)	mg/L	ND	-	-
BOD	mg/L	1.0	-	-
Boron (as B)	mg/L	ND	0.5	1.0
Cadmium (as Cd)	mg/L	ND	0.003	NR
Calcium (as Ca)	mg/L	32.1	75	200
Chloride (as Cl)	mg/L	6	250	1000
Colour	Hazen	<5	5	15
Copper (as Cu)	mg/L	ND	0.05	1.5
Dissolved Oxygen	mg/L	8.0	-	-
Fluoride (as F)	mg/L	ND	1.0	1.5
Hardness (as CaCO <sub>3</sub> )	mg/L	116	200	600
Iron (as Fe)	mg/L	0.26	0.3	NR
Lead (as Pb)	mg/L	ND	0.01	NR
Magnesium (as Mg)	mg/L	8.6	30	100
Manganese (as Mn)	mg/L	ND	0.1	0.3
Mercury (as Hg)	mg/L	ND	0.001	NR

Contd..2

*Avinash*  
25/4/22  
अधीनकार पुरोहित/Avinash Kumar  
प्रबन्धक/Manager  
Pollution Control Research Institute

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**TEST REPORT**

-Page 2-

Lab Reference TL210980

Date: 25.04.2022

No:

PARAMETER	UNIT	OBTAINED VALUE	STANDARD LIMITS (IS 10500:2012)	
			Acceptable	Permissible
Mineral Oil	mg/L	ND	0.5	NR
Nickel (as Ni)	mg/L	ND	0.02	NR
Nitrate (as NO <sub>3</sub> )	mg/L	0.26	45	NR
Odour	-	Agreeable	Agreeable	NR
pH	-	7.5	6.5-8.5	NR
Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	ND	0.001	0.002
Selenium (as Se)	mg/L	ND	0.01	NR
Silver (as Ag)	mg/L	ND	0.1	NR
Sulphate (as SO <sub>4</sub> )	mg/L	8.9	200	400
Sulphide (as S)	mg/L	ND	0.05	NR
Taste	-	Agreeable	Agreeable	NR
Total Coliform	MPN/100 mL	6	Absent	NR
Total Chromium	mg/L	ND	-	-
Total Dissolved Solids	mg/L	148	500	2000
Total Residual Chlorine	mg/L	ND	0.2	1.0
Total Suspended Solids	mg/L	18	-	-
Turbidity	NTU	0.88	1	5
Zinc (as Zn)	mg/L	0.01	5	15

ND - Not Detectable

NR - No Relaxation

*Avinash*  
25/04/22  
(Avinash Kumar)  
अविनाश कुमार  
प्रबंधक/Manager  
Pollution Control Research Institute  
प्रदूषण नियंत्रण अनुसंधान संस्थान  
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Indentor THDC , PIPALKOTI, VISHNUGAD, JOSHIMATH, CHAMOLI, UTTARAKHAND.  
Customer's Ref. No.: THDCIL/VPHEP/Envnt./F-037/237 DT. 18.12.2021  
Work Order No.: 21-0146-O-691  
Sample Collected by: Indentor Collection Date: 25.03.2022  
Sample/Job: River Water Sample from BETWEEN DAM & P.H. SITE

PARAMETER	UNIT	OBTAINED VALUE	STANDARD LIMITS (IS 10500:2012)	
			Acceptable	Permissible
Alkalinity	mg/L	108	200	600
Aluminium (as Al)	mg/L	ND	0.03	0.2
Ammonia (as Total Ammonia - N)	mg/L	ND	0.5	NR
Arsenic (as As)	mg/L	ND	0.01	0.05
Barium (as Ba)	mg/L	ND	-	-
BOD	mg/L	1.0	-	-
Boron (as B)	mg/L	ND	0.5	1.0
Cadmium (as Cd)	mg/L	ND	0.003	NR
Calcium (as Ca)	mg/L	32.1	75	200
Chloride (as Cl)	mg/L	8	250	1000
Colour	Hazen	<5	5	15
Copper (as Cu)	mg/L	ND	0.05	1.5
Dissolved Oxygen	mg/L	8.2	-	-
Fluoride (as F)	mg/L	ND	1.0	1.5
Hardness (as CaCO <sub>3</sub> )	mg/L	112	200	600
Iron (as Fe)	mg/L	0.16	0.3	NR
Lead (as Pb)	mg/L	ND	0.01	NR
Magnesium (as Mg)	mg/L	7.6	30	100
Manganese (as Mn)	mg/L	ND	0.1	0.3
Mercury (as Hg)	mg/L	ND	0.001	NR

Contd..2

*Avinash*  
25/4/22  
अविनाश कुमार Avinash Kumar  
प्रबन्धक/Manager  
Pollution Control Research Institute  
प्रदूषण नियंत्रण अनुसंधान संस्थान  
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-Page 2-

Lab Reference TL210981  
No:

Date: 25.04.2022

PARAMETER	UNIT	OBTAINED VALUE	STANDARD LIMITS (IS 10500:2012)	
			Acceptable	Permissible
Mineral Oil	mg/L	ND	0.5	NR
Nickel (as Ni)	mg/L	ND	0.02	NR
Nitrate (as NO <sub>3</sub> )	mg/L	0.47	45	NR
Odour	-	Agreeable	Agreeable	NR
pH	-	7.5	6.5-8.5	NR
Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	ND	0.001	0.002
Selenium (as Se)	mg/L	ND	0.01	NR
Silver (as Ag)	mg/L	ND	0.1	NR
Sulphate (as SO <sub>4</sub> )	mg/L	9.0	200	400
Sulphide (as S)	mg/L	ND	0.05	NR
Taste	-	Agreeable	Agreeable	NR
Total Coliform	MPN/100 mL	4	Absent	NR
Total Chromium	mg/L	ND	-	-
Total Dissolved Solids	mg/L	142	500	2000
Total Residual Chlorine	mg/L	ND	0.2	1.0
Total Suspended Solids	mg/L	20	-	-
Turbidity	NTU	0.95	1	5
Zinc (as Zn)	mg/L	0.01	5	15

ND - Not Detectable

NR - No Relaxation

*Avinash*  
25/4/22

(Avinash Kumar)

अधीक्षक/अधीक्षक  
प्रबन्धक/Manager  
Pollution Control Research Institute  
प्रदूषण नियन्त्रण अनुसंधान संस्थान  
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Lab Reference No: TL210982 Date: 25.04.2022  
Indentor THDC, PIPALKOTI, VISHNUGAD, JOSHIMATH, CHAMOLI,  
UTTARAKHAND.  
Customer's Ref. No.: THDCIL/VPHEP/Envr./F-037/237 DT. 18.12.2021  
Work Order No.: 21-0146-O-691  
Sample Collected by: Indentor Collection Date: 25.03.2022  
Sample/Job: River Water Sample from 1 KM D/S OF DAM.

PARAMETER	UNIT	OBTAINED VALUE	STANDARD LIMITS (IS 10500:2012)	
			Acceptable	Permissible
Alkalinity	mg/L	108	200	600
Aluminium (as Al)	mg/L	ND	0.03	0.2
Ammonia (as Total Ammonia - N)	mg/L	ND	0.5	NR
Arsenic (as As)	mg/L	ND	0.01	0.05
Barium (as Ba)	mg/L	ND	-	-
BOD	mg/L	1.0	-	-
Boron (as B)	mg/L	ND	0.5	1.0
Cadmium (as Cd)	mg/L	ND	0.003	NR
Calcium (as Ca)	mg/L	32.1	75	200
Chloride (as Cl)	mg/L	8	250	1000
Colour	Hazen	<5	5	15
Copper (as Cu)	mg/L	ND	0.05	1.5
Dissolved Oxygen	mg/L	7.8	-	-
Fluoride (as F)	mg/L	ND	1.0	1.5
Hardness (as CaCO <sub>3</sub> )	mg/L	108	200	600
Iron (as Fe)	mg/L	0.14	0.3	NR
Lead (as Pb)	mg/L	ND	0.01	NR
Magnesium (as Mg)	mg/L	7.6	30	100
Manganese (as Mn)	mg/L	ND	0.1	0.3
Mercury (as Hg)	mg/L	ND	0.001	NR

Contd..2

*Avinash*  
25/4/22  
अविनाश कुमार/Avinash Kumar  
प्रबन्धक/Manager  
Pollution Control Research Institute  
प्रदूषण नियन्त्रण अनुसंधान संस्थान  
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**TEST REPORT**

-Page 2-

Lab Reference TL210982

Date: 25.04.2022

No:

PARAMETER	UNIT	OBTAINED VALUE	STANDARD LIMITS (IS 10500:2012)	
			Acceptable	Permissible
Mineral Oil	mg/L	ND	0.5	NR
Nickel (as Ni)	mg/L	ND	0.02	NR
Nitrate (as NO <sub>3</sub> )	mg/L	0.72	45	NR
Odour	-	Agreeable	Agreeable	NR
pH	-	7.4	6.5-8.5	NR
Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	ND	0.001	0.002
Selenium (as Se)	mg/L	ND	0.01	NR
Silver (as Ag)	mg/L	ND	0.1	NR
Sulphate (as SO <sub>4</sub> )	mg/L	7.8	200	400
Sulphide (as S)	mg/L	ND	0.05	NR
Taste	-	Agreeable	Agreeable	NR
Total Coliform	MPN/100 mL	Absent	Absent	NR
Total Chromium	mg/L	ND	-	-
Total Dissolved Solids	mg/L	142	500	2000
Total Residual Chlorine	mg/L	ND	0.2	1.0
Total Suspended Solids	mg/L	12	-	-
Turbidity	NTU	0.98	1	5
Zinc (as Zn)	mg/L	0.02	5	15

ND - Not Detectable

NR - No Relaxation

*Avinash*  
25/4/22

(Avinash Kumar)

Manager (PCRI)

अविनाश कुमार/Avinash Kumar

प्रबन्धक/Manager

Pollution Control Research Institute

प्रदूषण नियंत्रण अनुसंधान संस्थान

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# **M/S HINDUSTAN CONSTRUCTION CO. LTD.**

Vishnugad Pipal Koti Hydro Electric Project,  
Mayapur, PO Mayapur (Pipal Koti)  
Distt. Chamoli, Uttarakhand 246472



## **ENVIRONMENT MONITORING**

(APRIL TO JUNE 2022)

Site

### **HINDUSTAN CONSTRUCTION CO. LTD.**

Vishnugad Pipal Koti Hydro Electric Project,  
Mayapur, PO Mayapur (Pipal Koti)  
Distt. Chamoli, Uttarakhand 246472

Conducted by:



## **HARYANA TEST HOUSE**

**& Consultancy Services**

**NABL ACCREDITED LABORATORY**

50-C, Sector-25, Part-II, HUDA, PANIPAT-132104 (HR)

Ph : (0) 0180 2671112, 2660102, Fax : 2660111



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2	Drinking Water Sample
3	Stack Emission
4	Waste Water Sample
5	Ambient Air Monitoring
6	Indoor Air Quality
7	Noise Level Monitoring
8	Crusher Monitoring

\*\*\*\*\*

## **SUMMARY**

# EXECUTIVE SUMMARY REPORTS FOR ENVIRONMENT MONITORING

(April to June 2022)

at

**M/S HINDUSTAN CONSTRUCTION COMPANY LTD.**

Vishunugarh Pipal Koti Hydro- Electric Project

Mayapur, Distt-Chamoli (U.K.) 246472

## DISCUSSION OF RESULTS & CONCLUSION

### 1.0 Drinking Water:

Drinking water Quality was analyzed and parameters were found as per IS 10500:2012 Drinking water specification. Drinking water was monitored at following 6 locations:

- Dam Site Mess (B-2)
- Near Office (Dam Site)
- DP Mess
- Office Pantry (Power House)
- PR WA Camp. (Batula - 2)
- Batula Labour Camp (B-1)

### 2.0 Stack Emission (DG & Boiler):

Stack emission was monitored for DG Sets & Boiler Stack. All the results were found with in the prescribe limits as per CPCB Guidelines .

- DG No. 1, 2000 KVA
- DG No. 2, 2000 KVA
- DG No. 3, 2000 KVA
- DG No. 4, 2000 KVA
- Boiler 850 Kg/ Hrs

### 3.0 Waste water (ETP Outlet):

Effluent water Quality was analyzed and all parameters were found according to limits as per CPCB. Location as mentioned below:

- DP Mess Outlet
- Batching Plant Dam Site
- Batching Plant Power House
- Sedimentation Outlet- Crusher Dam Site
- Batching Plant Near Casting Yard
- Sedimentation Tank Dam Site Officer Mess
- Sedimentation Tank Power House
- DP Mess Power House

### 4.0 Ambient Air:

Ambient air quality was monitored at four Locations for one month for parameters Repairable Suspended Particulate Matter ( $PM_{10}$ ), Fine Particulate matter ( $PM_{2.5}$ ), Sulphur Dioxide ( $SO_2$ ), Oxides of Nitrogen ( $NO_x$ ) and found with in the CPCB Standards limits.

- TRT Road (Near Durgapur School)
- TRT Road/ Colony at Siyasin
- Power House at Haat/ Harsan
- Dam Site



### 5.0 Indoor Air Quality:

Indoor air Quality was monitored according to OSHA parameter Respirable Suspended Particulate Matter (RSPM), Sulphur Dioxide (SO<sub>2</sub>), Oxides of Nitrogen (NO<sub>2</sub>), Carbon dioxide (CO<sub>2</sub>), Carbon Monoxide (CO), Silica Contents (SiO<sub>2</sub>), Formaldehyde (HCHO), Methane (CH<sub>4</sub>) and found within the limit at 6 Locations:

- Inside TRT Adit Tunnel
- Inside MAT
- Inside DT Tunnel
- Inside to Desilting Chamber (DC-3)
- Inside Adit to HRT
- Inside Ventilation Tunnel

### 6.0 Noise Monitoring:

Noise Levels was monitored according to CPCB standards parameters Leq and found with in the limit at 15 locations:

- Near Workshop
- Near Main Office
- Near Batching Plant
- Near Birahi (Residential Area)
- Near Siyasin Colony
- Near Haul Road
- Near Halt/Harsari Village
- Near Batula Village
- Near Main Office (At Dam Site)
- Near Camp Helong (At Dam Site)
- Near HRT & DC Tunnel (At Dam Site)
- Near Crusher Area (At Dam Site)
- Inside TRT Tunnel
- Inside MAT Tunnel
- Inside Ventilation Tunnel
- DG No. 1 to 5, 2000 KVA

### 7.0 Crusher Monitoring:

Crusher Monitoring was done according to CPCB standards and all the parameters are with in the limit

**DRINKING WATER SAMPLE**

## DRINKING WATER MONITORING







# HARYANA TEST HOUSE

& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

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TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

**Issued To:**

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

Report No. : HTH/WT/220516002

ULR No. : TC781122200001029F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 20/05/2022

Reporting Date : 20/05/2022

Sample Description : Drinking Water Sample (S-1)  
Type of Industry : Construction Company  
Date of sampling : 14/05/2022  
Date of receipt of sample : 16/05/2022  
Environmental Condition : Temp. 22°C, Humidity 64%  
Sampling Reference Protocol : IS 1622 : 1981

Sample Name : Drinking Water Sample (S-1)  
Sample quantity : 5 Ltr. + 250 ml in sterilized bottle  
Sample Location : Dam Site Mess (B-2)  
Purpose of analysis : Monitoring  
Sampling Done by : By our lab. Representative

REFERENCE TO PROTOCOL : IS 10500:2012 (Amend 3, Feb 2021)

### TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
<b>Discipline - Chemical, Group -Water</b>						
<b>Organoleptic and Physical Parameter's</b>						
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	-	6.58	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	62.0	500 Max.	2000 Max.	IS 3025 (P-16)-1984
<b>General parameters Concerning Substances undesirable in excessive amounts</b>						
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	9.6	75 Max.	200 Max.	IS 3025 (P-40)-1991
3	Chloride (as Cl)	mg/l	7.0	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	2.92	30 Max.	100 Max.	IS 3025 (P-46)-1994
6	Nitrate (as NO <sub>3</sub> )	mg/l	9.10	45 Max.	No Relaxation	IS 3025 (P-34)-2021
7	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	BLQ(LOQ:0.0004)	0.001 Max.	0.002 Max.	IS 3025 (P-43)-1992
8	Sulphate (as SO <sub>4</sub> )	mg/l	6.90	200 Max.	400 Max.	IS 3025 (P-24)-1986
9	Total Alkalinity (as CaCO <sub>3</sub> )	mg/l	30.0	200 Max.	600 Max.	IS 3025 (P-23)-1986
10	Total Hardness (as CaCO <sub>3</sub> )	mg/l	36.0	200 Max.	600 Max.	IS 3025 (P-21)-2009
<b>Discipline- Chemical, Group-Residue in Water</b>						
<b>METALS</b>						
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	BLQ (LOQ - 0.010)	0.7 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01_SOP NO-18
3	Molybdenum (as Mo)	mg/l	0.003	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/7.3/2/ICP-01_SOP NO-18
5	Copper (as Cu)	mg/l	0.001	0.05 Max.	1.5 Max.	HTH/QF/7.2/2/ICP-01_SOP





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TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

### Issued To:

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

Report No. : HTH/WT/220516002

ULR No. : TC781122200001029F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 20/05/2022

Reporting Date : 20/05/2022

### TEST RESULTS


S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
5						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
<b>TOXIC SUBSTANCES</b>						
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	0.003	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
<b>Discipline - Biological, Group - Water</b>						
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  20/05/22

  
Manendra Kumar  
20/05/2022

  
Md. Asif Ansari  
20/05/22





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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/220516003

ULR No. : TC781122200001030F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 20/05/2022

Reporting Date : 20/05/2022

Sample Description : Drinking Water Sample (S-2)  
Type of Industry : Construction Company  
Date of sampling : 14/05/2022  
Date of receipt of sample : 16/05/2022  
Environmental Condition : Temp. 22°C, Humidity 64%  
Sampling Reference Protocol : IS 1622 : 1981

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

REFERENCE TO PROTOCOL : IS 10500:2012 (Amend 3, Feb 2021)

### TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
<b>Discipline - Chemical , Group -Water</b>						
<b>Organoleptic and Physical Parameter's</b>						
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	-	6.71	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	54.0	500 Max.	2000 Max.	IS 3025 (P-16)-1984
<b>General parameters Concerning Substances undesirable in excessive amounts</b>						
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	5.6	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	0.25	1.0 Max.	1.5 Max.	APHA (4500 F)
5	Magnesium (as Mg)	mg/l	4.38	30 Max.	100 Max.	IS 3025 (P-46)-1994
6	Nitrate (as NO3)	mg/l	2.0	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	8.60	200 Max.	400 Max.	IS 3025 (P-24)-1986
9	Total Alkalinity (as CaCO3)	mg/l	54.0	200 Max.	600 Max.	IS 3025 (P-23)-1986
10	Total Hardness (as CaCO3)	mg/l	32.0	200 Max.	600 Max.	IS 3025 (P-21)-2009
<b>Discipline- Chemical, Group-Residue in Water</b>						
<b>METALS</b>						
1	Aluminium (as Al)	mg/l	0.013	0.03 Max.	0.2 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
2	Barium (as Ba)	mg/l	BLQ (LOQ - 0.010)	0.7 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
3	Molybdenum (as Mo)	mg/l	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
5	Copper (as Cu)	mg/l	0.001	0.05 Max.	1.5 Max.	HTH/QF/7.2/2/ICP-01,SOP





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TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

### Issued To:

Hindustan Construction Company Ltd

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

Report No. : HTH/WT/220516003

ULR No. : TC781122200001030F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 20/05/2022

Reporting Date : 20/05/2022

### TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
5						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
<b>TOXIC SUBSTANCES</b>						
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	0.001	0.02 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01_SOP NO-18
5	Total Arsenic (as As)	mg/l	0.003	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
<b>Discipline - Biological, Group - Water</b>						
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

*[Signature]*  
20/05/22

*[Signature]*  
20/05/2022  
Manendra Kumar

*[Signature]*  
20/05/22  
Md. Asif Ansari





DOC No. HTH/QF/7.2

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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/220516004

ULR No. : TC781122200001031F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 20/05/2022

Reporting Date : 20/05/2022

Sample Description : Drinking Water Sample (5-3)  
 Type of Industry : Construction Company  
 Date of sampling : 14/05/2022  
 Date of receipt of sample : 16/05/2022  
 Environmental Condition : Temp. 22°C, Humidity 64%  
 Sampling Reference Protocol : IS 1622 : 1981

Sample Name : Drinking Water Sample (5-3)  
 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 3, Feb 2021)

### TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
<b>Discipline - Chemical, Group -Water</b>						
<b>Organoleptic and Physical Parameter's</b>						
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	-	7.42	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
<b>General parameters Concerning Substances undesirable in excessive amounts</b>						
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	33.7	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	0.4	1.0 Max.	1.5 Max.	APHA (4500 F)
5	Magnesium (as Mg)	mg/l	16.07	30 Max.	100 Max.	IS 3025 (P-46)-1994
6	Nitrate (as NO <sub>3</sub> )	mg/l	2.20	45 Max.	No Relaxation	IS 3025 (P-34)-2021
7	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	BLQ(LOQ:0.0004)	0.001 Max.	0.002 Max.	IS 3025 (P-43)-1992
8	Sulphate (as SO <sub>4</sub> )	mg/l	23.0	200 Max.	400 Max.	IS 3025 (P-24)-1986
9	Total Alkalinity (as CaCO <sub>3</sub> )	mg/l	140.0	200 Max.	600 Max.	IS 3025 (P-23)-1986
10	Total Hardness (as CaCO <sub>3</sub> )	mg/l	150.0	200 Max.	600 Max.	IS 3025 (P-21)-2009
<b>Discipline- Chemical, Group-Residue in Water</b>						
<b>METALS</b>						
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	BLQ (LOQ - 0.010)	0.7 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01_SOP NO-18
3	Molybdenum (as Mo)	mg/l	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
5	Copper (as Cu)	mg/l	BLQ (LOQ - 0.001)	0.05 Max.	1.5 Max.	HTH/QF/7.2/2/ICP-01_SOP





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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/220516004

ULR No. : TC781122200001031F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 20/05/2022

Reporting Date : 20/05/2022

### TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
5						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 - 0.010)	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
<b>TOXIC SUBSTANCES</b>						
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
<b>Discipline - Biological , Group - Water</b>						
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

*[Signature]*  
20/05/22

*[Signature]*  
20/05/2022  
Manendra Kumar

*[Signature]*  
20/05/22  
Md. Asfar Ansari





# HARYANA TEST HOUSE

## & Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

### Issued To:

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

Report No. : HTH/WT/220516005

ULR No. : TC781122200001032F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 20/05/2022

Reporting Date : 20/05/2022

Sample Description : Drinking Water Sample (S-4)  
Type of Industry : Construction Company  
Date of sampling : 14/05/2022  
Date of receipt of sample : 16/05/2022  
Environmental Condition : Temp. 22°C, Humidity 64%  
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 3, Feb 2021)

### TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
<b>Discipline - Chemical, Group -Water</b>						
<b>Organoleptic and Physical Parameter's</b>						
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	-	7.78	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	242.0	500 Max.	2000 Max.	IS 3025 (P-16)-1984
<b>General parameters Concerning Substances undesirable in excessive amounts</b>						
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	36.9	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	0.44	1.0 Max.	1.5 Max.	APHA (4500 F)
5	Magnesium (as Mg)	mg/l	21.43	30 Max.	100 Max.	IS 3025 (P-46)-1994
6	Nitrate (as NO3)	mg/l	2.10	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	42.8	200 Max.	400 Max.	IS 3025 (P-24)-1986
9	Total Alkalinity (as CaCO3)	mg/l	192.0	200 Max.	600 Max.	IS 3025 (P-23)-1986
10	Total Hardness (as CaCO3)	mg/l	180.0	200 Max.	600 Max.	IS 3025 (P-21)-2009
<b>Discipline- Chemical, Group-Residue in Water</b>						
<b>METALS</b>						
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	0.024	0.7 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01_SOP NO-18
3	Molybdenum (as Mo)	mg/l	0.003	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
5	Copper (as Cu)	mg/l	BLQ (LOQ - 0.001)	0.05 Max.	1.5 Max.	HTH/QF/7.2/2/ICP-01_SOP





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Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthouses@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

Issued To:

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

Report No. : HTH/WT/220516005

ULR No. : TC781122200001032F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 to 20/05/2022

Reporting Date : 20/05/2022

### TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
5						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
<b>TOXIC SUBSTANCES</b>						
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
<b>Discipline - Biological , Group - Water</b>						
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

*[Signature]*  
16/05/2022

*[Signature]*  
20/05/2022  
Manendra Kumar

*[Signature]*  
20/05/2022  
Md. Asif Ansari





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TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

**Issued To:**

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

Report No. : HTH/WT/220516006  
ULR No. : TC781122200001033F  
Party's Ref No. : Nil  
Booking Date : 16/05/2022  
Period of Testing : 16/05/2022 To 20/05/2022  
Reporting Date : 20/05/2022

Sample Description : Drinking Water Sample (S-5)  
Type of Industry : Construction Company  
Date of sampling : 14/05/2022  
Date of receipt of sample : 16/05/2022  
Environmental Condition : Temp. 22°C, Humidity 64%  
Sampling Reference Protocol : IS 1622 : 1981

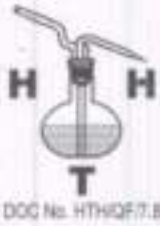
Sample Name : Drinking Water Sample (S-5)  
Sample quantity : 5 Ltr. + 250 ml in sterilized bottle  
Sample Location : PR WA Camp. (Batula - 2)  
Purpose of analysis : Monitoring  
Sampling Done by : By our lab. Representative

REFERENCE TO PROTOCOL : IS 10500:2012 (Amend 3, Feb 2021)

### TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
<b>Discipline - Chemical, Group -Water</b>						
<b>Organoleptic and Physical Parameter's</b>						
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	-	7.51	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	72.0	500 Max.	2000 Max.	IS 3025 (P-16)-1984
<b>General parameters Concerning Substances undesirable in excessive amounts</b>						
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	11.20	75 Max.	200 Max.	IS 3025 (P-40)-1991
3	Chloride (as Cl)	mg/l	6.0	250 Max.	1000 Max.	IS 3025 (P-32)-1988
4	Fluoride (as F)	mg/l	0.26	1.0 Max.	1.5 Max.	APHA (4500 F)
5	Magnesium (as Mg)	mg/l	3.90	30 Max.	100 Max.	IS 3025 (P-46)-1994
6	Nitrate (as NO3)	mg/l	4.20	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	7.30	200 Max.	400 Max.	IS 3025 (P-24)-1986
9	Total Alkalinity (as CaCO3)	mg/l	28.0	200 Max.	600 Max.	IS 3025 (P-23)-1986
10	Total Hardness (as CaCO3)	mg/l	44.0	200 Max.	600 Max.	IS 3025 (P-21)-2009
<b>Discipline- Chemical, Group-Residue in Water</b>						
<b>METALS</b>						
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	BLQ (LOQ - 0.010)	0.7 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01_SOP NO-18
3	Molybdenum (as Mo)	mg/l	0.002	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
5	Copper (as Cu)	mg/l	0.001	0.05 Max.	1.5 Max.	HTH/QF/7.2/2/ICP-01_SOP





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TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

**Issued To:**

Hindustan Construction Company Ltd

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

Report No. : HTH/WT/220516006

ULR No. : TC781122200001033F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 20/05/2022

Reporting Date : 20/05/2022

### TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
5						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	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	0.098	5.0 Max.	15 Max.	HTH/QF/7.2/2/ICP-01,SOP NO-18
<b>TOXIC SUBSTANCES</b>						
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	0.001	0.02 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
5	Total Arsenic (as As)	mg/l	0.003	0.01 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01,SOP NO-18
6	Total Chromium (as Cr)	mg/l	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
<b>Discipline - Biological , Group - Water</b>						
1	Colliform	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

*[Signature]*  
20/05/22

*[Signature]*  
20/05/2022  
Manendra Kumar

*[Signature]*  
20/05/22  
Md. Asif Ansari





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Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

### Issued To:

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

Report No. : HTH/WT/220516007

ULR No. : TC781122200001034F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 20/05/2022

Reporting Date : 20/05/2022

Sample Description : Ground Water Sample  
Type of Industry : Construction Company  
Date of sampling : 14/05/2022  
Date of receipt of sample : 16/05/2022  
Environmental Condition : Temp. 22°C, Humidity 64%  
Sampling Reference Protocol : IS 1622 : 1981

Sample Name : Borewell Water  
Sample quantity : 5 Ltr. + 250 ml in sterilized bottle  
Sample Location : Batula Labour Camp (B-1)  
Purpose of analysis : Monitoring  
Sampling Done by : By our lab. Representative

REFERENCE TO PROTOCOL : IS 10500:2012 (Amend 3, Feb 2021)

### TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
<b>Discipline - Chemical, Group -Water</b>						
<b>Organoleptic and Physical Parameter's</b>						
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	-	7.17	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
<b>General parameters Concerning Substances undesirable in excessive amounts</b>						
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	40.1	75 Max.	200 Max.	IS 3025 (P-40)-1991
3	Chloride (as Cl)	mg/l	10.0	250 Max.	1000 Max.	IS 3025 (P-32)-1988
4	Fluoride (as F)	mg/l	0.34	1.0 Max.	1.5 Max.	APHA (4500 F)
5	Magnesium (as Mg)	mg/l	16.56	30 Max.	100 Max.	IS 3025 (P-46)-1994
6	Nitrate (as NO <sub>3</sub> )	mg/l	7.70	45 Max.	No Relaxation	IS 3025 (P-34)-2021
7	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	BLQ(LOQ:0.0004)	0.001 Max.	0.002 Max.	IS 3025 (P-43)-1992
8	Sulphate (as SO <sub>4</sub> )	mg/l	23.5	200 Max.	400 Max.	IS 3025 (P-24)-1986
9	Total Alkalinity (as CaCO <sub>3</sub> )	mg/l	196.0	200 Max.	600 Max.	IS 3025 (P-23)-1986
10	Total Hardness (as CaCO <sub>3</sub> )	mg/l	168.0	200 Max.	600 Max.	IS 3025 (P-21)-2009
<b>Discipline- Chemical, Group-Residue in Water</b>						
<b>METALS</b>						
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	0.01	0.7 Max.	No Relaxation	HTH/QF/7.2/2/ICP-01_SOP NO-18
3	Molybdenum (as Mo)	mg/l	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
5	Copper (as Cu)	mg/l	0.001	0.05 Max.	1.5 Max.	HTH/QF/7.2/2/ICP-01_SOP





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Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecsd@gmail.com, info@haryanatesthouse.net



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

Issued To:

Hindustan Construction Company Ltd

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

Report No. : HTH/WT/220516007

ULR No. : TC781122200001034F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 20/05/2022

Reporting Date : 20/05/2022

### TEST RESULTS

S.N.	Parameter's	Unit's	Results	Acceptable Limit's	Permissible Limit's	Method of Analysis
5						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	0.002	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
<b>TOXIC SUBSTANCES</b>						
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	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
<b>Discipline - Biological , Group - Water</b>						
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

*[Signature]*  
20-5-22

*[Signature]*  
20/05/2022  
Manendra Kumar

*[Signature]*  
20/05/22  
Md. Anrak Ansari



**STACK EMISSION**



# HARYANA TEST HOUSE

## & Consultancy Services

### GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, (1180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

Web Site : www.haryanatesthouse.net, e-mail : haryanatesthouses@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

### Issued To:

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

Report No. : HTH/EP/220516029  
ULR No. : TC781122100002706F  
Party's Ref No. : Nil  
Booking Date : 16/05/2022  
Period of Testing : 16/05/2022 To 24/05/2022  
Reporting Date : 24/05/2022

Sample Description	: Stack Emission (Boiler)
Type of industry	: Construction Company
Name of Plant/ Section	: Boiler Section
Date of sampling	: 14/05/2022
Capacity of Boiler	: 850 Kg/ Hr
Source of Emission	: Stack Attached to Boiler
Instrument used	: Stack Sampler VSS1 (Sr.No. 247 DTK 2019)
Instrument Calibration Status	: Calibrated (upto 24.12.2022)
Type of stack	: Metal
Type of Fuel used	: HSD
Stack height (from the ground level)	: 30 meter
Stack diameter (at the sampling point)	: 0.800 meter
Sample Location	: As per standard norms
Purpose of sampling	: Monitoring
Sample collected by	: By our lab. Representative
Type of APCM	: NS
<b>A Observations</b>	
1. Stack gas temperature, °C	: 144.0
2. Temperature at Metering point, °C	: 42.0
3. Avg. stack gas velocity, m/sec	: 7.68
4. Sampling flow rate, Lt./min.	: 25.0
5. Period of sampling, Minutes	: 30.0
6. Volumetric flow rate, Nm <sup>3</sup> / Hr	: 9543.28

### B Results

S.N.	Test Parameters	Units	Result	Standard Limit	Test Method
Discipline: Chemical, Group: Atmospheric Pollution					
1	Particulate Matter (PM)	mg/Nm <sup>3</sup>	97.15	1200 Max	IS 11255 (Part-I) : 1985 : RA: 2019
2	Sulphur Dioxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	10.47	-	HTH/QF/7.2/2/CH-02, SOP No-23
3	Nitrogen Dioxide (NO <sub>2</sub> )	mg/Nm <sup>3</sup>	253.99	-	HTH/QF/7.2/2/CH-02, SOP No-23
4	Carbon Dioxide (CO <sub>2</sub> )	% v/v	9.30	-	HTH/QF/7.2/2/CH-02, SOP No-23

\*\*\*End of Report\*\*\*

Remarks : Particulate Matter Corrected @12 % CO<sub>2</sub>

*Kimhi*  
24-05-2022  
Review by

*Md. Atiq Anwar*  
24/05/22  
Md. Atiq Anwar





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## & Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (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/220516030  
ULR No. : TC781122100002684F  
Party's Ref No. : Nil  
Booking Date : 16/05/2022  
Period of Testing : 16/05/2022 To 23/05/2022  
Reporting Date : 23/05/2022

Sample Description : Stack Emission (DG No. 1, 2000 KVA)  
Type of Industry : Construction Company  
Name of Plant/ Section : DG Section (TBM)  
Date of sampling : 14/05/2022  
Capacity of DG : 2000 KVA (DG No. 1)  
Source of Emission : Stack Attached to DG  
Instrument used : Stack Sampler VSS1 (Sr.No. 247 DTK 2019)  
Instrument Calibration Status : Calibrated (upto 24.12.2022)  
Type of stack : Metal  
Type of Fuel used : HSD  
Stack height (from the ground level) : 19.5 meter  
Stack diameter (at the sampling point) : 12 inch  
Sample Location : As per standard norms  
Purpose of sampling : Monitoring  
Sample collected by : By our lab. Representative

### A Observations

- Stack gas temperature, °C : 350.0
- Temperature at Metering point, °C : 23.0
- Avg. stack gas velocity, m/sec : 17.77
- Sampling flow rate, Lt./min. : 15.0
- Period of sampling, Minutes : 30.0
- Volumetric flow rate, Nm<sup>3</sup>/ Hr : 2145.47

### B Results

S.N.	Test Parameters	Units	Result	Standard Limit	Test Method
Discipline: Chemical, Group: Atmospheric Pollution					
1	Particulate Matter (PM)	mg/Nm <sup>3</sup>	52.34	75 Max	IS 11255 (Part-I) : 1985 : RA: 2019
2	Nitrogen Dioxide (NO <sub>2</sub> )	ppmV	192.25	710 Max	HTH/QF/7.2/2/CH-02, SOP No-23
3	Carbon Monoxide (CO)	mg/Nm <sup>3</sup>	94.36	150 Max	HTH/QF/7.2/2/CH-02, SOP No-23
4	Oxygen (O <sub>2</sub> )	%	14.20	—	HTH/QF/7.2/2/CH-02, SOP No-23
5	Total Non-Methyl Hydro Carbon (NMHC)	mg/Nm <sup>3</sup>	26.60	100 Max	IS 13270 : 1992 : RA: 2019

\*\*\*End of Report\*\*\*

KIMH  
23-05-2022

Md. Asif Ansari  
23/05/22



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GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (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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Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

### Issued To:

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

Report No. : HTH/EP/220516031  
ULR No. : TC781122100002685F  
Party's Ref No. : Nil  
Booking Date : 16/05/2022  
Period of Testing : 16/05/2022 To 23/05/2022  
Reporting Date : 23/05/2022

Sample Description : Stack Emission (DG No. 2, 2000 KVA)  
Type of industry : Construction Company  
Name of Plant/ Section : DG Section (TBM)  
Date of sampling : 14/05/2022  
Capacity of DG : 2000 KVA (DG No. 2)  
Source of Emission : Stack Attached to DG  
Instrument used : Stack Sampler VSS1 (Sr.No. 247 DTK 2019)  
Instrument Calibration Status : Calibrated (upto 24.12.2022)  
Type of stack : Metal  
Type of Fuel used : HSD  
Stack height (from the ground level) : 19.5 meter  
Stack diameter (at the sampling point) : 12 inch  
Sample Location : As per standard norms  
Purpose of sampling : Monitoring  
Sample collected by : By our lab. Representative

### A Observations

1. Stack gas temperature, °C : 353.0  
2. Temperature at Metering point, °C : 23.0  
3. Avg. stack gas velocity, m/sec : 18.13  
4. Sampling flow rate, Lt./min. : 15.0  
5. Period of sampling, Minutes : 30.0  
6. Volumetric flow rate, Nm<sup>3</sup>/ Hr : 2178.44

### B Results

S.N.	Test Parameters	Units	Result	Standard Limit	Test Method
Discipline: Chemical, Group: Atmospheric Pollution					
1	Particulate Matter (PM)	mg/Nm <sup>3</sup>	48.84	75 Max	IS 11255 (Part-I) : 1985 : RA: 2019
2	Nitrogen Dioxide (NO <sub>2</sub> )	ppmV	182.98	710 Max	HTH/QF/7.2/2/CH-02, SOP No-23
3	Carbon Monoxide (CO)	mg/Nm <sup>3</sup>	87.72	150 Max	HTH/QF/7.2/2/CH-02, SOP No-23
4	Oxygen (O <sub>2</sub> )	%	14.10	—	HTH/QF/7.2/2/CH-02, SOP No-23
5	Total Non-Methyl Hydro Carbon (NMHC)	mg/Nm <sup>3</sup>	26.33	100 Max	IS 13270 : 1992 : RA: 2019

\*\*\*End of Report\*\*\*

Kirti  
23-05-2022

Md. Asif Ansari  
23/05/22





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GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
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TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

### Issued To:

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

Report No. : HTH/EP/220516032  
ULR No. : TC781122100002687F  
Party's Ref No. : Nil  
Booking Date : 16/05/2022  
Period of Testing : 16/05/2022 To 23/05/2022  
Reporting Date : 23/05/2022

Sample Description : Stack Emission (DG No. 3, 2000 KVA)  
Type of Industry : Construction Company  
Name of Plant/ Section : DG Section (TBM)  
Date of sampling : 14/05/2022  
Capacity of DG : 2000 KVA (DG No. 3)  
Source of Emission : Stack Attached to DG  
Instrument used : Stack Sampler V551 (Sr.No. 247 DTK 2019)  
Instrument Calibration Status : Calibrated (upto 24.12.2022)  
Type of stack : Metal  
Type of Fuel used : HSD  
Stack height (from the ground level) : 19.5 meter  
Stack diameter (at the sampling point) : 12 inch  
Sample Location : As per standard norms  
Purpose of sampling : Monitoring  
Sample collected by : By our lab. Representative

### A Observations

1. Stack gas temperature, °C : 351.0  
2. Temperature at Metering point, °C : 23.0  
3. Avg. stack gas velocity, m/sec : 17.97  
4. Sampling flow rate, Lt./min. : 15.0  
5. Period of sampling, Minutes : 30.0  
6. Volumetric flow rate, Nm<sup>3</sup>/ Hr : 2166.14

### B Results

S.N.	Test Parameters	Units	Result	Standard Limit	Test Method
Discipline: Chemical, Group: Atmospheric Pollution					
1	Particulate Matter (PM)	mg/Nm <sup>3</sup>	55.70	75 Max	IS 11255 (Part-I) : 1985 : RA: 2019
2	Nitrogen Dioxide (NO <sub>2</sub> )	ppmV	197.54	710 Max	HTH/QF/7.2/2/CH-02, SOP No-23
3	Carbon Monoxide (CO)	mg/Nm <sup>3</sup>	99.20	150 Max	HTH/QF/7.2/2/CH-02, SOP No-23
4	Oxygen (O <sub>2</sub> )	%	14.20	—	HTH/QF/7.2/2/CH-02, SOP No-23
5	Total Non-Methyl Hydro Carbon (NMHC)	mg/Nm <sup>3</sup>	27.05	100 Max	IS 13270 : 1992 : RA: 2019

\*\*\*End of Report\*\*\*

Kimbi  
23.05.2022

Review by

Md. Aslak Ansari  
23/05/22





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## & Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

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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/220516033  
ULR No. : TC781122100002686F  
Party's Ref No. : Nil  
Booking Date : 16/05/2022  
Period of Testing : 16/05/2022 To 23/05/2022  
Reporting Date : 23/05/2022

Sample Description : Stack Emission (DG No. 4, 2000 KVA)  
Type of Industry : Construction Company  
Name of Plant/ Section : DG Section (TBM)  
Date of sampling : 14/05/2022  
Capacity of DG : 2000 KVA (DG No. 4)  
Source of Emission : Stack Attached to DG  
Instrument used : Stack Sampler VSS1 (Sr.No. 247 DTK 2019)  
Instrument Calibration Status : Calibrated (upto 24.12.2022)  
Type of stack : Metal  
Type of Fuel used : HSD  
Stack height (from the ground level) : 19.5 meter  
Stack diameter (at the sampling point) : 12 inch  
Sample Location : As per standard norms  
Purpose of sampling : Monitoring  
Sample collected by : By our lab. Representative

**A Observations**

1. Stack gas temperature, °C : 352.0  
2. Temperature at Metering point, °C : 23.0  
3. Avg. stack gas velocity, m/sec : 17.92  
4. Sampling flow rate, Lt./min. : 15.0  
5. Period of sampling, Minutes : 30.0  
6. Volumetric flow rate, Nm<sup>3</sup>/ Hr : 2156.65

### B Results

S.N.	Test Parameters	Units	Result	Standard Limit	Test Method
Discipline: Chemical, Group: Atmospheric Pollution					
1	Particulate Matter (PM)	mg/Nm <sup>3</sup>	51.86	75 Max	IS 11255 (Part-I) : 1985 : RA: 2019
2	Nitrogen Dioxide (NO <sub>2</sub> )	ppmV	190.14	710 Max	HTH/QF/7.2/2/CH-02, SOP No-23
3	Carbon Monoxide (CO)	mg/Nm <sup>3</sup>	96.78	150 Max	HTH/QF/7.2/2/CH-02, SOP No-23
4	Oxygen (O <sub>2</sub> )	%	14.20	—	HTH/QF/7.2/2/CH-02, SOP No-23
5	Total Non-Methyl Hydro Carbon (NMHC)	mg/Nm <sup>3</sup>	26.71	100 Max	IS 13270 : 1992 : RA: 2019

\*\*\*End of Report\*\*\*

*Kimh*  
23/05/2022

  
Md. Ashok Ansari  
23/05/22





# HARYANA TEST HOUSE

## & Consultancy Services

### GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Emv.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

### Issued To:

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

Report No. : HTH/EP/220516033  
ULR No. : TC781122100002686F  
Party's Ref No. : Nil  
Booking Date : 16/05/2022  
Period of Testing : 16/05/2022 To 23/05/2022  
Reporting Date : 23/05/2022

Sample Description : Stack Emission (DG No. 4, 2000 KVA)  
Type of Industry : Construction Company  
Name of Plant/ Section : DG Section (TBM)  
Date of sampling : 14/05/2022  
Capacity of DG : 2000 KVA (DG No. 4)  
Source of Emission : Stack Attached to DG  
Instrument used : Stack Sampler V551 (Sr.No. 247 DTK 2019)  
Instrument Calibration Status : Calibrated (upto 24.12.2022)  
Type of stack : Metal  
Type of Fuel used : HSD  
Stack height (from the ground level) : 19.5 meter  
Stack diameter (at the sampling point) : 12 inch  
Sample Location : As per standard norms  
Purpose of sampling : Monitoring  
Sample collected by : By our lab. Representative

### A Observations

1. Stack gas temperature, °C : 352.0
2. Temperature at Metering point, °C : 23.0
3. Avg. stack gas velocity, m/sec : 17.92
4. Sampling flow rate, Lt./min. : 15.0
5. Period of sampling, Minutes : 30.0
6. Volumetric flow rate, Nm<sup>3</sup>/ Hr : 2156.65

### B Results

S.N. Test Parameters	Units	Result	Standard Limit	Test Method
Discipline: Chemical, Group: Atmospheric Pollution				
1. Particulate Matter (PM)	mg/Nm <sup>3</sup>	51.86	75 Max	IS 11255 (Part-I) : 1985 : RA: 2019
2. Nitrogen Dioxide (NO <sub>2</sub> )	ppmV	190.14	710 Max	HTH/QF/7.2/2/CH-02, SOP No-23
3. Carbon Monoxide (CO)	mg/Nm <sup>3</sup>	96.78	150 Max	HTH/QF/7.2/2/CH-02, SOP No-23
4. Oxygen (O <sub>2</sub> )	%	14.20	—	HTH/QF/7.2/2/CH-02, SOP No-23
5. Total Non-Methyl Hydro Carbon (NMHC)	mg/Nm <sup>3</sup>	26.71	100 Max	IS 13270 : 1992 : RA: 2019

\*\*\*End of Report\*\*\*

Kimh.  
23-05-2022

Review by

Md. Asfak Ansari  
23/5/22

**WASTE WATER SAMPLE**



## EFFLUENT WATER MONITORING





DOC No. HTHQF/7.3

# HARYANA TEST HOUSE

## & Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

### Issued To:

Hindustan Construction Company Ltd

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

Report No. : HTH/EP/220516001  
ULR No. : TC781122100002673F  
Party's Ref No. : Nil

Booking Date : 16/05/2022  
Period of Testing : 16/05/2022 To 21/05/2022  
Reporting Date : 21/05/2022

Sample Description	: Effluent Water Sample (DP Mess Outlet)
Type of Industry	: Construction Company
Sample type	: Effluent Water Sample (DP Mess Outlet)
Date of sampling	: 14/05/2022
Date of receipt of sample	: 16/05/2022
Sample Location	: DP Mess Outlet
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 (Inland Surface Water)	Test Method
Discipline : Chemical, Group : Waste Water				
1 Odour	-	Odourless	--	IS 3025 (Part 5): 2018
2 pH	-	8.18	5.5 - 9.0	IS 3025 (Part 11): 1993
3 Total Suspended Solids	mg/l	36.0	100 Max	IS 3025 (Part 17): 1984
4 Chemical Oxygen Demand(COD)	mg/l	44.0	250 Max	IS 3025 (Part 58): 2006
5 Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/l	7.0	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

*[Handwritten signature]*

*[Handwritten signature]*  
Md. Asfak Ansari





# HARYANA TEST HOUSE

& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516002 <b>ULR No.</b> : TC781122100002674F <b>Party's Ref No.</b> : Nil <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 21/05/2022 <b>Reporting Date</b> : 21/05/2022
--	--

<b>Sample Description</b> : Effluent Water Sample (Batching Plant Dam Site)
<b>Type of Industry</b> : Construction Company
<b>Sample type</b> : Effluent Water Sample (Batching Plant Dam Site)
<b>Date of sampling</b> : 14/05/2022
<b>Date of receipt of sample</b> : 16/05/2022
<b>Sample Location</b> : Batching Plant Dam Site
<b>Sample quantity</b> : 2 Ltr.
<b>Purpose of analysis</b> : Monitoring
<b>Sample collected/ supplied by</b> : By our Lab. Representative

### TEST RESULTS

S.N.	Test Parameters	Unit	Result	Test Method
Discipline : Chemical, Group : Waste Water				
1	Odour	-	Odourless	IS 3025 (Part 5): 2018
2	pH	-	8.30	IS 3025 (Part 11): 1993
3	Total Suspended Solids	mg/L	96.0	IS 3025 (Part 17): 1984
4	Chemical Oxygen Demand(COD)	mg/L	48.0	IS 3025 (Part 58): 2006
5	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	8.4	IS 3025 (Part 44): 1993
6	Oil & Grease	mg/L	BLQ(LOQ 0.5)	IS 3025 (Part 39): 2021

\*\*\*End of Report\*\*\*

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

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Md. Ashiq Ansari



DOC No. HTH/QFT/3

# HARYANA TEST HOUSE

& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (OH) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

**Issued To:**

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

Report No. : HTH/EP/220516003

ULR No. : TC781122100002675F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 21/05/2022

Reporting Date : 21/05/2022

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 : 14/05/2022  
Date of receipt of sample : 16/05/2022  
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	Test Method
Discipline : Chemical, Group : Waste Water				
1	Odour	-	Odourless	IS 3025 (Part 5): 2018
2	pH	-	8.06	IS 3025 (Part 11): 1993
3	Total Suspended Solids	mg/L	83.0	IS 3025 (Part 17): 1984
4	Chemical Oxygen Demand(COD)	mg/L	61.0	IS 3025 (Part 58): 2006
5	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	9.4	IS 3025 (Part 44): 1993
6	Oil & Grease	mg/L	BLQ(LOQ 0.5)	IS 3025 (Part 39): 2021

\*\*\*End of Report\*\*\*

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

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*Handwritten signature and date: 21/05/22*  
Md. Asfak Ansari





DOC No. HTHQF77.8

# HARYANA TEST HOUSE

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GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecc@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

### Issued To:

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

Report No. : HTH/EP/220516004  
ULR No. : TC781122100002676F  
Party's Ref No. : Nil  
Booking Date : 16/05/2022  
Period of Testing : 16/05/2022 To 21/05/2022  
Reporting Date : 21/05/2022

Sample Description : Effluent Water Sample (Sedimentation Outlet- Crusher Damsite)  
Type of Industry : Construction Company  
Sample type : Effluent Water Sample (Sedimentation Outlet- Crusher Damsite)  
Date of sampling : 14/05/2022  
Date of receipt of sample : 16/05/2022  
Sample Location : Sedimentation Outlet- Crusher 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	Test Method
Discipline : Chemical, Group : Waste Water				
1	Odour	-	Odourless	IS 3025 (Part 5): 2018
2	pH	-	7.64	IS 3025 (Part 11): 1993
3	Total Suspended Solids	mg/L	64.0	IS 3025 (Part 17): 1984
4	Chemical Oxygen Demand(COD)	mg/L	52.0	IS 3025 (Part 58): 2006
5	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	8.0	IS 3025 (Part 44): 1993
6	Oil & Grease	mg/L	BLQ(LQ 0.5)	IS 3025 (Part 39): 2021

\*\*\*End of Report\*\*\*

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

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1-5-22

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Md. Asif Anwar  
21/05/22



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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthouses@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> <b>Hindustan Construction Company Ltd</b> Vishunagarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516005 <b>ULR No.</b> : TC781122100002677F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 21/05/2022 <b>Reporting Date</b> : 21/05/2022
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<b>Sample Description</b>	: 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	: 14/05/2022
Date of receipt of sample	: 16/05/2022
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	Test Method
Discipline : Chemical, Group : Waste Water				
1	Odour	-	Odourless	IS 3025 (Part 5): 2018
2	pH	-	8.36	IS 3025 (Part 11): 1993
3	Total Suspended Solids	mg/L	32.0	IS 3025 (Part 17): 1984
4	Chemical Oxygen Demand(COD)	mg/L	66.0	IS 3025 (Part 58): 2006
5	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	10.0	IS 3025 (Part 44): 1993
6	Oil & Grease	mg/L	BLQ(LDQ 0.5)	IS 3025 (Part 39): 2021

\*\*\*End of Report\*\*\*

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

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Md. Asfak Ansari





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GOVT. RECOGNISED LABORATORY

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

Contact : (OIT) 86077-70160, 0180-3510205 (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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Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

**Issued To:**

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

Report No. : HTH/EP/220516006  
ULR No. : TC781122100002678F  
Party's Ref No. : Nil  
Booking Date : 16/05/2022  
Period of Testing : 16/05/2022 To 21/05/2022  
Reporting Date : 21/05/2022

**Sample Description** : Effluent Water Sample (Sedimentation Tank Dam Site Officer Mess)  
**Type of Industry** : Construction Company  
**Sample type** : Effluent Water Sample (Sedimentation Tank Dam Site Officer Mess)  
**Date of sampling** : 14/05/2022  
**Date of receipt of sample** : 16/05/2022  
**Sample Location** : Sedimentation Tank Dam Site Officer Mess  
**Sample quantity** : 2 Ltr.  
**Purpose of analysis** : Monitoring  
**Sample collected/ supplied by** : By our Lab. Representative

### TEST RESULTS

S.N.	Test Parameters	Unit	Result	Test Method
Discipline : Chemical, Group : Waste Water				
1	Odour	-	Odourless	IS 3025 (Part 5): 2018
2	pH	-	8.35	IS 3025 (Part 11): 1993
3	Total Suspended Solids	mg/L	92.0	IS 3025 (Part 17): 1984
4	Chemical Oxygen Demand(COD)	mg/L	39.0	IS 3025 (Part 58): 2006
5	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	7.2	IS 3025 (Part 44): 1993
6	Oil & Grease	mg/L	BLQ(LOQ 0.5)	IS 3025 (Part 39): 2021

\*\*\*End of Report\*\*\*

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

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21/05/22  
Md. Asfak Ansari



DOC No. HTH/DF/7.8

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GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthouseca@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516007 <b>ULR No.</b> : TC781122100002679F <b>Party's Ref No.</b> : Nil <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 21/05/2022 <b>Reporting Date</b> : 21/05/2022
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<b>Sample Description</b> : Effluent Water Sample (Sedimentation Tank Power House)
<b>Type of Industry</b> : Construction Company
<b>Sample type</b> : Effluent Water Sample (Sedimentation Tank Power House)
<b>Date of sampling</b> : 14/05/2022
<b>Date of receipt of sample</b> : 16/05/2022
<b>Sample Location</b> : Sedimentation Tank Power House
<b>Sample quantity</b> : 2 Ltr.
<b>Purpose of analysis</b> : Monitoring
<b>Sample collected/ supplied by</b> : By our Lab. Representative

### TEST RESULTS

S.N.	Test Parameters	Unit	Result	Test Method
Discipline : Chemical, Group : Waste Water				
1	Odour	-	Odourless	IS 3025 (Part 5): 2018
2	pH	-	8.39	IS 3025 (Part 11): 1993
3	Total Suspended Solids	mg/L	96.0	IS 3025 (Part 17): 1984
4	Chemical Oxygen Demand(COD)	mg/L	26.0	IS 3025 (Part 58): 2006
5	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	4.2	IS 3025 (Part 44): 1993
6	Oil & Grease	mg/L	BLQ(LOQ 0.5)	IS 3025 (Part 39): 2021

\*\*\*End of Report\*\*\*

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

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Md. Asfak Ansari





DOC No. HTHGF/7.8

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GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Emc.) 86077-70164, (BIM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousece@ gmail.com, info@haryanatesthouse.net



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Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

### Issued To:

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

Report No. : HTH/EP/220516008  
ULR No. : TC781122100002680F  
Party's Ref No. : Nil  
Booking Date : 16/05/2022  
Period of Testing : 16/05/2022 To 21/05/2022  
Reporting Date : 21/05/2022

Sample Description : Effluent Water Sample (DP Mess-Power House)  
Type of Industry : Construction Company  
Sample type : Effluent Water Sample (DP Mess-Power House)  
Date of sampling : 14/05/2022  
Date of receipt of sample : 16/05/2022  
Sample Location : DP Mess 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	Test Method
Discipline : Chemical, Group : Waste Water				
1	Odour	-	Odourless	IS 3025 (Part 5): 2018
2	pH	-	7.33	IS 3025 (Part 11): 1993
3	Total Suspended Solids	mg/L	54.0	IS 3025 (Part 17): 1984
4	Chemical Oxygen Demand(COD)	mg/L	31.0	IS 3025 (Part 58): 2006
5	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/L	4.8	IS 3025 (Part 44): 1993
6	Oil & Grease	mg/L	BLQ(LOQ 0.5)	IS 3025 (Part 39): 2021

\*\*\*End of Report\*\*\*

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

1-22

Md. Asif Ansari

**AMBIENT AIR MONITORING**

## AMBIENT AIR MONITORING





## AMBIENT AIR MONITORING





## AMBIENT AIR MONITORING





# HARYANA TEST HOUSE

& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net

Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## 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/220504003, Dt.: 04.05.2022

Reporting Date : 03.06.2022

Party's Ref No: Nil

Sample Description: Ambient-Air Monitoring (24 Hrs for the Quarter of April to June 2022)

Sampling location : TRT Road (Near Durgapur School)  
Instrument Used : Respirable Dust Sampler, Fine Particulate (PM<sub>2.5</sub>) Sampler  
Whether Condition : Clear Sky  
Sampling duration : 24 Hrs

### Test Results

Parameters	PM <sub>10</sub> ( $\mu\text{g}/\text{m}^3$ )	PM <sub>2.5</sub> ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )
Time Weighted Average	24 hrs	24 hrs	24 hrs	24 hrs
DATE OF SAMPLING				
02.05.2022	70.6	38.2	18.7	31.4
05.05.2022	74.2	36.7	19.2	29.2
09.05.2022	79.7	45.1	20.6	33.7
12.05.2022	86.7	50.2	17.7	32.7
16.05.2022	75.2	46.7	22.6	31.7
19.05.2022	90.2	48.2	21.2	36.7
23.05.2022	75.7	36.7	19.6	39.2
26.05.2022	69.7	32.7	15.9	32.7
30.05.2022	84.2	40.2	18.2	39.1
Minimum	69.7	32.7	15.9	29.2
Maximum	90.2	50.2	22.6	39.2
Average	78.7	41.6	19.3	34.1
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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GOVT. RECOGNISED LABORATORY

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

Contact : (OIE) 86077-70160, 0186-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net

Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

Issued to:

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

Report No: HTH/M/220504004, Dt.: 04.05.2022

Reporting Date : 03.06.2022

Party's Ref No: Nil

Sample Description: Ambient-Air Monitoring (24 Hrs for the Quarter of April to June 2022)

Sampling location : TRT Road / Colony at Siyasin  
Instrument Used : Respirable Dust Sampler, Fine Particulate (PM<sub>2.5</sub>) Sampler  
Whether Condition : Clear Sky  
Sampling duration : 24 Hrs

### Test Results

Parameters	PM <sub>10</sub> ( $\mu\text{g}/\text{m}^3$ )	PM <sub>2.5</sub> ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )
Time Weighted Average	24 hrs	24 hrs	24 hrs	24 hrs
DATE OF SAMPLING				
02.05.2022	69.4	39.7	17.2	35.2
05.05.2022	72.9	36.7	19.2	32.1
09.05.2022	69.7	39.2	20.1	39.7
12.05.2022	82.7	41.7	16.7	36.7
16.05.2022	65.2	42.6	19.9	39.2
19.05.2022	89.7	43.9	20.1	37.7
23.05.2022	75.7	39.7	22.4	35.2
26.05.2022	65.7	35.6	16.9	33.7
30.05.2022	80.2	37.2	19.2	32.9
Minimum	65.2	35.6	16.7	32.1
Maximum	89.7	43.9	22.4	39.7
Average	75.1	39.6	19.2	35.8
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)



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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthouseca@gmail.com, info@haryanatesthouse.net

Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## 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/220504005, Dt.: 04.05.2022

Reporting Date : 03.06.2022

Party's Ref No: Nil

Sample Description: Ambient-Air Monitoring (24 Hrs for the Quarter of April to June 2022)

Sampling location : Power House at Haat/Harsan  
Instrument Used : Respirable Dust Sampler, Fine Particulate (PM<sub>2.5</sub>) Sampler  
Whether Condition : Clear Sky  
Sampling duration : 24 Hrs

### Test Results

Parameters	PM <sub>10</sub> ( $\mu\text{g}/\text{m}^3$ )	PM <sub>2.5</sub> ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )
Time Weighted Average	24 hrs	24 hrs	24 hrs	24 hrs
DATE OF SAMPLING				
02.05.2022	76.1	41.2	15.4	29.1
05.05.2022	74.2	35.4	16.2	32.9
09.05.2022	79.7	39.4	19.4	34.1
12.05.2022	86.7	45.1	20.1	35.6
16.05.2022	71.2	46.7	22.7	34.7
19.05.2022	84.6	49.7	19.6	39.2
23.05.2022	69.7	39.7	18.4	37.8
26.05.2022	68.2	36.7	15.9	33.7
30.05.2022	84.7	38.2	16.9	39.8
Minimum	68.2	35.4	15.4	29.1
Maximum	86.7	49.7	22.7	39.8
Average	77.3	41.6	18.4	35.1
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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50-C, Sector-25 Part-II, HUDA, PANIPAT-132 103 (HR.)

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net

DOC No. HTHQF/7.8

Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## 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/220504006, Dt.: 04.05.2022

Reporting Date : 03.06.2022

Party's Ref No: Nil

Sample Description: Ambient-Air Monitoring (24 Hrs for the Quarter of April to June 2022)

Sampling location : Dam Site (Near Office)  
Instrument Used : Respirable Dust Sampler, Fine Particulate (PM<sub>2.5</sub>) Sampler  
Whether Condition : Clear Sky  
Sampling duration : 24 Hrs

### Test Results

Parameters	PM <sub>10</sub> ( $\mu\text{g}/\text{m}^3$ )	PM <sub>2.5</sub> ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )
Time Weighted Average	24 hrs	24 hrs	24 hrs	24 hrs
DATE OF SAMPLING				
02.05.2022	63.8	41.3	17.3	32.6
05.05.2022	69.7	32.7	18.0	35.2
09.05.2022	62.4	39.2	22.7	32.7
12.05.2022	80.2	42.7	19.2	34.6
16.05.2022	65.7	38.6	20.4	36.7
19.05.2022	85.2	42.6	18.2	32.6
23.05.2022	70.7	39.2	20.7	34.9
26.05.2022	69.7	34.9	19.5	39.2
30.05.2022	79.2	36.2	19.6	35.2
Minimum	62.4	32.7	17.3	32.6
Maximum	85.2	42.7	22.7	39.2
Average	72.2	38.4	19.6	35.0
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)

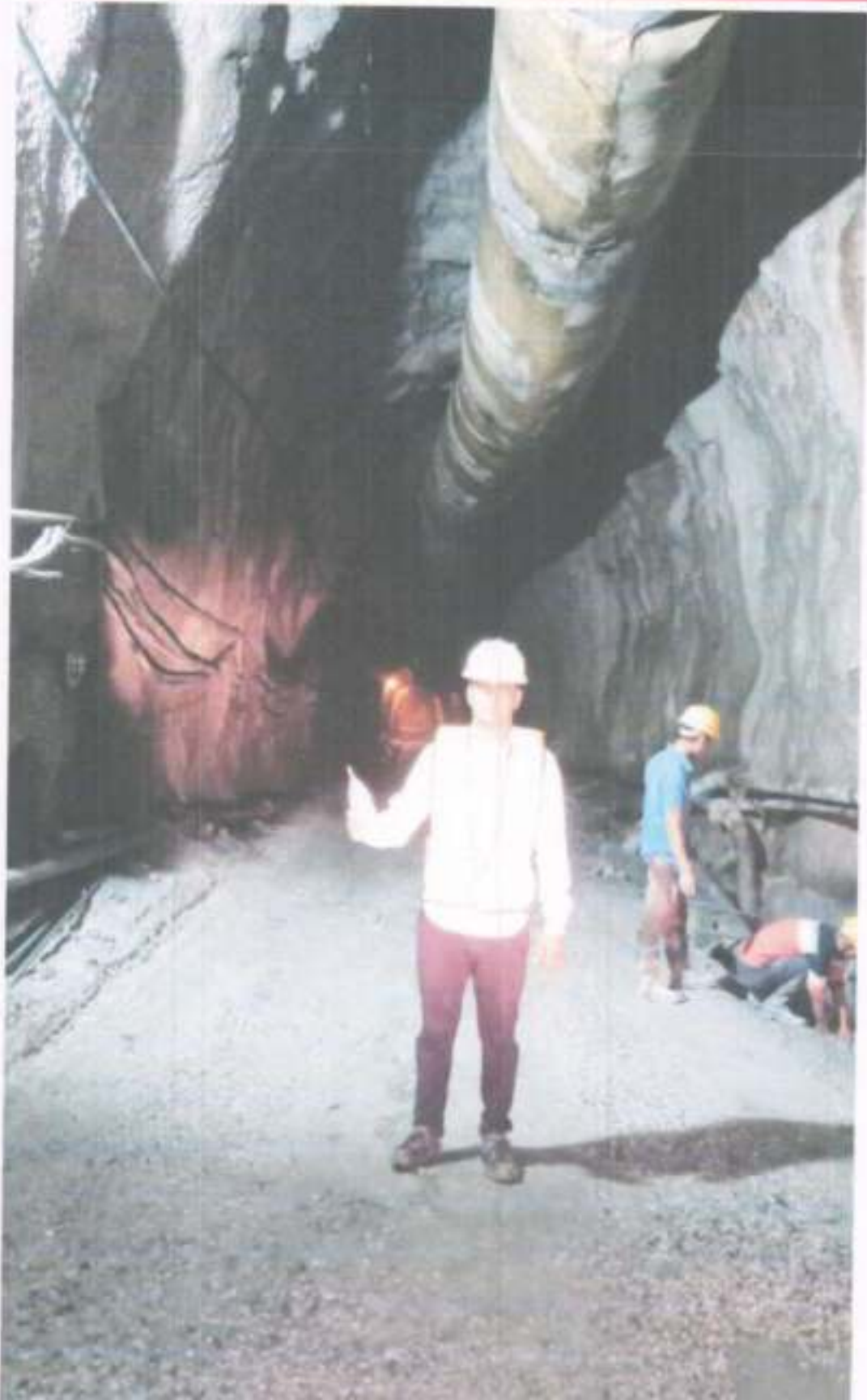
**INDOOR AIR QUALITY**

## INDOOR AIR QUALITY





## INDOOR AIR QUALITY







DOC No. HTH/QF/7.1

# HARYANA TEST HOUSE

& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

**Issued To:**

Hindustan Construction Company Ltd

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

Report No. : HTH/EP/220516023

ULR No. : TC781122100002714F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 to 24/05/2022

Reporting Date : 25/05/2022

Sample Description : Indoor Air Quality

Type of Industry : Construction Company  
Date & time of sampling : 10/05/2022 (09:15 Hrs to 17:15 Hrs)  
Sample Location : Inside Adit To HRT  
Instrument used : RDS Model APM- 460 BL (Sr. No. 3036 DTD 2017)  
Instrument Calibration Status : Calibrated (upto 19.07.2022)  
Purpose of analysis : Monitoring  
Sample collected/ supplied by : By our lab. Representative

**A. Observations:**

1. Sampling flow rate (Avg.) : 1.26 m<sup>3</sup>/min
2. Total volume of air sampled : 604.80 m<sup>3</sup>
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 <sup>3</sup>	1.475	5.0 Max	IS 5182 (Part-23) : 2006 : RA : 2017
2	Sulphur Dioxide (SO <sub>2</sub> )	mg/m <sup>3</sup>	0.019	13 Max	IS 5182 (Part-2) : 2001 : RA : 2017
3	Nitrogen Dioxide (NO <sub>2</sub> )	mg/m <sup>3</sup>	0.043	9.0 Max	IS 5182 (Part-6) : 2006 : RA : 2017
4	Carbon Monoxide (CO)	mg/m <sup>3</sup>	0.916	55 Max	NIOSH 6604 :1996
5	Carbon Dioxide (as CO <sub>2</sub> )	mg/m <sup>3</sup>	3117.6	9000 Max	HTH/QF/7.2/2/CH-02, SOP No-16
6	Formaldehyde (HCHO)	mg/m <sup>3</sup>	0.037	-	NIOSH 3500 : 1994

\*\*\*End of Report\*\*\*

Remarks : Limit for Air Contaminants as per OSHA

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

Kishu  
25-05-2022

Review by





DOC No. HTH/QF/7.8

# HARYANA TEST HOUSE

## & Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

### Issued To:

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

Report No. : HTH/EP/220516023

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 24/05/2022

Reporting Date : 25/05/2022

Sample Description : Indoor Air Quality

Type of Industry : Construction Company  
Date & time of sampling : 10/05/2022 (09:15 Hrs to 17:15 Hrs)  
Sample Location : Inside Adit To HRT  
Instrument used : RDS Model APM- 460 BL (Sr. No. 3036 DTD 2017)  
Instrument Calibration Status : Calibrated (upto 19.07.2022)  
Purpose of analysis : Monitoring  
Sample collected/ supplied by : By our lab. Representative

### A. Observations:

1. Sampling flow rate (Avg.) : 1.26 m<sup>3</sup>/min  
2. Total volume of air sampled : 604.80 m<sup>3</sup>  
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	mg/m <sup>3</sup>	BLQ(LOQ:1.25)	-	APHA
2 Methane	mg/m <sup>3</sup>	BLQ(LOQ:0.0000 25)	-	By GC-FID

\*\*\*End of Report\*\*\*

Remarks : Limit for Air Contaminants as per OSHA

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

Kimh  
15.05.2022  
Review by

Md. Asif Anwar  
15/05/2022





DOC No. HTH/QF/7.8

# HARYANA TEST HOUSE

## & Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> <b>Hindustan Construction Company Ltd</b> Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516024 <b>ULR No.</b> : TC781122100002715F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 24/05/2022 <b>Reporting Date</b> : 25/05/2022
<b>Sample Description</b> : Indoor Air Quality	

**Type of Industry** : Construction Company  
**Date & time of sampling** : 10/05/2022 (09:30 Hrs to 17:30 Hrs)  
**Sample Location** : Inside TRT Adit Tunnel  
**Instrument used** : RDS Model APM- 460 BL (Sr. No. 3045 DTD 2017)  
**Instrument Calibration Status** : Calibrated (upto 19.07.2022)  
**Purpose of analysis** : Monitoring  
**Sample collected/ supplied by** : By our lab. Representative

### A. Observations:

1. Sampling flow rate (Avg.) : 1.21 m<sup>3</sup>/min
2. Total volume of air sampled : 580.80 m<sup>3</sup>
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 <sup>3</sup>	1.697	5.0 Max	IS 5182 (Part-23) : 2006 : RA : 2017
2	Sulphur Dioxide (SO <sub>2</sub> )	mg/m <sup>3</sup>	0.023	13 Max	IS 5182 (Part-2) : 2001 : RA : 2017
3	Nitrogen Dioxide (NO <sub>2</sub> )	mg/m <sup>3</sup>	0.043	9.0 Max	IS 5182 (Part-6) : 2006 : RA : 2017
4	Carbon Monoxide (CO)	mg/m <sup>3</sup>	1.031	55 Max	NIOSH 6604 :1996
5	Carbon Dioxide (as CO <sub>2</sub> )	mg/m <sup>3</sup>	3236.4	9000 Max	HTH/QF/7.2/2/CH-02, SOP No-16
6	Formaldehyde (HCHO)	mg/m <sup>3</sup>	0.034	-	NIOSH 3500 : 1994

\*\*\*End of Report\*\*\*

**Remarks** : Limit for Air Contaminants as per OSHA  
 BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Kishu  
 25-05-2022  
 Review by

  
 Md. Asfak Ansari





DOC No. HTH/QF/7.8

# HARYANA TEST HOUSE

## & Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Ext.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<p><b>Issued To:</b>  <b>Hindustan Construction Company Ltd</b>          Vishunagarh Pipal Koti Hydro- Electric Project, Mayapur,          Distt-Chamoli (U.K.) 246472</p>	<p><b>Report No.</b> : HTH/EP/220516024</p> <p><b>Party's Ref No.</b> : Nil</p> <p><b>Booking Date</b> : 16/05/2022</p> <p><b>Period of Testing</b> : 16/05/2022 To 24/05/2022</p> <p><b>Reporting Date</b> : 25/05/2022</p>
<p><b>Sample Description</b> : Indoor Air Quality</p>	

Type of Industry : Construction Company  
 Date & time of sampling : 10/05/2022 (09:30 Hrs to 17:30 Hrs)  
 Sample Location : Inside TRT Adit Tunnel  
 Instrument used : RDS Model APM- 460 BL (Sr. No. 3045 DTD 2017)  
 Instrument Calibration Status : Calibrated (upto 19.07.2022)  
 Purpose of analysis : Monitoring  
 Sample collected/ supplied by : By our lab. Representative

### A. Observations:

1. Sampling flow rate (Avg.) : 1.21 m<sup>3</sup>/min
2. Total volume of air sampled : 580.80 m<sup>3</sup>
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	mg/m <sup>3</sup>	BLQ(LOQ:1.25)	-	APHA
2 Methane	mg/m <sup>3</sup>	BLQ(LOQ:0.0000 25)	-	By GC-FID

\*\*\*End of Report\*\*\*

Remarks : Limit for Air Contaminants as per OSHA

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

*Kimh*  
 25-05-2022  
 Review by



Md. Asfak Ansari



# HARYANA TEST HOUSE

## & Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (O/E) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> <b>Hindustan Construction Company Ltd</b> Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516025 <b>ULR No.</b> : TC781122100002716F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 24/05/2022 <b>Reporting Date</b> : 25/05/2022
<b>Sample Description</b> : Indoor Air Quality	

Type of Industry : Construction Company  
 Date & time of sampling : 10/05/2022 (09:45 Hrs to 17:45 Hrs)  
 Sample Location : Inside MAT  
 Instrument used : RD5 Model APM- 460 BL (Sr. No. 2304 DTB 2018)  
 Instrument Calibration Status : Calibrated (upto 08.04.2023)  
 Purpose of analysis : Monitoring  
 Sample collected/ supplied by : By our lab. Representative

### A. Observations:

1. Sampling flow rate (Avg.) : 1.26 m<sup>3</sup>/min
2. Total volume of air sampled : 602.40 m<sup>3</sup>
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 <sup>3</sup>	1.598	5.0 Max	IS 5182 (Part-23) : 2006 : RA : 2017
2	Sulphur Dioxide (SO <sub>2</sub> )	mg/m <sup>3</sup>	0.020	13 Max	IS 5182 (Part-2) : 2001 : RA : 2017
3	Nitrogen Dioxide (NO <sub>2</sub> )	mg/m <sup>3</sup>	0.040	9.0 Max	IS 5182 (Part-6) : 2006 : RA : 2017
4	Carbon Monoxide (CO)	mg/m <sup>3</sup>	0.802	55 Max	NIOSH 6604 :1996
5	Carbon Dioxide (as CO <sub>2</sub> )	mg/m <sup>3</sup>	3117.6	9000 Max	HTH/QF/7.2/2/CH-02, SOP No-16
6	Formaldehyde (HCHO)	mg/m <sup>3</sup>	0.033	-	NIOSH 3500 : 1994

\*\*\*End of Report\*\*\*

Remarks : Limit for Air-Contaminants as per OSHA  
BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Kimh  
25-05-2022  
Review by

Md. Asfak Ansari  
25/05/22





# HARYANA TEST HOUSE

& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (O/E.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

Web Site : www.haryanatesthouse.net, e-mail : haryanatesthouseecs@gmail.com, info@haryanatesthouse.net



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516025 <b>Party's Ref No.</b> : Nil <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 24/05/2022 <b>Reporting Date</b> : 25/05/2022
<b>Sample Description</b> : Indoor Air Quality	

Type of Industry : Construction Company  
Date & time of sampling : 10/05/2022 (09:45 Hrs to 17:45 Hrs)  
Sample Location : Inside MAT  
Instrument used : RDS Model APM- 460 BL (Sr. No. 2304 DTB 2018)  
Instrument Calibration Status : Calibrated (upto 08.04.2023)  
Purpose of analysis : Monitoring  
Sample collected/ supplied by : By our lab. Representative

**A. Observations:**

1. Sampling flow rate (Avg.) : 1.26 m<sup>3</sup>/min
2. Total volume of air sampled : 602.40 m<sup>3</sup>
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	mg/m <sup>3</sup>	BLQ (LOQ: 1.25)	-	APHA
2. Methane	mg/m <sup>3</sup>	BLQ (LOQ: 0.0000 25)	-	By GC-FID

\*\*\*End of Report\*\*\*

Remarks : Limit for Air Contaminants as per OSHA

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

Kimh  
25-05-22  
Review by

  
Md. Asfak Ansari





DOC No. HTH/QFT/11

# HARYANA TEST HOUSE

## & Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> <b>Hindustan Construction Company Ltd</b> Vishunagarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516026 <b>ULR No.</b> : TC781122100002711F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 24/05/2022 <b>Reporting Date</b> : 25/05/2022
<b>Sample Description</b> : Indoor Air Quality	

**Type of Industry** : Construction Company  
**Date & time of sampling** : 12/05/2022 (09:15 Hrs to 17:15 Hrs)  
**Sample Location** : Inside DT Tunnel  
**Instrument used** : RDS Model APM- 460 BL (Sr. No. 3036 DTD)  
**Instrument Calibration Status** : Calibrated (upto 19.07.2022)  
**Purpose of analysis** : Monitoring  
**Sample collected/ supplied by** : By our lab. Representative  
**A. Observations:**  
 1. Sampling flow rate (Avg.) : 1.20 m<sup>3</sup>/min  
 2. Total volume of air sampled : 576.00 m<sup>3</sup>  
 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 <sup>3</sup>	1.393	5.0 Max	IS 5182 (Part-23) : 2006 : RA : 2017
2	Sulphur Dioxide (SO <sub>2</sub> )	mg/m <sup>3</sup>	0.024	13 Max	IS 5182 (Part-2) : 2001 : RA : 2017
3	Nitrogen Dioxide (NO <sub>2</sub> )	mg/m <sup>3</sup>	0.043	9.0 Max	IS 5182 (Part-6) : 2006 : RA : 2017
4	Carbon Monoxide (CO)	mg/m <sup>3</sup>	0.687	55 Max	NIOSH 6604 : 1996
5	Carbon Dioxide (as CO <sub>2</sub> )	mg/m <sup>3</sup>	3081.6	9000 Max	HTH/QP/7.2/2/CH-02, SOP No-16
6	Formaldehyde (HCHO)	mg/m <sup>3</sup>	0.042	-	NIOSH 3500 : 1994

\*\*\*End of Report\*\*\*

Remarks : Limit for Air Contaminants as per OSHA  
BLQ : Below limit of Quantification / LOQ : Limit of Quantification

*Kirti*  
25.05.2022

Review by



Md. Arif Ansari





# HARYANA TEST HOUSE

& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3310205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516026 <b>Party's Ref No.</b> : Nil <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 24/05/2022 <b>Reporting Date</b> : 25/05/2022
<b>Sample Description</b> : Indoor Air Quality	

Type of Industry : Construction Company  
Date & time of sampling : 12/05/2022 (09:15 Hrs to 17:15 Hrs)  
Sample Location : Inside DT Tunnel  
Instrument used : RDS Model APM- 460 BL (Sr. No. 3036 DTD)  
Instrument Calibration Status : Calibrated (upto 19.07.2022)  
Purpose of analysis : Monitoring  
Sample collected/ supplied by : By our lab. Representative

**A. Observations:**  
1. Sampling flow rate (Avg.) : 1.20 m<sup>3</sup>/min  
2. Total volume of air sampled : 576.00 m<sup>3</sup>  
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	mg/m <sup>3</sup>	BLQ (LOQ: 1.25)	-	APHA
2	Methane	mg/m <sup>3</sup>	BLQ (LOQ: 0.0000 25)	-	By GC-FID

\*\*\*End of Report\*\*\*

Remarks : Limit for Air Contaminants as per OSHA  
BLQ : Below limit of Quantification / LOQ : Limit of Quantification

Review by  
Kishu  
25-05-2022

Md. Asif Ansari  
25/05/22



DOC No. HTHQF17.8

# HARYANA TEST HOUSE

## & Consultancy Services

### GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> <b>Hindustan Construction Company Ltd</b> Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516027 <b>ULR No.</b> : TC781122100002712F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 24/05/2022 <b>Reporting Date</b> : 25/05/2022
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**Sample Description** : Indoor Air Quality

Type of Industry	: Construction Company
Date & time of sampling	: 12/05/2022 (09:30 Hrs to 17:30 Hrs)
Sample Location	: Inside Destling Chem
Instrument used	: RDS Model APM- 460 BL (Sr. No. 3045 DTD 2017)
Instrument Calibration Status	: Calibrated (upto 19.07.2022)
Purpose of analysis	: Monitoring
Sample collected/ supplied by	: By our lab. Representative

**A. Observations:**

1. Sampling flow rate (Avg.)	: 1.26 m <sup>3</sup> /min
2. Total volume of air sampled	: 602.40 m <sup>3</sup>
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 <sup>3</sup>	1.328	5.0 Max	IS 5182 (Part-23) : 2006 : RA : 2017
2	Sulphur Dioxide (SO <sub>2</sub> )	mg/m <sup>3</sup>	0.026	13 Max	IS 5182 (Part-2) : 2001 : RA : 2017
3	Nitrogen Dioxide (NO <sub>2</sub> )	mg/m <sup>3</sup>	0.045	9.0 Max	IS 5182 (Part-6) : 2006 : RA : 2017
4	Carbon Monoxide (CO)	mg/m <sup>3</sup>	1.031	55 Max	NIOSH 6604 :1996
5	Carbon Dioxide (as CO <sub>2</sub> )	mg/m <sup>3</sup>	3184.2	9000 Max	HTH/QF/7.2/2/CH-02, SOP No-16
6	Formaldehyde (HCHO)	mg/m <sup>3</sup>	0.045	-	NIOSH 3500 : 1994

\*\*\*End of Report\*\*\*

**Remarks** : Limit for Air Contaminants as per OSHA

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

Kishu  
25/05/2022
  
 Md. Asfak Ansari  
 Co. Manager (Env.)





# HARYANA TEST HOUSE

& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

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Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

**Issued To:**

Hindustan Construction Company Ltd

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

Report No. : HTH/EP/220516027

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 24/05/2022

Reporting Date : 25/05/2022

Sample Description : Indoor Air Quality

Type of Industry : Construction Company  
Date & time of sampling : 12/05/2022 (09:30 Hrs to 17:30 Hrs)  
Sample Location : Inside Destling Chem  
Instrument used : RDS Model APM- 460 BL (Sr. No. 3045 DTD 2017)  
Instrument Calibration Status : Calibrated (upto 19.07.2022)  
Purpose of analysis : Monitoring  
Sample collected/ supplied by : By our lab. Representative

**A. Observations:**

1. Sampling flow rate (Avg.) : 1.26 m<sup>3</sup>/min
2. Total volume of air sampled : 602.40 m<sup>3</sup>
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	mg/m <sup>3</sup>	BLQ(LOQ:1.25)	-	APHA
2 Methane	mg/m <sup>3</sup>	BLQ(LOQ:0.0000 25)	-	By GC-FID

\*\*\*End of Report\*\*\*

Remarks : Limit for Air Contaminants as per OSHA

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

Kinh  
25-05-2022

Review by



Md. Asif Ansari



# HARYANA TEST HOUSE

& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516028 <b>ULR No.</b> : TC781122100002713F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022To 24/05/2022 <b>Reporting Date</b> : 25/05/2022
<b>Sample Description</b> : Indoor Air Quality	

Type of Industry	: Construction Company
Date & time of sampling	: 12/05/2022 (09:45 Hrs to 17:45 Hrs)
Sample Location	: Inside Adit To HRT
Instrument used	: RDS Model APM- 460 BL (Sr. No. 2304 DTB 2018)
Instrument Calibration Status	: Calibrated (upto 08.04.2023)
Purpose of analysis	: Monitoring
Sample collected/ supplied by	: By our lab. Representative

### A. Observations:

1. Sampling flow rate (Avg.) : 1.22 m<sup>3</sup>/min
2. Total volume of air sampled : 585.60m<sup>3</sup>
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 <sup>3</sup>	1.234	5.0 Max	IS 5182 (Part-23) : 2006 : RA : 2017
2	Sulphur Dioxide (SO <sub>2</sub> )	mg/m <sup>3</sup>	0.020	13 Max	IS 5182 (Part-2) : 2001 : RA : 2017
3	Nitrogen Dioxide (NO <sub>2</sub> )	mg/m <sup>3</sup>	0.037	9.0 Max	IS 5182 (Part-6) : 2006 : RA : 2017
4	Carbon Monoxide (CO)	mg/m <sup>3</sup>	0.573	55 Max	NIOSH 6604 : 1996
5	Carbon Dioxide (as CO <sub>2</sub> )	mg/m <sup>3</sup>	3063.6	9000 Max	HTH/CF/7.2/2/CH-02, SOP No-16
6	Formaldehyde (HCHO)	mg/m <sup>3</sup>	0.039	-	NIOSH 3500 : 1994

\*\*\*End of Report\*\*\*

Remarks : Limit for Air Contaminants as per OSHA

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

Kirthi  
25-05-2022

Md. Asfak Ansari





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GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

**Issued To:**

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

Report No. : HTH/EP/220516028

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 to 24/05/2022

Reporting Date : 25/05/2022

Sample Description : Indoor Air Quality

Type of Industry : Construction Company  
Date & time of sampling : 12/05/2022 (09:45 Hrs to 17:45 Hrs)  
Sample Location : Inside Adit To HRT  
Instrument used : RDS Model APM- 460 BL (Sr. No. 2304 DTB 2018)  
Instrument Calibration Status : Calibrated (upto 08.04.2023)  
Purpose of analysis : Monitoring  
Sample collected/ supplied by : By our lab. Representative

**A. Observations:**

1. Sampling flow rate (Avg.) : 1.22 m<sup>3</sup>/min
2. Total volume of air sampled : 585.60m<sup>3</sup>
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	mg/m <sup>3</sup>	BLQ(LOQ:1.25)	-	APHA
2	Methane	mg/m <sup>3</sup>	BLQ(LOQ:0.0000 25)	-	By GC-FID

\*\*\*End of Report\*\*\*

Remarks : Limit for Air Contaminants as per OSHA

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

Kimh  
25/05/2022  
Review by

HARYANA TEST HOUSE  
Md. Asfak Ansari  
25/05/2022



**NOISE LEVEL MONITORING**

## **NOISE LEVEL MONITORING**



## NOISE LEVEL MONITORING







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& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (HM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516009 <b>ULR No.</b> : TC781122100002690F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 23/05/2022 <b>Reporting Date</b> : 23/05/2022
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**Sample Description** : Noise Level Monitoring- Ambient Noise (Residential Area)

Type of Industry	: Construction Company
Sample Location	: Near Workshop
Instrument used	: Sound Level Meter (HTH 841)
Instrument Calibration Status	: Calibrated (upto 18.07.2022)
Date of measurement	: 12/05/2022
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	70.6	71.7	72.3	73.6	72.4	73.9

### TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Workshop	70.6	73.9	72.5	75 max.

\*\*\*End of Report\*\*\*

Remarks : Leq- It is an energy mean of the noise level over a specified period

*Kishu*  
23-5-2022

*Antari*  
23/5/22  
Md. Adak Antari



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GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516010 <b>ULR No.</b> : TC781122100002691F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 23/05/2022 <b>Reporting Date</b> : 23/05/2022
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**Sample Description** : Noise Level Monitoring- Ambient Noise (Residential Area)

Type of Industry	: Construction Company
Sample Location	: Near Main Office Power (Power House)
Instrument used	: Sound Level Meter (HTH 841)
Instrument Calibration Status	: Calibrated (upto 18.07.2022)
Date of measurement	: 12/05/2022
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)	71.6	72.7	70.1	72.3	73.4	72.6

### 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)	70.1	73.4	72.2	75 max.

\*\*\*End of Report\*\*\*

**Remarks** : Leq: It is an energy mean of the noise level over a specified period

Kimh  
21-05-2022

Md. Asif Akbari  
23/05/22





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GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthouseccs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516011 <b>ULR No.</b> : TC781122100002692F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 23/05/2022 <b>Reporting Date</b> : 23/05/2022
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**Sample Description** : Noise Level Monitoring- Ambient Noise (Residential Area)

Type of Industry	: Construction Company
Sample Location	: Near Batching Plant
Instrument used	: Sound Level Meter (HTH 841)
Instrument Calibration Status	: Calibrated (upto 18.07.2022)
Date of measurement	: 12/05/2022
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	72.3	71.6	70.2	73.9	71.8	72.3

### TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Batching Plant	70.2	73.9	72.2	75 max.

\*\*\*End of Report\*\*\*

Remarks : Leq- It is an energy mean of the noise level over a specified period

*Kishor*  
23-05-2022

*Md. Asif Ansari*  
23/05/22





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### GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BIM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthouses@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunagarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516012 <b>ULR No.</b> : TC781122100002693F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 23/05/2022 <b>Reporting Date</b> : 23/05/2022
<b>Sample Description</b> : Noise Level Monitoring- Ambient Noise (Residential Area)	

Type of Industry : Construction Company  
 Sample Location : Near Siyasin Colony  
 Instrument used : Sound Level Meter (HTH 841)  
 Instrument Calibration Status : Calibrated (upto 18.07.2022)  
 Date of measurement : 12/05/2022  
 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	73.9	72.6	73.4	72.4	72.8	73.4

### TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Siyasin Colony	72.4	73.9	73.1	75 max.

\*\*\*End of Report\*\*\*

Remarks : Leq- It is an energy mean of the noise level over a specified period

Kimhi  
23-05-2022

Md. Asif Ansari  
23/05/22



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GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516013 <b>ULR No.</b> : TC781122100002694F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 23/05/2022 <b>Reporting Date</b> : 23/05/2022
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**Sample Description** : Noise Level Monitoring- Ambient Noise (Residential Area)

Type of Industry	: Construction Company
Sample Location	: Near Haul Road
Instrument used	: Sound Level Meter (HTH 841)
Instrument Calibration Status	: Calibrated (upto 18.07.2022)
Date of measurement	: 12/05/2022
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	74.6	73.5	74.0	71.9	71.6	72.7

### TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Haul Road	71.9	74.6	73.5	75 max.

\*\*\*End of Report\*\*\*

**Remarks** : Leq- It is an energy mean of the noise level over a specified period

Kimh  
13-05-2022

Md. Asif Ansari





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GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516014 <b>ULR No.</b> : TC781122100002695F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 to 23/05/2022 <b>Reporting Date</b> : 23/05/2022
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**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 (MTH B41)
Instrument Calibration Status	: Calibrated (upto 18.07.2022)
Date of measurement	: 12/05/2022
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	72.3	73.1	71.1	73.4	71.8	72.2

### TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Haat / Harsari Village	71.1	73.4	72.4	75 max.

\*\*\*End of Report\*\*\*

Remarks : Leq- It is an energy mean of the noise level over a specified period

Kimbi  
23.05.2022

Md. Asif Ansari  
23/05/22





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GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516015 <b>ULR No.</b> : TC781122100002696F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 23/05/2022 <b>Reporting Date</b> : 23/05/2022
<b>Sample Description</b> : Noise Level Monitoring- Ambient Noise (Residential Area)	

Type of Industry : Construction Company  
Sample Location : Near Batula Village  
Instrument used : Sound Level Meter (HTH 841)  
Instrument Calibration Status : Calibrated (upto 18.07.2022)  
Date of measurement : 13/05/2022  
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	70.6	71.2	72.4	73.6	72.8	71.3

### TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Batula Village	70.6	73.6	72.1	75 max.

\*\*\*End of Report\*\*\*

K.M.H.  
23-05-2022

Md. Asfak Ansari  
23/05/22



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& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthouseics@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516016 <b>ULR No.</b> : TC781122100002697F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 23/05/2022 <b>Reporting Date</b> : 23/05/2022
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**Sample Description** : Noise Level Monitoring- Ambient Noise (Residential Area)

Type of Industry	: Construction Company
Sample Location	: Near Main Office (Dam Site)
Instrument used	: Sound Level Meter (HTH 841)
Instrument Calibration Status	: Calibrated (upto 18.07.2022)
Date of measurement	: 13/05/2022
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	70.6	72.2	72.8	73.9	73.2

### 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)	70.6	73.9	72.5	75 max.

\*\*\*End of Report\*\*\*

Remarks : Leq- It is an energy mean of the noise level over a specified period

Kirih  
23/05/2022

Md. Asfak Aesari  
23/05/22





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& Consultancy Services

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

Issued To:

Hindustan Construction Company Ltd

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

Report No. : HTH/EP/220516017

ULR No. : TC781122100002698F

Party's Ref No. : Nil

Booking Date : 16/05/2022

Period of Testing : 16/05/2022 To 23/05/2022

Reporting Date : 23/05/2022

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

Type of Industry : Construction Company  
Sample Location : Near Camp Helong  
Instrument used : Sound Level Meter (HTH 841)  
Instrument Calibration Status : Calibrated (upto 18.07.2022)  
Date of measurement : 13/05/2022  
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	72.3	71.2	70.6	72.8	73.5	72.3

### TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Camp Helong	70.6	73.5	72.2	75 max.

\*\*\*End of Report\*\*\*

Remarks : Leq:- It is an energy mean of the noise level over a specified period

Kimh.  
23-05-2022

Review by

Md. Asfak Ansari





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& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516018 <b>ULR No.</b> : TC781122100002699F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 23/05/2022 <b>Reporting Date</b> : 23/05/2022
<b>Sample Description</b> : Noise Level Monitoring- Ambient Noise (Residential Area)	

Type of Industry	: Construction Company
Sample Location	: Near HRT & DC Tunnel Bridge
Instrument used	: Sound Level Meter (HTH 841)
Instrument Calibration Status	: Calibrated (upto 18.07.2022)
Date of measurement	: 13/05/2022
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 Bridge	73.9	70.6	71.2	73.9	74.0	72.6

### TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near HRT & DC Tunnel Bridge	70.6	74.0	72.9	75 max.

\*\*\*End of Report\*\*\*

Remarks : Leq:- It is an energy mean of the noise level over a specified period

Kimh  
23.05.2022

Md. Asfak Ansari



# HARYANA TEST HOUSE

& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516019 <b>ULR No.</b> : TC781122100002700F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 23/05/2022 <b>Reporting Date</b> : 23/05/2022
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**Sample Description** : Noise Level Monitoring- Ambient Noise (Residential Area)

Type of Industry	: Construction Company
Sample Location	: Near Crusher Area (Dam Site)
Instrument used	: Sound Level Meter (HTH 841)
Instrument Calibration Status	: Calibrated (upto 18.07.2022)
Date of measurement	: 13/05/2022
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 (Dam Site)	71.6	72.3	73.2	74.0	71.2	72.3

### TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A") CPCB
		Lmin	Lmax	Leq	
1	Near Crusher Area (Dam Site)	71.2	74.0	72.5	75 max.

\*\*\*End of Report\*\*\*

Remarks : Leq- It is an energy mean of the noise level over a specified period

Kishu  
23-05-2022

Md. Asfak Ansari  
23/05/22





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& Consultancy Services

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

Contact : (Off.) 86077-70160, 0180-3510205 (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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Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No.</b> : HTH/EP/220516020 <b>ULR No.</b> : TC781122100002701F <b>Party's Ref No.</b> : Nil  <b>Booking Date</b> : 16/05/2022 <b>Period of Testing</b> : 16/05/2022 To 23/05/2022 <b>Reporting Date</b> : 23/05/2022
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**Sample Description** : Noise Level Monitoring-Work Place

Type of Industry	: Construction Company
Sample Location	: Inside TRT Tunnel
Instrument used	: Sound Level Meter (HTH 813)
Instrument Calibration Status	: Calibrated (upto 08.04.2023)
Date of measurement	: 12/05/2022
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	80.6	82.3	81.9	83.6	82.4	81.6

### TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A")
		Lmin	Lmax	Leq	
1	Inside TRT Tunnel	80.6	83.6	82.2	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*  
23-05-2022

*Anis*  
23/05/22  
Md. Anis Ansari





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& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (O/E) 86077-70160, 0180-3510205 (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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Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No. :</b> HTH/EP/220516021 <b>ULR No. :</b> TC781122100002702F <b>Party's Ref No. :</b> Nil  <b>Booking Date :</b> 16/05/2022 <b>Period of Testing :</b> 16/05/2022 To 23/05/2022 <b>Reporting Date :</b> 23/05/2022
<b>Sample Description :</b> Noise Level Monitoring-Work Place	

Type of Industry	: Construction Company
Sample Location	: Inside MAT Tunnel
Instrument used	: Sound Level Meter (HTH 813)
Instrument Calibration Status	: Calibrated (upto 08.04.2023)
Date of measurement	: 12/05/2022
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	80.2	81.2	82.3	82.6	83.1	83.6

### TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A")
		Lmin	Lmax	Leq	
1	Inside MAT Tunnel	80.2	83.6	82.3	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

Kirti  
23-05-2022

Md. Asif Ansari  
23/05/22



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GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169  
Web Site : www.haryanatesthouse.net, e-mail : haryanatesthouseco@gmail.com, info@haryanatesthouse.net



TC-7811



Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

<b>Issued To:</b> Hindustan Construction Company Ltd Vishunugarh Pipal Koti Hydro- Electric Project, Mayapur, Distt-Chamoli (U.K.) 246472	<b>Report No. :</b> HTH/EP/220516022 <b>ULR No. :</b> TC781122100002703F <b>Party's Ref No. :</b> Nil  <b>Booking Date :</b> 16/05/2022 <b>Period of Testing :</b> 16/05/2022 To 23/05/2022 <b>Reporting Date :</b> 23/05/2022
<b>Sample Description :</b> Noise Level Monitoring-Work Place	

Type of Industry : Construction Company  
Sample Location : Inside Ventilation Tunnel  
Instrument used : Sound Level Meter (HTH 813)  
Instrument Calibration Status : Calibrated (upto 08.04.2023)  
Date of measurement : 12/05/2022  
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	81.9	82.4	83.7	82.5	84.0	81.1

### TEST RESULTS

S.N.	Point of Measurement	Noise Level (dB "A")			Standard Limits (dB "A")
		Lmin	Lmax	Leq	
1	Inside Ventilation Tunnel	81.1	84.0	82.7	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

Kishu  
23.05.2022

Review by

Md. Asfak Ansari  
23/05/22

# **CRUSHER MONITORING**





# HARYANA TEST HOUSE

& Consultancy Services

GOVT. RECOGNISED LABORATORY

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

Contact : (Off.) 86077-70160, 0180-3510205 (Env.) 86077-70164, (BM) 86077-70166, (Food) 86077-70169

Web Site : www.haryanatesthouse.net, e-mail : haryanatesthousecs@gmail.com, info@haryanatesthouse.net

Recognition / Approval : MoEF / FSSAI / BIS / ISO 9001, 14001, 45001 Certified Lab.

## TEST REPORT

Report No: 220516005

Date: 20.05.2022

Issued to:

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

Party's Ref No: Nil

Job Order No: HTH/M/220516005, Dt.: 16.05.2022

Sample Description: Air-Emission (Stone Crusher)

Type of Unit : Stone Crusher  
Date of sampling & time : 14.05.2022  
Type of sample : Stone Crusher (Inward & Outward)  
Purpose of Analysis : Monitoring  
Period of testing : 16.05.2022 to 20.05.2022

### A. Observations:

1	Location of Sampling Point	: Inward	Outward
2	Sampling Flow rate, M <sup>3</sup> /min (Avg.)	: 1.30	1.30
3	Total Volume of Air Sampled, M <sup>3</sup>	: 82.0	76.0
4	Duration of sampling, minutes	: 60.00	60.00
5	Wind Direction	: NE to SW	

### B. Test Results:

Protocol Used: IS 5182 (Part-IV)

Sr. No.	Point of sample collection	Parameter	Results ( $\mu\text{g}/\text{M}^3$ )
1	Windward direction at a distance of about 6.0 m away from Stone Crushing	SPM	1374.36
2	Leeward direction at a distance of 5.0 m away from Stone Crushing	SPM	1770.51
3		Result	396.15

Note: - Standard Limits : 600  $\mu\text{g}/\text{M}^3$   
- Windward - Inward  
- Leeward - Outward

  
Authorized Signatory  
(Page 1 of 1)

**Minutes of the 3<sup>rd</sup> Multi-Disciplinary Committee (MDC) meeting of Vishnugad Pipalkoti Hydro Electric Project (VPHEP), reconstituted by MoEF&CC, GoI, to oversee the implementation of the suggested safeguard measures (i.e. compliance conditions under Environment Clearance and Forest Clearance accorded by MoEF&CC) at VPHEP Project being implemented by THDCIL.**

The Multi-Disciplinary Committee of the 444 MW Vishnugad Pipalkoti Hydro Electric Project (VPHEP) of THDC India Limited (THDCIL) was re-constituted by MoEF&CC, GoI, vide letter No. J-12011/29/2007-IA-1 Dated: 10th October, 2017 to oversee the implementation of the suggested safeguard measures (i.e. compliance conditions under Environment Clearance and Forest Clearance accorded by MoEF&CC) at VPHEP Project being implemented by THDCIL.

The 3<sup>rd</sup> meeting of the said MDC of VPHEP was held on 31<sup>st</sup> July 2021 at Manthan Hall, Van Bhawan, 85 – Rajpur Road, Dehradun under the Chairmanship of Sh. Rajiv Bhartari, PCCF-HoFF, GoUK.

**Following committee members attended the meeting (Attendance Sheet Enclosed):**

1. Sh. Rajiv Bhartari, PCCF-HoFF, GoUK, Chairman, MDC
2. Sh. J.N. Singh, General Manger, THDCIL, Co-Chairman, MDC
3. Dr. A.N. Singh, ADG (EM), ICFRE, Dehradun
4. Sh. Amit Kanwar, DFO, Kedarnath Wild Life Sanctuary, Gopeshwar
5. Sh. Ashutosh Singh, DFO, Badrinath Forest Division, Gopeshwar
6. Sh. Sarvesh Kumar Dubey, DFO, Alaknanda Soil Conservation Division, Gopeshwar
7. Dr. Krishnendu Mondal, Dy. Director, Regional Office, MoEF&CC, Dehradun
8. Sh. Kalyan Singh Rawat, Maiti Sanstha, Dehradun
9. Sh. Sandeep Gupta, AGM (Envt.), VPHEP, THDCIL, Member Secretary
10. Sh. Vipin Thapliyal, Sr. Manager (Envt.), THDCIL, Rishikesh

**Special Invitees:**

1. Dr. Samir Sinha, APCCF (Projects & Community Forestry), Dehradun
2. Dr. Manoj Rangarh, Manager (Envt.), VPHEP, THDCIL
3. Sh. Ayush Walia, Dy. Manager (Envt.), VPHEP, THDCIL
4. Sh. Ashutosh Pratap Singh, Sr. Engineer (Envt.), VPHEP, THDCIL
5. Sh. N.S. Chauhan, Officer (Envt.), VPHEP, THDCIL
6. Sh. Binod Kumar, Sr. Manager (HSE), Hindustan Construction Company Ltd., VPHEP
7. Sh. Tej Bahadur Sinha, Manager (HSE), Hindustan Construction Company Ltd., VPHEP

The meeting started with the welcome address by the Member Secretary / AGM (Envt., VPHEP Project). A detailed Presentation was given on Project description & status, Action taken on minutes/points of 2<sup>nd</sup> MDC meeting, status on various safeguard measures (i.e. compliance conditions under Environment Clearance and Forest Clearance accorded by MoEF&CC) being implemented by THDCIL at VPHEP Project and other salient features of the project.

Following were the major points of discussions / decisions taken during the meeting:

1. After brief introduction to the project, its benefits and other prominent features, it was apprised to the chair that as per MoEF&CC, EC condition, total 6202 hectare degraded

*J. Singh*

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AGM



catchment area of high & very high category is to be treated. The total financial outlay Implementation value for CAT Plan is Rs. 47.07 Crs. The total amount of Rs. 47.07 Crs stands deposited by THDCIL in CAMPA fund during year 2012. DFO Badrinath Forest Division, Gopeshwar is the Nodal Officer for implementation of CAT Plan. Final approval was granted to DPR along with Micro plans for CAT Plan of VPHEP by Forest Deptt., GoUK vide their letter dt. 30.12.2017.

As per the progress received from DFO Badrinath Forest Division Rs. 23.18 Crs has been spent out of 47 Crs on various works by all the implementing forest divisions in CAT Plan till June'2021 as per DPR. DFO, Badrinath informed that CAT Work is in progress and is expected to be completed in the next few years.

For Compensatory Afforestation (CA) works as per information received from respective forest divisions, It was also apprised to the chair that out of total 120.273 ha, 18.50 Ha CA has been completed till Mar'21 in Badrinath Forest Division and 32.507 Ha has been completed till Mar'21 in Kedarnath Wild Life Division and remaining CA works shall be completed in the next few years, preferably by 2022.

Query was raised by DFO Badrinath regarding discrepancy in the area of CA and forest land diverted for the project. It was clarified apprised to the chair that total 100.39 Ha of Forest Land was diverted for the Project. Out of which, permission for diversion of 80.507 Ha Forest land was accorded by MoEF&CC, with a condition of CA to be undertaken on equivalent non-forest land i.e. 80.507 Ha and permission for diversion of remaining 19.883 Ha Forest Land was accorded by the GoUK, with CA to be undertaken on double the area i.e. 39.77 Ha on non forest land, which collectively comes out to be CA in 120.273 Ha against 100.39 Ha Forest land diverted for the Project.

DFO Badrinath apprised to the chair that the 80.507 Ha. of non forest land required for raising Compensatory Afforestation stands transferred & mutated in favor of State Forest Deptt., GoUK. Under the Badrinath Forest Division, CA is to be done on 58 Ha land, out of which 10 Ha has been completed till Mar' 2021. CA on remaining 48 Ha land in Badrinath Forest Division is still pending, due to problem in identification of the required land in terms of suitability for plantation. Under the Kedarnath Wildlife Division, 22.507 Ha of Land has to be executed out of which 22.507 Ha has been completed.

In this regard, Chairman – MDC has directed to complete the implementation of the CAT Plan as per approved DPR at the earliest, preferably by 2023 and also resolve the discrepancy between the Forest deptt. and THDCIL w.r.t. area of land for CA. Chairman also directed DFO, Badrinath to assess the suitability of the existing 48 Ha land with respect to plantation at the earliest and send across a proposal to HoFF through APCCF Projects providing for alternate land for plantation in case the existing 48 ha is not suitable for plantation by Sept' 2021 end. All efforts should be made to complete the ASW for the remaining 48 ha of CA.

(Action by Nodal officer, Forest Deptt.)

2. As per EC condition of MoEF&CC, 3 cumecs minimum water flow should be released downstream of Dam during lean season. Further, MoEF&CC, vide their letter dated 31.05.2011,

Dr. J. L. A. J.  
AGM



revised the minimum environment flow to 15.65 cumecs. In this regard, it was apprised to the chair that provisions as per latest notification issued by CWC has been incorporated in the project component accordingly. Minimum E-Flow Rate (MEFR) shall be ensured as per latest Gazette Notification dtd. 10.10.2018 of MoWR,RD&GR, Gol.

**Dr. Samir Sinha, APCCF, Forest Deptt., GoUK, has directed THDCIL to maintain minimum flow between Head Race and Tail Race during operational phase as per statutory requirement as well as ensuring drinking water requirement of wildlife.**

**(Action by Design Deptt./O&M Deptt. THDCIL)**

3. Regarding Muck Management, it was apprised to the Chair that Muck Management Plan has been incorporated in the Environment Management Plan (EMP) keeping in view the MoEF condition and is being implemented as per plan. Dumping of muck is being done at designated / identified dump sites and 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 sites. Compaction is being done. Benches have been developed to discontinue the slopes in dump yards. Biological measures, such as formation of micro-benches (kyaries), laying of top soil, plantation of Vetiver grass, manuring etc. are under implementation. Brief details with photographs were presented before the committee. As desired about composition of muck (Soil Boulder Ratio) in the 2<sup>nd</sup> MDC meeting, the SBR as per IS 2720 Part 4 (Soils), has been worked out by QC Deptt. of VPHEP and presented before committee members.

DFO Badrinath raised apprehension that apart from the designated sites for muck dumping if there is any other site where dumping is taking place and if it is so then the status must be submitted to Forest deptt. If there is any additional requirement of muck dumping sites then a suitable proposal for land diversion under FCA should be submitted (in case forest land is required for additional muck dumping sites). Dr. Krishnendu Mondal opined that the muck status must also be submitted to concerned Forest Divisions offices apart from sending it to MoEF&CC. Concern was also raised by Dr. Krishnendu Mondal about DY-4 where more than 50 % of the capacity has already been exhausted, to this GM (project) apprised that at DY-4, the Civil contractor-M/s HCC has its workshop installed over there and THDCIL is in the process of shifting those workshops so that there is sufficient space available for dumping.

**Chairman MDC applauded the efforts of THDCIL for the pilot project initiative of Vetiver grass plantation at DY-4 as a measure of slope stabilization and suggested to use such grass species which are also good for cattle grazing point of view. Chairman also directed to develop at least one nursery in Alaknanda/ Kedarnath division dedicated to grass species. In this regard help may also be taken from the experts and nearby research institutes. Forest deptt., can take the benefit of experience of THDCIL Vetiver grass and develop the nursery for the benefit of nearby projects and for development of cattle grazing grounds.**

**(Action by Forest Deptt & Evt. Deptt./Execution deptt, THDCIL)**

4. With reference to EC condition for the plantation of those species which come under Rare, Endangered, and Threatened (RET) category during the implementation of CAT and

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AGM



Compensatory Afforestation works, THDCIL apprised that the request to take care of the suggested measure by MoEF has been made to the State Forest Department. DFO Badrinath apprised that approximately 5000 *Taxus baccata* sapling have been planted in some of the plantations carried out under CAT Plan. Efforts shall be made to ensure rare, endangered and threatened species are planted along with other species in the remaining CA Plantations. Dr. Samir Sinha, APCCF, Forest deptt., GoUK suggested the concerned forest division to consult the research wing of the forest department with respect to the plantation of rare, endangered and threatened species.

**After discussions, Chairman MDC directed the Nodal officer, Forest Deptt to take immediate necessary action and expedite the matter.**

**(Action by Nodal officer, forest Deptt. & Env. Deptt THDCIL)**

5. Regarding Awareness programs related to Environment (i.e. climate change, global warming, water scarcity, deforestation, pollution, forest fire etc) & wild life conservation, **it was directed by Chairman, MDC that Forest Deptt should also be associated in the Programs. Help may be taken from forest deptt. Literature, pamphlets, brochures etc. may be published and distributed among the masses during such program. Detailed plan for awareness program should be prepared by Forest Deptt. in consultation with THDCIL and detail specific breakup of the activities must be tabulated in the plan.**

**(Action by Nodal Officer, Forest Deptt. & Env. Deptt., THDCIL)**

6. On Fish Management Plan it was apprised that the Consultancy Services for preparation & supporting implementation of Fish Management Plan for VPHEP Project was awarded to ICAR - Directorate of Coldwater Fisheries Research (DCFR), Bhimtal. Based on the findings of survey work / primary data, appropriate fish management plan has been recommended by DCFR. In the mean time, construction of Fish Hatchery is in Progress accordingly. After construction, an Expert Agency is proposed to be hired for operation of Fish hatchery. Dr. Krishnendu Mondal, Scientist 'C', MoEF&CC, suggested having one special invitee from fisheries deptt. or such reputed institute during the next meeting.

**Chairman MDC directed to have special invitee, if possible from the field of fisheries to have better comprehension of the Fish Management Plan of VPHEP Project.**

**(Action by Env. Deptt, THDCIL)**

7. It was apprised to the chair that Under Green Belt development approx. 8500 plants have been planted by THDCIL in Project campus and nearby area till date. DFO Badrinath apprised to the chair that a joint inspection was done by Forest deptt. and THDCIL and around 8500 plants have been reported at site. Further aerial monitoring/drone video of the greenbelt development around project campus, as suggested by the Chairman during the 2<sup>nd</sup> MDC meeting, has been presented before the committee.

**Chairman MDC appreciated the efforts of THDCIL & suggested to continue the plantation works in consultation with Forest Deptt.**

**(Action by Env. Deptt, THDCIL)**

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AGM

8. During the meeting, Sh. Amit Kanwar, DFO, Kedarnath Wildlife Division apprised the Chair about the penalty been imposed on THDCIL / M/s HCC by Sh. Kishan Chand, DFO Nandadevi National Park in 2019, at Dam site on the issue of non-compliances of FC conditions. In this regard, it was apprised to the chair that a meeting was organized on the matter in the office of CF, NDBR on 11.05.2020 as per the directions given by the Chairman MDC to resolve the issue during the 2<sup>nd</sup> MDC meeting. All clarifications along with supporting documents were submitted to CF, NDBR during the meeting. No issues were raised by DFO, NDBR afterwards. Dr. Samir Sinha, APCCF, Forest Deptt., GoUK suggested to check the status and close the issues if it has already been resolved.

**Chairman MDC directed Forest Deptt. to have a joint visit with THDCIL and M/s HCC at the site on mutually agreed date and close the issue at the earliest.**

**(Action by Nodal Officer, Forest Deptt., THDCIL & M/s HCC)**

9. Further compliance status on Environment Clearance (EC) and Forest Clearance (FC) conditions were apprised to the chair. Dr. Krishnendu Mondal, Dy. Director, MoEF&CC asked THDCIL to submit license and other approvals related to installed DG sets at TBM site to MoEF&CC along with reports on compliance of EC conditions. DFO Badrinath requested THDCIL to share the compliance status report with the forest divisions also.

**Chairman directed to put up status w.r.t obligation of the Forest Divisions also from next MDC meeting onwards, viz. status of construction of pillars for demarcation for which THDCIL has already deposited the requisite money and many other conditions related to FC, whereupon, action is to be taken from Forest Deptt.'s end. Compliance be presented in two columns one for project proponent and another for Forest Deptt. from the next MDC meeting onwards. The chairman also directed that in the next MDC meeting THDCIL should also include the details of the commitments made during the public hearing. Details regarding the stack emission at the plant should also be shared in the next MDC meeting. DFOs were also directed to compare the pre and post CAT silt data to assess success of CAT works and to enhance further monitoring of silt.**

**Chairman MDC directed THDCIL to share the compliance conditions status reports with Forest Divisions also and directed Nodal Officer to increase the frequency of monitoring of silt load at the upstream and downstream of the project.**

**(Action by Forest Deptt. & Env./Execution deptt. THDCIL)**

10. Dr. Samir Sinha, APCCF, Forest Deptt., GoUK, pointed out that there is an anomaly of Rs. 80 lakhs, with regards to the total amount deposited in CAMPA by VPHEP for the CAT Plan. As per

*Jain*

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AGM



the details THDCIL apprised to the chair that the entire amount of Rs 47.00 Cr has been deposited in CAMPA fund for the CAT Plan by VPHEP, whereas the Forest Deptt. has the details of only Rs. 46.20 Crs deposited in the CAMPA fund.

In this regard, the Chairman MDC directed that Forest Deptt. & THDCIL reconcile the figures and eliminate the discrepancy at the earliest.

(Action by Forest Deptt./THDCIL)

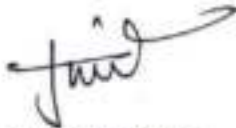
11. Chairman MDC directed to put up status w.r.t obligation of the Forest Divisions from next MDC meeting onwards, viz. status of construction of pillars for demarcation for which THDCIL has already deposited the requisite money.

Also, Chairman has desired to explore the possibility of social audit of CAT works and also directed THDCIL to explore the possibility of utilizing the funds under Biodiversity Management Plan for activating the BMCs formed by the forest department.

(Action by Forest Deptt.)

At last Chairman MDC appreciated the efforts made by THDCIL in implementation of EMP and compliance of Environment and Forest Clearance conditions as imposed by MoEF&CC. Chairman MDC also specified that being a World Bank funded project, VPHEP is already following the World Bank's stringent and advance level policies on environment safeguard measures. Chairman MDC also directed that Forest Deptt. & THDCIL should make all efforts for implementation of the suggested safeguard measures at VPHEP.

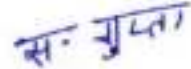
The Meeting ended with the vote of thanks to the Chair.



Co-Chairman, MDC  
(Sh. J.N. Singh, GM(P), THDCIL)  
General Manager Project  
THDC India Limited  
VPHEP Pipalkoti



Chairman, MDC  
(Sh. Rajiv Bhartari, PCCF-HoFF, GoUK)



Member Secretary, MDC  
(Sandeep Gupta, AGM (Envt.), THDCIL)

Add. General Manager  
(Environment), VPHEP,  
THDCIL, Pipalkoti

**Multi-Disciplinary Committee Meeting**  
**TO OVERSEE THE IMPLEMENTATION OF THE SUGGESTED SAFE GUARD MEASURES AT**  
**VISHNUGAD PIPALKOTI HYDRO ELECTRIC PROJECT (VPHEP)**  
**31st July, 2021 - AT VAN BHAVAN, DEHRADUN**

Sl. No.	Name (Sh./Smt.)	Designation	Contact No./Email	Signature
1	Sh. Rajiv Bhartari	HoFF	9412053603	Chairman
2	Sh. J.N. Singh	GM (Project)	9368923621	Co-Chairman
3	SANDEEP GUPTA	AGM S&E	7060407820 sandeep36.in	31.7.2021 @Yahoo.Co.in
4	Dr. A.N. Singh	ADG(EM), ICFRE, DDun	9411173674	Anand
5	Amit Kauran	DFO Kudamall	9759944475	Amit
6	Ashutosh Singh	DFO Rudrinath	757135375	Ashu
7	Sarvesh Kumar Dubey	D.F.O. Alaknonda	9411734289	Sarvesh
8	Kalyan Singh Rawat	MAITL Sonthe Dehradun.	9412437242	Kalyan
9	Vijay Thapliyal	Sr. Mgr. THDCIL, Rishikesh	7351088555	Vijay
10	Bimool Kumar	Sr. manager HSE HCC LTD.	8657424453	Bimool
11	Dr. Samir Laha	APCCF - Projects & Community Frndly	9411102075	Dr. Samir
12				
13	Dr. K. Mondal	Dy. Director MOEFCL	8240927908	Dr. K.
14	Ayush Walia	Dy. Manager	955274732	Ayush
15	Ashutosh Prady Singh	Sr. Supg.	7210746100	Ashu
16	Dr. Manoj Prasad	Manager Ent VP HEP	7500302299	Dr. Manoj
17	Narendra Singh	Officer	9997411633	N. S. Chaudhary
18	Tej Bahadur Saha	Ent-698, HCC	95559 51028	