

Chenab Valley Power Projects (P) Ltd

A Joint Venture of NHPC Limited (A Govt of India Enterprise),

JKSPDC (A Govt of J&K Enterpris

CIN NO. U40105JK2011PTC003321

Group General Manager (I/C)
Pakal Dul HE Project,
CVPPPL, Chenab Nagar-II,
Kishtwar, J&K-182206
Ph- 01995-295192
Email-gmpdhep@gmail.com
Date: 01/12/2022

CVPP/PDHEP/GGM (I/c)/2022/2007

Regional Officer,
Ministry of Environment, Forests and Climate Change, ,
Integrated Regional Office (IRO), Jammu
Plot no.379-A, Gandhi Nagar
Jammu (J&K)-180004
E-mail: env.irojk-mefcc@gov.in, paranjay.s@nic.in

Sub: Pakal Dul HE Project)1000 MW(in District Kishtwar, J&K – Submission of Environment Clearance Compliance Report)ECCR(for the period from April 2022 to September 2022.

Ref: Environmental Clearance granted to the Project vide letter no. J-12011/51/2007-IA dated 29.02.2008 and transferred in favour of CVPP vide letter no. J-12011/51/2007-IA dated 12.07.2012.

Sir,

We are enclosing herewith Six Monthly Environment Clearance Compliance Report (ECCR) in respect of Pakal Dul HE Project for the period from **April 2022 to September 2022** for your kind information. The same has also been uploaded on PARIVESH Portal in compliance to MoEF&CC OM dated 14.06.2022.

Thanking you and Warm Regards.

Yours Sincerely,

Group General Manager (HoP)
Pakal Dul HE Project

Copy to:

1. Director, Impact Assessment Division-1,
Ministry of Environment, Forests & Climate Change,
Indira Paryavaran Bhawan, Jor Bagh Road, Ali Ganj,
New Delhi- 110003
Email: yogendra78@nic.in
2. General Manager, Planning Division, Jammu for information.
3. Dy.Manager, MD Secretariat for kind information of MD,CVPP(P)L.

Pakal Dul Hydroelectric Project (1000MW)

1. Brief Introduction of Project

Pakal Dul (1000MW) HE Project was initially conceived by NHPC and later on got transferred to Chenab Valley Power Projects [P] Limited (CVPPPL). CVPPPL is a Joint Venture Company of NHPC Limited & JKSPDC incorporated on 13.06.2011; presently, entrusted for execution of 04 Hydroelectric Projects namely Pakal Dul, Kirthai-II, Kiru and Kwar with aggregate installed capacity of 3094 MW at Chenab River Basin in Distt Kishtwar of Jammu & Kashmir.

Pakal Dul HE Project is proposed on river Marusudar, a tributary of Chenab in district Kishtwar of J&K. The project envisages construction of a 167 m high Dam, 2 nos. of Head Race Tunnel of 7.20M diameter and 10 km length, an underground Power House with 4 units of 250 MW each. The annual energy generation will be 3330 MU.

2. Status of Statutory Clearances

Status of statutory clearances is tabulated below:

Techno- Economic Appraisal (TEA)	Accorded by CEA on 03.10.2006 (<i>Transferred in favour of CVPPPL on 06.08.2012</i>)
CCEA Approval	Accorded in favour of CVPPPL on 28.10.2014
Environmental Clearance	Accorded by MoEF to NHPC on 29.02.2008 (<i>Transferred in favour of CVPPPL on 12.07.2012</i>)
Forest Clearance	Clearance for diversion of 146.66 Ha of forest land accorded by GoJK on 15.12.2015. Clearance for diversion of 12.125 ha forest land accorded by GoJK on 26.06.2018. Clearance for felling of left out trees on already diverted forest land accorded on 17.07.2018. Clearance for felling of trees coming under already diverted forest land at right bank of river Marusudar stands accorded vide Order No. 531-(JK) FST of 2019 dated 12.12.2019. Clearance for diversion of 0.6434 ha of Forest land at left bank of river Marusudar stands accorded vide Government order no. 17(JK) FST of 2020 dated 30.01.2020.
Wildlife Clearance	Clarence for diversion of 195.96 Ha of forest land (188.76 ha wildlife land and 7.2 ha Forest land) accorded by GoJK on 29.11.2016 after grant of approval by Hon'ble Supreme Court of India.

NOC from J&K State Pollution Control Board Consent to Establish for Pakal Dul Project issued by J&K State Pollution Control Board in March 2016.

Status of Other Clearances Clearance from Fisheries Department and clearance from Hydraulic Division (PHE & Irrigation) have been received in the month of February 2016.
NOC from mining department has been obtained on dated 23.02.2017.

R&R Plan The J&K govt. has approved the Rehabilitation and Resettlement plan of the project vide Govt. Order dated 22.02.2017 and 07.03.2019, total payment of Rs. 69.09 Cr has been released as on date in favour of Commissioner Rehabilitation and Resettlement, Pakal Dul HEP (DC Kishtwar) for implementation of RR Plan.

Implementation of RR Plan is in progress and a payment of Rs 60.50 Crores (upto 30.09.2022) has been utilized by Commissioner Rehabilitation and Resettlement, Pakal Dul HEP (DC Kishtwar) for implementation of same.

3. Status of Private Land Acquisition

Final awards for acquisition of Power House area land and Reservoir area land have been accorded. A total amount of Rs 115.84 Crores as per final awards of land acquisition issued to the Project till date has already been deposited with the concerned Collectorate for further disbursement to landowners, out of which an amount of Rs. 91.56 Cr stands disbursed to rightful land owners.

4. Status of Tender/Award

The Hon'ble High Court of J&K pronounced its judgement on **28.01.2017** in favour of CVPP Ltd. wherein cancellation of tenders was upheld. Accordingly, tendering process on Package mode for the Project was taken up in following packages of major works and the present status of the tenders and awarded works is as under:

Dam Package : Dam Package awarded to M/s Jai Prakash Associates Ltd on **21.06.2018** along with Diversion Tunnel and HRT from upstream side. The site has been handed over to M/s Jaiprakash Associates Ltd.

The status of construction works is as-

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Diversion Tunnel:

Excavation of Diversion Tunnel Heading and Benching has been completed on **27.11.2020**. River diversion achieved on **01.11.2021**.

Coffer Dam :

Upstream and downstream coffer dams are under construction and total quantity filled is 185494 cum out of total estimated quantity is 420000 cum.

Excavation of HRT Adits:

Excavation of Adits to HRT-1 and HRT-2 has been completed.

Excavation of HRT-2: The cumulative progress till date is 1606 m, out of total length of 2082.6 m.

Excavation of HRT-1: The cumulative progress till date is 1445.5 m, out of total length of 2034.2m.

Excavation of Future HRT: The cumulative progress till date is 209 m, out of total length of 300 m.

Concrete Lining of HRT-1: The cumulative progress till date is 156 m, out of total length of 2082.6 m

Intake Gate Platform:

Excavation at EL1706 m under progress. Total excavated quantity of 197196 cum out of total estimated quantity of 377500 cum.

Tunnel Spillway Outlet, Inlet & Gate Shaft:

Tunnel spillway gate shaft area at EL 1689 m is under progress. Total excavated quantity of 144075 cum out of total estimated quantity of 320000 cum.

Excavation of Tunnel Spillway (Heading) from Outlet: The cumulative progress till date is 107 m, out of total length of 456 m.

Surface Spillway:

Excavation at EL 1705 m is under progress. Total excavated quantity of 282826 cum out of total estimated quantity of 763000 cum.

Rock filling of CFRD:

Total filling quantity of 399633 cum out of total estimated quantity of 7546000cum

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mgr (Civil)

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Power House : Letter of Award has been issued to M/s Afcons-JAL
Package : JV on **21.02.2018**.

The status of construction works is as-

Main Access Tunnel (MAT):

Excavation of MAT (Main Access Tunnel) to Power House of total length of 267 m has been completed on **19.12.2018**.

Power House Cavern:

Power house excavation works including 4 nos. of draft tube pits is completed. Concreting of Power House Machine Hall incl. Control block & Service bay: The cumulative progress till date is 7589 cum, out of total 54000 cum.

MIV Cavern:

MIV excavation works is completed. Concreting and reinforcement work is in progress.

Transformer Hall and Bus Ducts:

Transformer Hall excavation works is completed. Concreting of Transformer Cavern Concrete: The cumulative progress till date is 3474.5 cum, out of total 3917 cum

Excavation of all four bus ducts has been completed. Concreting of all 4nos. of Bus ducts: The cumulative progress till date is 1517 cum, out of total 2800 cum

Surge Shafts and Surge Gallery:

Adits to SS-1 and SS-2 have been completed. Pilot hole to SS-1 and SS-2 has been completed while reaming works of SS-1 is under progress.

Road tunnel to Surge Gallery has been completed. Adit to Surge Gallery-1& 2 is completed. Excavation of Surge Gallery-1 & 2 is under progress, till now 109 m & 9.7 m achieved out of 257 m each respectively.

Valve House:

Excavation of Valve House (Benching) is under progress between EL 1546.30m and EL 1543.30m.

Pressure Shafts:

Horizontal PS-1 and PS-2 has been completed. Pilot hole drilling & Reaming Vertical PS-4 and PS-3 is completed. Pilot hole drilling of PS-2 is under progress, till now 78 m achieved out of 291 m.

*Yash
myrleas*

Slashing of PS-4 is under progress, till now 6.6 m achieved out of 291 m

Tail Race Tunnel:

Excavation of Adit to TRT has been completed on 14.01.2022. Excavation of all 4nos.TRT with Draft Tube is completed.

Switchyard & Pothead:

Total excavated quantity of 44292.5 cum out of total estimated quantity of 95000 cum.

HM Package

: Letter of award has been issued to **M/s PES Engineers Pvt. Ltd** on dated **26.08.2019**.

The status of construction works is as-

Erection of ferrule in Lower Horizontal Portion, 2.9m dia incl. connection with MIV- PS-1A, PS-1B, and PS-2A along with concrete backfill is completed.

Erection of ferrule in Horizontal Portion, 6m dia PS-1 & 2 is under progress and 10 m & 30m ferrule erected out of total length of 211.43 m & 173.66 m respectively

E&M package

Letter of Award has been issued to M/s Voith Hydro Ltd. on dated **02.01.2019**.

The status of construction works is as-

Erection of Draft tube Unit-1 and Unit-2 is completed on 30.08.2022 and 20.09.2022 respectively. Erection of Draft tube Unit-3 is under progress

HRT-TBM package

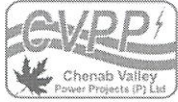
: Letter of Award has been issued to M/s L&T Construction on dated **03.07.2020**.

The status of construction works is as-

All consignments of TBM-1&2 reached at site. Foundation works of Casting yard and Stacking yard completed. All 48nos. of moulds erection is completed in the casting yard.

Excavation of TBM Portal upto El 1535m is completed and Platform development works of placement of invert cradle (steel & concrete) for launching of TBMs is under progress.

*Yasser
Moghr (sw)*



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CIN NO. U40105JK2011PTC003321

Ph No.01995-260723
Fax No. 01995-260661

ANNEXURE-I

Six Monthly EC Compliance Report of Pakal Dul HE Project (1000 MW)
(April 2022 to September 2022)

1	Name of Project	Pakal Dul HE Project
2	Type of Project	Hydro Electric Project
3	Clearance letters OM No. and date	
	(a) Environment Clearance	(a) Letter no. J-12011/51/2007-IA dated 29.02.2008 and transferred in favour of CVPPPL vide letter no. J-12011/51/2007-IA-I dated 12.07.2012.
	(b) Forest Clearance	(b) Government order no. 334- FST of 2015 dated 15.12.2015 of GoJK for 146.6613 Ha land on Right Bank of river Marsudar. Government order no. 289-FST 2016 dated 29.11.2016 of GoJK with Corrigendum dated 26.12.2016 for 195.9619 Ha of Forest land (188.7619 ha of former KHANP land and 7.2 ha of Forest land) on Left Bank of river Marsudar. Government sanction for diversion of 12.125 ha of Forest land on left bank of river Marsudar stands accorded vide Govt. order no 207-FST of 2018 dated 26.06.2018. Government sanction for felling of trees coming under already diverted forest land at left bank of river Marsudar stands accorded vide Govt. order no 225-FST of 2018 dated 17.07.2018. Government sanction for felling of trees coming under already diverted forest land at right bank of river Marsudar stands accorded vide Order No. 531-(JK) FST of 2019 dated 12.12.2019. Government sanction for diversion of 0.6434 ha of Forest land at left bank of river Marsudar stands

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		accorded vide Government order no. 17(JK)FST of 2020 dated 30.01.2020.																										
4	Locations (a) District (s) (b) State/UT (c) Latitude (d) Longitude	(a) Kishtwar (b) Jammu and Kashmir (c) 33°27'30"N (d) 75°48'50"E																										
5	Address for Correspondence (a) Address of concerned Project Head (with Pin code, Telephone/Fax no.) (b) Address of concerned HOD in Corporate Office (with Pin code, Telephone/Fax no.)	(a) Group General Manger (I/c), Pakal Dul HE Project, CVPPP Ltd., Chenab Nagar-II, Kishtwar, J&K. Pin code- 182206 Telephone: - 01995-260723 Email:gmpdhep@gmail.com (b) Managing Director, Chenab Valley Power Projects (P) Ltd, Chenab Jal Shakti Bhawan, Opposite Saraswati Dham, Rail Head Complex, Panama Chowk, Jammu- 180012, J&K Phone/Fax: 0191 2475516/ 2479835																										
6	Detail of Environmental Management Plan	Environmental Management Plans to be implemented at the Project are: <table border="1"><thead><tr><th>S. No.</th><th>EMP</th></tr></thead><tbody><tr><td>1.</td><td>Biodiversity Conservation Plan</td></tr><tr><td>2.</td><td>Catchment Area Treatment</td></tr><tr><td>3.</td><td>Fisheries Development</td></tr><tr><td>4.</td><td>Public Health Delivery System1</td></tr><tr><td>5.</td><td>Solid Waste Management</td></tr><tr><td>6.</td><td>Provision for fuelwood/ LPG depot & Energy Conservation Measures</td></tr><tr><td>7.</td><td>Relocation & Rehabilitation of Dumping sites</td></tr><tr><td>8.</td><td>Landscaping & restoration of construction areas</td></tr><tr><td>9.</td><td>Creation of Green Belt around reservoir</td></tr><tr><td>10.</td><td>Disaster Management Plan</td></tr><tr><td>11.</td><td>Resettlement & Rehabilitation Plan</td></tr><tr><td>12.</td><td>Environmental Monitoring Programme</td></tr></tbody></table>	S. No.	EMP	1.	Biodiversity Conservation Plan	2.	Catchment Area Treatment	3.	Fisheries Development	4.	Public Health Delivery System1	5.	Solid Waste Management	6.	Provision for fuelwood/ LPG depot & Energy Conservation Measures	7.	Relocation & Rehabilitation of Dumping sites	8.	Landscaping & restoration of construction areas	9.	Creation of Green Belt around reservoir	10.	Disaster Management Plan	11.	Resettlement & Rehabilitation Plan	12.	Environmental Monitoring Programme
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7.	Breakup for Project area (Land details)	Forest Land: 355.3916 ha Private/ Revenue Land: 177.8175 ha Total Land: 533.2091 ha																								
8	Breakup of Project affected population with enumerations of those losing house/dwelling units only, agriculture land only, both house and agriculture land and landless labours/artisans. (a) SC/ST/Adivasis (b) Others	No of affected villages: - 6 Displaced PAFs: - 110 Non displaced PAFs: - 656 Total PAFs: - 766 (a) Scheduled Tribe:- 2																								
9	Financial Details (a) Project cost as originally planned and subsequent revised estimates and the year of price reference (b) Actual expenditure incurred on the Project so far (c) Allocation made for Environment Management Plan (d) Actual expenditure incurred on EMP so far	(a) Project cost: 5088.88 Cr (July 2005 PL) CCEA approved: 8112.12 Cr (March 2013 PL) (b) Actual expenditure: Rs.2517.60 Crs (till September 2022) (c) Allocations for EMP (at 2013 PL): 330.32 Crs. (d) Actual expenditure incurred on EMP: Expenditure incurred by CVPPPL on EMP and other related activities as on date: <table border="1" data-bbox="799 1447 1402 1977"> <thead> <tr> <th>S.No</th> <th>Component</th> <th>Expenditure (Rs. in Cr)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Forest and wild life Land Diversion</td> <td>207.649</td> </tr> <tr> <td>2</td> <td>Fund for Wildlife Management including corpus fund</td> <td>236.0</td> </tr> <tr> <td>3.</td> <td>Fisheries Development Plan</td> <td>1.96</td> </tr> <tr> <td>4.</td> <td>Biodiversity Management Plan</td> <td>2.30</td> </tr> <tr> <td>5.</td> <td>Implementation of R&R plan</td> <td>69.09</td> </tr> <tr> <td>6.</td> <td>Disaster Management Plan/Early Warning System</td> <td>0.38</td> </tr> <tr> <td></td> <td>Total</td> <td>517.379</td> </tr> </tbody> </table>	S.No	Component	Expenditure (Rs. in Cr)	1.	Forest and wild life Land Diversion	207.649	2	Fund for Wildlife Management including corpus fund	236.0	3.	Fisheries Development Plan	1.96	4.	Biodiversity Management Plan	2.30	5.	Implementation of R&R plan	69.09	6.	Disaster Management Plan/Early Warning System	0.38		Total	517.379
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10	Forest Land Requirements (a) Status of approval diversion of Forest Land for non-forestry use	<p>(a) Forest clearance for diversion of 146.66 Ha forest land on right bank of dam/reservoir has been accorded by GoJK on 15.12.2015. Requisite amount of Rs 17.81 Cr deposited with J&K State Forest department on 15.09.2015. Forest Clearance for diversion of 188.76 Ha forest land (earlier KHANP land) on left bank of dam/ reservoir along with 7.2 Ha of Forest Land for underground works in Dul area has been accorded by GoJK on dated 29.11.2016. Requisite amount of Rs 178.2055 Cr deposited with J&K State Forest department on 18.06.2016 and the amount of Rs. 236 Crs towards wildlife management was deposited on 19.09.2016.</p> <p>Government sanction order for additional 12.125 ha of Forest land at left bank of river Marsudar stands accorded vide Govt. order no 207-FST of 2018 dated 26.06.2018. Requisite amount of Rs 6.3083663 Cr deposited with J&K State Forest department on 15.05.2018.</p> <p>Government sanction order for felling of trees coming under already diverted forest land at left bank of river Marsudar stands accorded vide Govt. order no 225-FST of 2018 dated 17.07.2018. Requisite amount of Rs 7613899/- deposited with J&K State Forest department on 15.05.2018.</p> <p>Government sanction order for felling of trees coming under already diverted forest land at right bank of river Marsudar stands accorded vide Govt. Order No. 531-(JK)FST of 2019 dated 12.12.2019. Requisite amount of Rs. 1490391/- deposited with J&K State Forest department.</p> <p>Government sanction order for diversion of 0.6434 ha of Forest land at left bank of river Marsudar stands accorded vide Government order no.</p>
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24/11/2019
mgr (Env)



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	(b) The status of clear felling of trees in Forest Land	17(JK)FST of 2020 dated 30.01.2020. requisite amount of Rs. 505310/- deposited with J&K State Forest department. (b) Clear felling status: The requisite amount of Rs 4.31413 Cr towards cost for extraction of trees has been deposited with J&K State Forest Corporation. The work of tree felling and extraction is in progress.
11	Status of Construction (a) Date of commencement (actual and/or planned) (b) Date of completion (actual and/or planned)	(a) Date of commencement (actual): Out of the Major project works, the Power House package was the first to be awarded on 21.02.2018. (b) Date of completion (planned): 66 months from the start of major works.
12.	Reasons for the delay (If the Project is yet to be started)	N.A.
13	Details of Site visits (a) By Monitoring Committee (b) By Regional Office	Nil Nil
14.	Brief note on the status of compliance of the conditions stipulated by MOEF&CC	Details are enclosed as Annexure-II.

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ANNEXURE-II

Status of Compliance to conditions stipulated by MOEF&CC, Govt. of India vide Environmental Clearance letter dated 29.02.2008

S.No.	Specific Conditions	Compliance Status
i	Catchment area treatment Plan as proposed should be completed in Five years	<p>The cost provision for CAT Plan as approved by MoEF was Rs. 21.33 Crs which was revised in CCEA approval (Investment Approval by Gol) to Rs. 36.38 Crs.</p> <p>The plan is to be implemented by Soil & Water Conservation Department, GoJK. Soil & Water Conservation Department, GoJK was requested by Project to take up the implementation of Catchment Area Treatment works. Accordingly, the CAT Plan was revised by Soil & Water Conservation Department as per prevailing site conditions and was technically sanctioned by J&K Forest Department with a revised cost of Rs. 46.86 Crs. The Project has also conveyed confirmation to Soil and Water Conservation Department, GoJK regarding availability of Rs. 46.86 Cr for implementation of the CAT Plan.</p> <p>Presently, administrative approval of CAT plan is yet to be accorded by GoJK to start CAT works. Project vide CVPP/PDHEP/GGM/2022/1376 dated 11.08.2022 has again requested Soil and Water conservation Department, GoJK to expedite the process of accord of administrative approval for early implementation of the plan.</p>
ii	During the construction of the project, if any person/family whose acquired land is more than 70% of the total land holding is identified, such family/person shall be treated as fully affected families. R&R package proposed for the displaced families shall be extended to such families. NRRP-2007 package will be followed for R&R of PAFs.	<p>The RR Plan of Pakal Dul HEP has been approved by GoJK vide Government Orders no. 12-DMRR&R of 2017 dated 22.02.2017 and 11-DMRR&R of 2019 dated 07.03.2019. The approved R&R Plan is under implementation.</p> <p>The formulation, approval and implementation of R&R plan comes under the purview of State/UT Government which has adopted a uniform approach in providing the R&R benefits for the PAFs of different HE projects in J&K. The recommendations of MOEFCC for considering non-displaced PAFs with more than 70% of total land holdings as displaced PAFs has not been approved by the State Government for any of the HE Project so far. Hence this provision has not been considered by Government of J&K in formulation and approval of R&R plan for Pakal Dul HE project.</p>

Manoj (Env)



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iii	A Monitoring Committee for R&R should be constituted which must include representatives of project affected persons from SC/ST category and a woman beneficiary.	<p>DC Kishtwar has been appointed as Commissioner, Rehabilitation and Resettlement for Pakal Dul HE Project vide Govt. Order No. 19-DMRR&R of 2017 dated 16.03.2017. Constitution of R&R committee is awaited.</p> <p>Monitoring committee is to be constituted by Government under the Chairmanship of Commissioner R&R. the matter was discussed in the meeting of Empowered Committee held on 06.04.2018 under the Chairmanship of Chief Secretary, GoJK wherein the Committee has recommended the constitution of R&R committee. The formal Government order in this regard is awaited. Moreover, Commissioner R&R (D.C. Kishtwar) has again been requested by the Project for constituting the said committee vide no CVPP/PDHEP/GM(I/C)/2021/2371 dated 20.12.2021.</p>																									
iv	The commitment made during the public hearing should be fulfilled.	Being complied.																									
v	All the equipment which are likely to generate high noise levels are to be fully equipped (noise reduction measures) to meet the ambient noise control standards	<p>Being complied.</p> <p>All such Machinery are well equipped to control noise pollution and regular maintenance is carried out in order to reduce noise pollution. Moreover, regular ambient noise level monitoring is carried out at construction sites.</p>																									
vi	Consolidation and compilation of the muck should be carried-out in the muck dumping sites and the dumping sites should be above high flood level. The proposed plan for 70.85 lakh cum of muck disposal i.e. about 34 lakh cum is proposed to be utilized during construction and the remaining 36.86 lakh cum of muck disposal at two designated areas (DS1-powerhouse site- 14.37 lakh cum; DS2- dam site-22.48 lakh cum) should be strictly implemented.	<p>Being complied.</p> <p>Details of Muck Generation and Disposal for the period from April 2022 to September 2022 are as:</p> <table border="1" data-bbox="842 1447 1441 1991"> <thead> <tr> <th>S. No.</th> <th>Name of Contractor</th> <th>Muck Generated (CUM)</th> <th>Muck Utilized (CUM)</th> <th>Muck Disposed (CUM)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>M/s Afcon-JAL Joint Venture (PH Works)</td> <td>67766.17</td> <td>31151.90</td> <td>36613.22</td> </tr> <tr> <td>2</td> <td>M/s Jaypee Group (Dam Works)</td> <td>471822.00</td> <td>94364.00</td> <td>377454.00</td> </tr> <tr> <td>3.</td> <td>M/s L&T (HRT-TBM Works)</td> <td>280545.00</td> <td>280545.00</td> <td>Nil</td> </tr> <tr> <td colspan="2">Total</td> <td>820133.17</td> <td>406060.90</td> <td>414070.22</td> </tr> </tbody> </table>	S. No.	Name of Contractor	Muck Generated (CUM)	Muck Utilized (CUM)	Muck Disposed (CUM)	1	M/s Afcon-JAL Joint Venture (PH Works)	67766.17	31151.90	36613.22	2	M/s Jaypee Group (Dam Works)	471822.00	94364.00	377454.00	3.	M/s L&T (HRT-TBM Works)	280545.00	280545.00	Nil	Total		820133.17	406060.90	414070.22
S. No.	Name of Contractor	Muck Generated (CUM)	Muck Utilized (CUM)	Muck Disposed (CUM)																							
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Total		820133.17	406060.90	414070.22																							

*gaur
Mgr (EW)*



Chenab Valley Power Projects (P) Ltd
A Joint Venture of NHPC (A Govt of India Enterprise), JKSPDC (A Govt of J&K Enterprise)

Pakal Dul Hydro Electric Project
Chenab Nagar – II, Kishtwar, (J&K) –182206
CIN NO. U40105JK2011PTC003321

Ph No.01995-260723
Fax No. 01995-260661

vii	The fisheries management plan as proposed in the letter dated 15.01.2008 should be implemented in totality. The total budget of Rs.339.24 lakhs for the fishery development and conservation in the Marsudar river basin should not be diverted for any other purpose.	Being complied. The fisheries management plan is under execution. DPR amounting Rs. 430.0 lakh was submitted by J&K Fisheries Department for implementation of Fisheries Development plan of Pakal Dul HEP. An amount of Rs. 196.0 lakhs has been deposited with J&K Fisheries Department. The Fisheries Department has utilized/released an amount of Rs. 196.0 Lakhs for implementation of the works under this plan.
viii	The following conditions imposed by the Standing Committee of National Board for Wildlife (NBWL) while recommending the proposal for de-notification of KHANP area, shall be strictly complied: (a) Provisions proposed for the habitat improvement in the Mitigation Plan should be discussed with Wildlife Institute(WII), Dehradun and be modified accordingly. (b)State Wildlife Department may redefine the core area of the National Park considering the human population pressure etc. (c)NHPC would provide a total of Rs.236 Crs including Rs.100 Crs. for the corpus fund for the protected area for the conservation of the wildlife.	Complied Mitigation Plan has been prepared/ modified by J&K Wildlife Department in consultation with Wildlife Institute of India, Dehradun. The core area of the KHANP has been redefined vide SRO no. 212 dated 06.07.2015 of GoJK. Final forest clearance for 195.9619 Ha land (i.e. 188.7619 ha of KHANP land and 7.2 ha of forest land) has been obtained vide Govt. Order no. 289-FST 2016 dated 29.11.2016 of GoJK for which Project has deposited Rs 414.20 Crs to Forest Dept. which includes Rs.236 Crs which further includes Rs.100 Crs for the corpus fund for the protected area for conservation of wildlife. The wildlife Mitigation plan is under implementation and is being implemented by Wildlife Department, GoJK. and Rs. 5.86 Cr has been utilised for the same till 31.03.2022 by the J&K Wildlife Department.
ix	No construction work/activity should be initiated till Supreme Court grants de-reservation of National Park area.	Complied vide SRO no. 212 dated 06.07.2015 of GoJK issued after grant of approval by Honorable Supreme Court.
x	Clear felling of trees should be restricted to 4 m below the FRL and a 50 m greenbelt should be created around the reservoir periphery.	Being complied. The tree cutting along the FRL is being done only in the area required for the project construction works. The process for creation of greenbelt shall be initiated at the appropriate time.

Manish
Project Lead



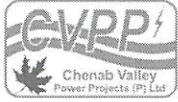
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General Conditions											
i	<p>Adequate free fuel arrangement should be made for the labour force engaged in the construction work at project cost so that indiscriminate felling of trees is prevented.</p> <p>Being complied.</p> <p>Free fuel arrangements have been made by the respective contractors for their labour force engaged for Power House Works, HRT-TBM Works and Dam Works, at their own cost.</p> <p>Details of expenditure on free fuel provided by the major works contractors are as under:</p> <table border="1"><thead><tr><th>Works Package / Name of contractor</th><th>Expenditure under free fuel provisions for the period from April 2022 to September 2022 (Rs.)</th></tr></thead><tbody><tr><td>Power House Works Package (M/s Afcons-JAL Joint Venture)</td><td>1157356/-</td></tr><tr><td>Dam Works Package (M/s Jaiprakash Associates Ltd.)</td><td>862940/-</td></tr><tr><td>M/s L&T Limited (HRT-TBM works)</td><td>782751/-</td></tr><tr><td>Total</td><td>2803047/-</td></tr></tbody></table>	Works Package / Name of contractor	Expenditure under free fuel provisions for the period from April 2022 to September 2022 (Rs.)	Power House Works Package (M/s Afcons-JAL Joint Venture)	1157356/-	Dam Works Package (M/s Jaiprakash Associates Ltd.)	862940/-	M/s L&T Limited (HRT-TBM works)	782751/-	Total	2803047/-
Works Package / Name of contractor	Expenditure under free fuel provisions for the period from April 2022 to September 2022 (Rs.)										
Power House Works Package (M/s Afcons-JAL Joint Venture)	1157356/-										
Dam Works Package (M/s Jaiprakash Associates Ltd.)	862940/-										
M/s L&T Limited (HRT-TBM works)	782751/-										
Total	2803047/-										
ii	<p>Fuel depot's maybe opened at the site to provide the fuel (kerosene/wood/LPG). Medical facilities as well as drinking water & recreational facilities should also be provided to the laborers.</p> <p>Being complied.</p> <p>Free fuel arrangements for labourers have been made by the contractors.</p> <p>Adequate drinking water and sanitation facilities have been provided by the respective contractors at residential areas of their labour force.</p> <p>Details of medical facilities established by major works contractors for their labourers, at their own cost, are as under:</p> <p>1. Dam Package (by M/s Jaiprakash Associates Limited): One medical unit with one bed, one Oxygen cylinder, accessories of dispensary, storage for the medicines, stretchers, wheel chairs, one light vehicle and one Ambulance at Dam site is in operation and managed by one Doctor and four no. of Medical Assistants. Total 1959 no. of patients including locals have been treated in the period from April 2022 to September 2022 with total expenditure for this period amounting to Rs. 9,94,135/-</p>										

*Yasser
mgr (EWS)*



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		<p>2. Power House Package (by M/s Afcons - JAL Joint Venture): Three no. of first aid centres with two fully equipped Ambulances at Power House Site of the Project are being managed by the 01 doctor and 08 no. of para medics. The necessary medicines are also made available to nearby local villagers. The total expenditure on medical facilities for the period from April 2022 to September 2022 amounting to Rs.22,55,866/- has been incurred.</p> <p>3. HRT-TBM Package (by M/s L&T Limited) One first aid centre at Site is managed by 02 no. of para medics. The necessary medicines are also made available to nearby local villagers. The total expenditure on medical facilities for the period from April 2022 to September 2022 amounting to Rs.6,26,976/- has been incurred.</p>
iii	All the labourers to be engaged for construction works should be thoroughly examined by health personnel and adequately treated before issuing them work permit.	Being complied.
iv	Restoration of construction area including dumping site of excavated materials should be ensured by leveling, filling up of borrow pits, landscaping etc. The area should be properly treated with suitable plantation.	Shall be complied. After completion of dumping and quarrying operations, the remediation, rejuvenation and landscaping of these sites shall be carried out by applying proper Engineering and Biological measures.
v	The total amount of Rs. 9979.29 lakhs kept in the budgetary provisions for implementation of environmental management plan should be strictly adhered and not to be diverted for any other purpose.	Being complied.
vi	A Multidisciplinary committee in consultation with the Ministry should be constituted with Ecologists, Environmental Scientists, Conservationists and experienced administrators etc. to oversee the effective implementation of the suggested safeguard measures.	Approval for Constitution of Multidisciplinary committee (MDC) for Pakal Dul HEP was accorded by MoEF&CC vide no: J-12011/51/2007-IA-I(Part) dated 10.07.2018 with amendments issued vide No. J-12011/51/2007-IA-I(R) dated 02.05. 2019. & F. No.J-12011/51/2007-IA (R) Dated 11.03.2020

Yasir
Mgt(EW)



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vii	Six monthly monitoring reports should be submitted to the Ministry and its Regional Office, Chandigarh for review.	Being complied. Six monthly Environment Clearance Compliance Reports are being timely submitted to the Ministry and its Regional Office, Chandigarh/Jammu. The Air, Water and Noise quality monitoring reports are also enclosed as annexure-III
Other Conditions mentioned in the EC Letter:		
4.	Officials from Regional Office MoEF, Chandigarh 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.	Shall be complied
5.	The responsibility of implementation of environmental safeguards rests fully with the NHPC Ltd. and Government of J&K.	Noted
6.	In case of change in the scope of the project, project would require a fresh appraisal.	There is no change in the scope of the project. Shall be complied, if required.
7.	The project involves 386.186 ha of forest land falling under KHANP. This clearance is subject to Hon'ble Supreme Court's permission with respect to de-reservation of part of KHANP.	Complied. The core area of KHANP has been redefined vide SRO no. 212 dated 06.07.2015 of GoJK in pursuance to the approval of Hon'ble Supreme Court.
8.	The Ministry reserves the right to add additional safeguard measures subsequently, if found necessary and to take action including revoking of the clearance under the provisions of the Environment (Protection) Act 1986, to ensure effective implementation of the suggested safeguard measures in a time-bound and satisfactory Manner.	Noted.
9.	This clearance letter is valid for a period of 10 years from the date of issue of this letter for commencement of construction work.	Complied.
10.	A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom any suggestion / representation has been received while processing the proposal.	Complied.

*Yours
rgr (E&W)*



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<p>12. The project proponent should advertise within 7 days at least in two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board / Committee and may also be seen at website of the Ministry of Environment and Forests at http://www.envfor.nic.in.</p>	<p>Complied.</p> <p>The requisite advertisement was published in Dainik Jagran (Hindi) and Daily Uzma (Urdu) newspapers dated 07.03.2008.</p>
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Janar
mgr (Env)

ACTIVITIES CARRIED UNDER ENVIRONMENT MANAGEMENT PLAN (EMP) AND RESETTLEMENT AND REHABILITATION (R&R) PLAN OF PAKAL DUL HEP



Environmental Monitoring (Air, Water & Noise) at Pakal Dul Construction Sites.



Construction of Fish Hatchery under EMP of Pakal Dul HE Project.

ACTIVITIES CARRIED UNDER ENVIRONMENT MANAGEMENT PLAN (EMP) AND RESETTLEMENT AND REHABILITATION (R&R) PLAN OF PAKAL DUL HEP



Implementation of Eco-tourism and sustainable livelihood Schemes under EMP of Pakal Dul HEP.



Planation drives carried out at Project sites .

ACTIVITIES CARRIED UNDER ENVIRONMENT MANAGEMENT PLAN (EMP) AND RESETTLEMENT AND REHABILITATION (R&R) PLAN OF PAKAL DUL HEP



Conservation roadmap formulation and implementation for Snow Leopard under EMP of Pakal Dul HE project

ACTIVITIES CARRIED UNDER ENVIRONMENT MANAGEMENT PLAN (EMP) AND RESETTLEMENT AND REHABILITATION (R&R) PLAN OF PAKAL DUL HEP



Protection Works at Pakal Dul Construction Sites to check Soil Erosion, Sliding etc.



Basic Life Support Ambulance handed over to District Administration, Kishtwar under R&R Plan.

ACTIVITIES CARRIED UNDER ENVIRONMENT MANAGEMENT PLAN (EMP) AND RESETTLEMENT AND REHABILITATION (R&R) PLAN OF PAKAL DUL HEP



Construction of Badminton court at Girls Higher Secondary School in Sounder, Dachhan, Kishtwar.

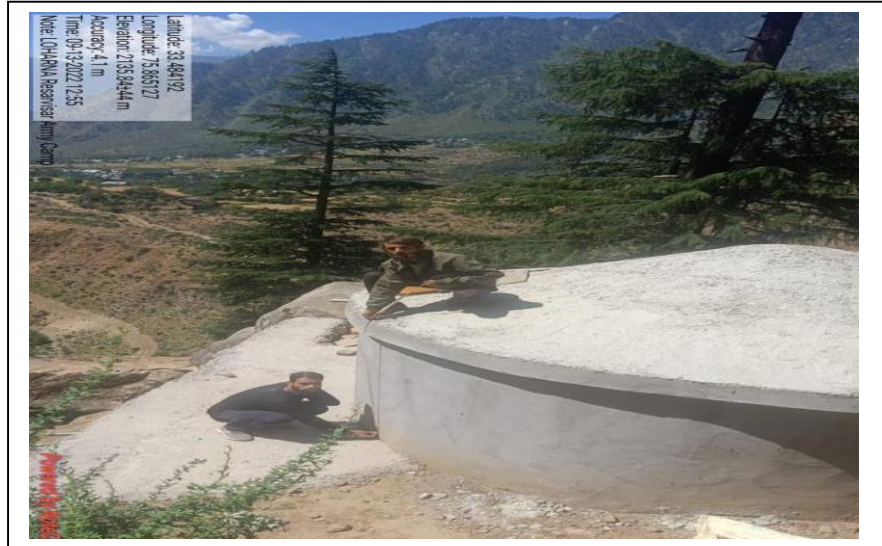


Construction of Dipping Vat at village Dool, Kishtwar for sheep husbandry disease management.



Construction of Dipping Vat at village Sounder, Dachhan, Kishtwar for sheep husbandry disease management.

ACTIVITIES CARRIED UNDER ENVIRONMENT MANAGEMENT PLAN (EMP) AND RESETTLEMENT AND REHABILITATION (R&R) PLAN OF PAKAL DUL HEP



Construction of Drinking Water Reservoir at village Loharna, Dachhan



Construction of Veterinary Dispensary at Dool, Kishtwar.

ACTIVITIES CARRIED UNDER ENVIRONMENT MANAGEMENT PLAN (EMP) AND RESETTLEMENT AND REHABILITATION (R&R) PLAN OF PAKAL DUL HEP



Distribution of Livestock First Aid Kits to PAFs.



Construction of Irrigation Canal Part-1 at Village Chichha.

Construction of Irrigation Canal Part-2 at Village Chichha.

ACTIVITIES CARRIED UNDER ENVIRONMENT MANAGEMENT PLAN (EMP) AND RESETTLEMENT AND REHABILITATION (R&R) PLAN OF PAKAL DUL HEP



Construction of Demonstration-cum-Training Centre at Sounder (Dachhan) for imparting Skill Development Trainings to PAFs.



Construction of Passenger Shed at Village Dool, Kishtwar.

ACTIVITIES CARRIED UNDER ENVIRONMENT MANAGEMENT PLAN (EMP) AND RESETTLEMENT AND REHABILITATION (R&R) PLAN OF PAKAL DUL HEP



Early Warning System site 01 (village Loharna)
Lat 33°28'51.45"N, Long 75°51'12.90"E



Early Warning System site 02 (village Lopara)
Lat 33°28'55.22"N, Long 75°50'20.01"E



Early Warning System Control Room at Dam site of Pakal Dul HE Project



Idma Laboratories Limited

TEST REPORT

Lab No.	210722N-E-048		Page No.	1/1
Customer	Jaiprakash Associates Ltd. Pakal Dul Hydro Electric Project (Dam Package), Dang Duru, Teh: Dachhan, District-Kistwar J&K -182204 Jammu & Kashmir			
Type of Sample	NOISE LEVEL (AMBIENT)			
Customer's Description of Sample	NOISE LEVEL (AMBIENT)			
Quantity	1 No.			
Packing, Markings	Instrument at Site			
Mode of Collection of Sample	Sampling by Laboratories			
Work Order No.	JAL/PAKAL/2022/WO/04	Dated	01/04/2022	
Date of Receipt of Sample	21/07/2022			
Period of Analysis	21/07/2022 To 26/07/2022			
Sampling Team Idma	Idma Representative Team	Client	Mr. Nisar Hasan	
Sampling Location	Crusher Plant Area			
Visual Observation	N/A			
Date of Sampling	18/07/2022			
Date of Reporting	26/07/2022			
Sampling Protocol	CPCB			
Testing Protocol	EPA/CPCB			

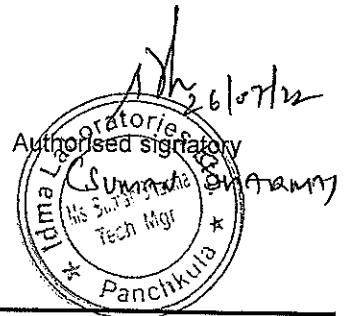
RESULTS

S.No.	Test Parameter	Units	Results	Limits, Day	Test Method
	CHEMICAL DISCIPLINE (Ambient Noise Levels)	-	-	-	-
1	Lday	dB(A)	72.4	Max 75	EPA Guideline Manual July 2008
2	LNight	dB(A)	68.9	Max 70	EPA Guideline Manual July 2008

End of Report



Reviewed by *KARAR SINGH*
26/07/2022



Idma Laboratories Limited

Idma Corporate Park,
391, Industrial Area, Phase-I,
Panchkula-134113,
Haryana (India)
Tel No. 0172-5064827, 5064830
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Email : commercial@idmalab.co.in

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Idma Laboratories Limited

TEST REPORT

Lab No.	210722N-E-047	Page No. 1/1
Customer	Jaiprakash Associates Ltd. Pakal Dul Hydro Electric Project (Dam Package), Dang Duru, Teh: Dachhan, District-Kistwar J&K -182204 Jammu & Kashmir	
Type of Sample	Ambient Air	
Customer's Description of Sample	Ambient Air	
Quantity	1 No.	
Packing, Markings	Filter Paper Packed in polythene Pouch.	
Mode of Collection of Sample	Sampling by Laboratories	
Work Order No.	JAL/PAKAL/2022/WO/04	Dated 01/04/2022
Date of Receipt of Sample	21/07/2022	
Period of Analysis	21/07/2022 To 26/07/2022	
Sampling Team Idma	Idma Representative Team	Client Mr. Nisar Hasan
Sampling Location	Crusher Plant	
Visual Observation	N/A	
Date of Sampling	18/07/2022	
Date of Reporting	26/07/2022	
Sampling Protocol	IS: 5182	
Testing Protocol	NAAQS	

RESULTS

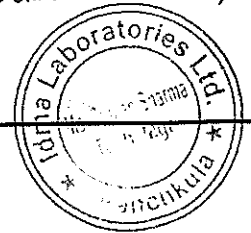
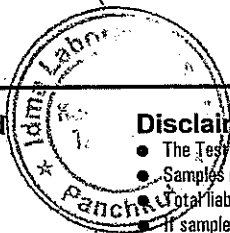
S.No.	Test Parameter	Units	Results	Specifications	Test Method
	CHEMICAL TESTING (Ambient air)	-	-	-	-
1	PM10	µg/m ³	83.8	Max. 100	NAAQMS/36/2012-13(Gravimetric method)
2	SO ₂	µg/m ³	13.4	Max. 80	NAAQMS/36/2012-13(Improved West & Gaeke method)
3	NO ₂	µg/m ³	18.5	Max. 80	NAAQMS/36/2012-13(Modified Jacob & Hochheiser method)
4	PM _{2.5}	µg/m ³	40.2	Max. 60	NAAQMS/36/2012-13(Gravimetric method)
5	CO	mg/m ³	0.35	Max. 2	NAAQMS/36/2012-13 & IS 5182 Part 10:1999
6	SPM	µg/m ³	157.2	-	EPA/625/R-96/010a



Reviewed by *Kartika* 26/07/2022
KARTIKA SINGH

Authorised signatory

Sumon SARKAR



Idma Laboratories Limited

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Idma Laboratories Limited

TEST REPORT

Lab No.	210722N-E-049		Page No. 1/1
Customer	Jaiprakash Associates Ltd. Pakal Dul Hydro Electric Project (Dam Package), Dang Duru, Teh: Dachhan, District-Kistwar J&K -182204 Jammu & Kashmir		
Type of Sample	Waste Water (Crusher Plant)		
Customer's Description of Sample	Waste Water (Crusher Plant)		
Quantity	5 Ltr.		
Packing, Markings	Plastic Can.		
Mode of Collection of Sample	Sampling by Laboratories		
Work Order No.	JAL/PAKAL/2022/WO/04	Dated	01/04/2022
Date of Receipt of Sample	21/07/2022		
Period of Analysis	21/07/2022 To 26/07/2022		
Sampling Team Idma	Idma Representative Team	Client	Mr. Nisar Hasan
Sampling Location	Crusher Plant		
Visual Observation	N/A		
Date of Sampling	18/07/2022		
Date of Reporting	26/07/2022		
Sampling Protocol	IS: 3025 (P-1) 1987		
Testing Protocol	CPCB		

RESULTS

S.No.	Test Parameter	Units	Results	Specifications	Test Method
	CHEMICAL TESTING (Waste Water)	-	-	-	-
1	pH	-	7.62	5.5-9.0	APHA4500-H+ B23rd Edition 2017
2	Chemical Oxygen Demand (COD)	mg/L	31.7	Max. 250	CPCB Guide Manual:Water & waste water Analysis
3	Biochemical Oxygen Demand (BOD), 3-days at 27 °C	mg/L	9	Max. 30	CPCB Guide Manual:Water & waste water Analysis
4	Oil & Grease	mg/L	1.6	Max. 10	EPA Method 1664
5	Total Dissolved Solids (TDS)	mg/L	246	-	APHA2540 C23rd Edition 2017
6	Total Suspended Solids (TSS)	mg/L	41	Max. 100	APHA2540 D23rd Edition 2017



Reviewed by
Karjark Singh
26/07/2022
End of Report
KARJARK SINGH.

Authorised signatory
Suman Singh
(Suman Singh)
Idma Laboratories Ltd.
Panchkula

Idma Laboratories Limited

Idma Corporate Park,
391, Industrial Area, Phase-I,
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TEST REPORT

Lab No.	190322N-E-014	Page No.	1/1
Customer	Jaiprakash Associates Ltd. Pakal Dul Hydro Electric Project (Dam Package), Dang Duru, Teh: Dachhan, District-Kistwar J&K -182204 Jammu & Kashmir		
Type of Sample	Ambient Air		
Customer's Description of Sample	Ambient Air		
Quantity	1 No.		
Packing, Markings	Filter Paper Packed in Polythene Pouch, N/A		
Mode of Collection of Sample	Sampling by Laboratories		
Work Order No.	JAL/PAKAL/2022/WO/04	Dated	01/04/2022
Date of Receipt of Sample	19/03/2022		
Period of Analysis	19/03/2022 To 25/03/2022		
Sampling Team Idma	Jaiprakash Associates Ltd.	Client	Mr. PK Sharma
Sampling Location	HRT Adit. Portal		
Visual Observation	N/A		
Date of Sampling	15/03/2022		
Date of Reporting	25/03/2022		
Sampling Protocol	IS: 5182		
Testing Protocol	NAAQS		

RESULTS

S.No.	Test Parameter	Units	Results	Specifications	Test Method
	CHEMICAL TESTING (Ambient air)				
1	PM10	µg/m ³	80.7	Max. 100	NAAQMS/36/2012-13(Gravimetric method)
2	SO ₂	µg/m ³	15.4	Max. 80	NAAQMS/36/2012-13(Improved West & Gaeke method)
3	NO ₂	µg/m ³	19.1	Max. 80	NAAQMS/36/2012-13(Modified Jacob & Hochheiser method)
4	NH ₃	µg/m ³	26.8	Max. 400	NAAQMS/36/2012-13(Indophenol method)
5	PM2.5	µg/m ³	37.3	Max. 60	NAAQMS/36/2012-13(Gravimetric method)
6	CO	mg/m ³	0.42	Max. 2	NAAQMS/36/2012-13 & IS 5182 Part 10:1999
7	Ozone	µg/m ³	21	Max. 100	NAAQMS/36/2012-13(Chemical method)
8	Benzene	µg/m ³	<2	Max. 5	NAAQMS/36/2012-13(GC method)
9	Benzo-a-Pyrene(BaP) - Particulate phase	ng/m ³	<0.9	Max. 1	NAAQMS/36/2012-13(GC method)
10	Arsenic	ng/m ³	<1	Max. 6	NAAQMS/36/2012-13
11	Nickel	ng/m ³	<1	Max. 20	NAAQMS/36/2012-13
12	Lead	µg/m ³	<0.1	Max. 1	NAAQMS/36/2012-13

End of Report

For Idma Laboratories Limited

RA
25/3/22
Analyst (Renu Sharma)

MS
25/3/22
Authorized Signatory

CSUMAN
Idma Laboratories Ltd.
Ms Suman Sharma
Tech Mgr
Panchkula



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TEST REPORT

Lab No.	190322N-E-016		Page No.	171
Customer	Jaiprakash Associates Ltd. Pakal Dul Hydro Electric Project (Dam Package), Dang Duru, Teh: Dachhan, District-Kistwar J&K -182204 Jammu & Kashmir			
Type of Sample	Ambient Air			
Customer's Description of Sample	Ambient Air			
Quantity	1 No.			
Packing, Markings	Filter Paper Packed in Polythene Pouch. N/A			
Mode of Collection of Sample	Sampling by Laboratories			
Work Order No.	JAL/PAKAL/2022/WO/04	Dated	01/04/2022	
Date of Receipt of Sample	19/03/2022			
Period of Analysis	19/03/2022 To 25/03/2022			
Sampling Team Idma	Jaiprakash Associates Ltd.	Client	Mr. PK Sharma	
Sampling Location	Dam Site			
Visual Observation	N/A			
Date of Sampling	15/03/2022			
Date of Reporting	25/03/2022			
Sampling Protocol	IS: 5182			
Testing Protocol	NAAQS			

RESULTS

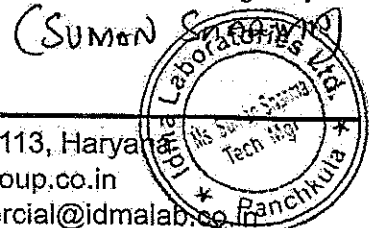
S.No.	Test Parameter	Units	Results	Specifications	Test Method
	CHEMICAL TESTING (Ambient air)				
1	PM10	µg/m ³	77.5	Max. 100	NAAQMS/36/2012-13(Gravimetric method)
2	SO2	µg/m ³	14.8	Max. 80	NAAQMS/36/2012-13(Improved West & Gaeke method)
3	NO2	µg/m ³	18.6	Max. 80	NAAQMS/36/2012-13(Modified Jacob & Hochheiser method)
4	NH3	µg/m ³	23.2	Max. 400	NAAQMS/36/2012-13(Indophenol method)
5	PM2.5	µg/m ³	34.2	Max. 60	NAAQMS/36/2012-13(Gravimetric method)
6	CO	mg/m ³	0.40	Max. 2	NAAQMS/36/2012-13 & IS 5182 Part 10:1999
7	Ozone	µg/m ³	21	Max. 100	NAAQMS/36/2012-13(Chemical method)
8	Benzene	µg/m ³	<2	Max. 5	NAAQMS/36/2012-13(GC method)
9	Benzo-a-Pyrene(BaP) - Particulate phase	ng/m ³	<0.9	Max. 1	NAAQMS/36/2012-13(GC method)
10	Arsenic	ng/m ³	<1	Max. 6	NAAQMS/36/2012-13
11	Nickel	ng/m ³	<1	Max. 20	NAAQMS/36/2012-13
12	Lead	µg/m ³	<0.1	Max. 1	NAAQMS/36/2012-13

End of Report

PSD
25/3/22
Analyst (Renu Sharma)

For Idma Laboratories Limited

Authorized Signatory



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TEST REPORT

Lab No.	190322N-E-017	Page No. 1/1	
Customer	Jaiprakash Associates Ltd. Pakal Dul Hydro Electric Project (Dam Package), Dang Duru, Teh: Dachhan, District-Kistwar J&K -182204 Jammu & Kashmir		
Type of Sample	NOISE LEVEL (AMBIENT)		
Customer's Description of Sample	NOISE LEVEL (AMBIENT)		
Quantity	1 No.		
Packing, Markings	Instrument at Site N/A		
Mode of Collection of Sample	Sampling by Laboratories		
Work Order No.	JAL/PAKAL/2022/WO/04	Dated	01/04/2022
Date of Receipt of Sample	19/03/2022		
Period of Analysis	19/03/2022 To 25/03/2022		
Sampling Team Idma	Jaiprakash Associates Ltd.	Client	Mr. PK Sharma
Sampling Location	HRT Adit Portal		
Visual Observation	N/A		
Date of Sampling	15/03/2022		
Date of Reporting	25/03/2022		
Sampling Protocol	CPCB		
Testing Protocol	EPA/CPCB		

RESULTS

S.No.	Test Parameter	Units	Results	Limits, Day	Test Method
	CHEMICAL DISCIPLINE (Ambient Noise Levels)	-	-	-	-
1	Lday	dB(A)	73.9	Max 75	EPA Guidline Manual July 2008
2	LNight	dB(A)	50.4	Max 70	EPA Guidline Manual July 2008

End of Report

Analyst

(Renu Sharma)

For Idma Laboratories Limited

Authorized Signatory

(Suman Sharma)



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TEST REPORT

Lab No.	190322N-E-021	Page No. 1/1	
Customer	Jaiprakash Associates Ltd. Pakal Dul Hydro Electric Project (Dam Package), Dang Duru, Teh: Dachhan, District-Kistwar J&K -182204 Jammu & Kashmir		
Type of Sample	Surface Water		
Customer's Description of Sample	Surface Water		
Quantity	5 Ltr.		
Packing, Markings, Seal & Quantity	Plastic Can. N/A		
Mode of Collection of Sample	Sampling by Laboratories		
Work Order No.	JAL/PAKAL/2022/WO/04	Dated	01/04/2022
Date of Receipt of Sample	19/03/2022		
Period of Analysis.	19/03/2022 To 25/03/2022		
Sampling Team Idma	Jaiprakash Associates Ltd.	Client	Mr. PK Sharma
Sampling Location	UP-Stream (Mark: Sudan River)		
Visual Observation	N/A		
Date of Sampling	16/03/2022		
Date of Reporting	25/03/2022		
Sampling Protocol	IS: 3025 (P-1) 1987		
Testing Protocol	-		

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.18	APHA 4500H+B 23rd Edition, 2017
2	Alkalinity as CaCO ₃	mg/L	76	APHA 2320 B 23rd Edition, 2017
3	Chloride as Cl	mg/L	10.2	APHA 4500Cl- B 23rd Edition, 2017
4	Hardness Total (as CaCO ₃)	mg/L	63	APHA 2340C 23rd Edition, 2017
5	Oil & Grease	mg/L	<1	APHA 5500 B 23rd Edition, 2017
6	Total Dissolved Solids	mg/L	105	APHA 2540 C 23rd Edition, 2017
7	Sulphate as SO ₄	mg/L	8.6	APHA 4500-SO ₄ E 23rd Edition, 2017
8	Iron as Fe	mg/L	0.005	APHA 3125 B 23rd Edition 2017
9	Lead as Pb	mg/L	<0.0005	APHA 3125 B 23rd Edition 2017
10	Faecal Coliforms	MPN/100 ml	350	APHA 9221 B&C 23rd Edition 2017
11	Biochemical Oxygen Demand (3-days at 27°C)	mg/L	<2	CPCB Guide Manual:Water & waste water Analysis
12	Chemical Oxygen Demand	mg/L	4.04	CPCB Guide Manual:Water & waste water Analysis

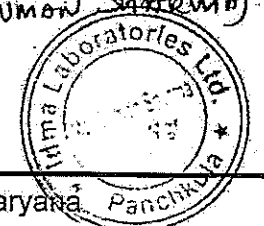
End of Report

For Idma Laboratories Limited

RSD
25/3/22
Analyst

(Renu Sharma)

25/3/22
Authorized Signatory
Sumon Sanyal



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TEST REPORT

Lab No.	190322N-E-022		Page No. 1/1
Customer	Jaiprakash Associates Ltd. Pakal Dul Hydro Electric Project (Dam Package), Dang Duru, Teh: Dachhan, District-Kistwar J&K -182204 Jammu & Kashmir		
Type of Sample	Surface Water		
Customer's Description of Sample	Surface Water		
Quantity	5 Ltr.		
Packing, Markings, Seal & Quantity	Plastic Can. N/A.		
Mode of Collection of Sample	Sampling by Laboratories		
Work Order No.	JAL/PAKAL/2022/WO/04	Dated	01/04/2022
Date of Receipt of Sample	19/03/2022		
Period of Analysis	19/03/2022 To 25/03/2022		
Sampling Team Idma	Jaiprakash Associates Ltd.	Client	Mr. PK Sharma
Sampling Location	Down Stream (Mark: Sudan River)		
Visual Observation	N/A		
Date of Sampling	16/03/2022		
Date of Reporting	25/03/2022		
Sampling Protocol	IS: 3025 (P-1) 1987		
Testing Protocol			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	
1	pH	-	7.29	APHA 4500H+B 23rd Edition, 2017
2	Alkalinity as CaCO ₃	mg/L	75	APHA 2320 B 23rd Edition, 2017
3	Chloride as Cl	mg/L	11.4	APHA 4500Cl- B 23rd Edition, 2017
4	Hardness Total (as CaCO ₃)	mg/L	63	APHA 2340C 23rd Edition, 2017
5	Oil & Grease	mg/L	<1	APHA 5500 B 23rd Edition, 2017
6	Total Dissolved Solids	mg/L	99	APHA 2540 C 23rd Edition, 2017
7	Sulphate as SO ₄	mg/L	8.5	APHA 4500-SO ₄ -4 E 23rd Edition, 2017
8	Iron as Fe	mg/L	0.007	APHA 3125 B 23rd Edition 2017
9	Lead as Pb	mg/L	<0.0005	APHA 3125 B 23rd Edition 2017
10	Faecal Coliforms	MPN/100 ml	280	APHA 9221 B&C 23rd Edition 2017
11	Biochemical Oxygen Demand (3-days at 27 °C)	mg/L	<2	CPCB Guide Manual:Water & waste water Analysis
12	Chemical Oxygen Demand	mg/L	6.1	CPCB Guide Manual:Water & waste water Analysis

End of Report

Analyst

(Suman Sharma)

For Idma Laboratories Limited

Authorized Signatory

(Suman Sharma)



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TEST REPORT

Lab No.	190322N-E-023		Page No. 1/1	
Customer	Jaiprakash Associates Ltd. Pakal Dul Hydro Electric Project (Dam Package), Dang Duru, Teh: Dachhan, District-Kistwar J&K -182204 Jammu & Kashmir			
Type of Sample	Waste Water			
Customer's Description of Sample	Surface Water			
Quantity	5 Ltr.			
Packing, Markings	Plastic Can. N/A			
Mode of Collection of Sample	Sampling by Laboratories			
Work Order No.	JAL/PAKAL/2022/WO/04	Dated	01/04/2022	
Date of Receipt of Sample	19/03/2022			
Period of Analysis	19/03/2022 To 25/03/2022			
Sampling Team Idma	Jaiprakash Associates Ltd.	Client	Mr. PK Sharma	
Sampling Location	Waste Water Batching Plant			
Visual Observation	N/A			
Date of Sampling	16/03/2022			
Date of Reporting	25/03/2022			
Sampling Protocol	IS: 3025 (P-1) 1987			
Testing Protocol	CPCB			

RESULTS

S.No.	Test Parameter	Units	Results	Specifications	Test Method
	CHEMICAL TESTING (Waste Water)	-	-	-	-
1	pH	-	7.76	5.5-9.0	APHA4500-H+ B23rd Edition 2017
2	Chemical Oxygen Demand (COD)	mg/L	28.3	Max. 250	CPCB Guide Manual:Water & waste water Analysis
3	Biochemical Oxygen Demand (BOD), 3-days at 27 °C	mg/L	9	Max. 30	CPCB Guide Manual:Water & waste water Analysis
4	Oil & Grease	mg/L	1.4	Max. 10	EPA Method 1664
5	Total Dissolved Solids (TDS)	mg/L	227	-	APHA2540 C23rd Edition 2017
6	Total Suspended Solids (TSS)	mg/L	34	Max. 100	APHA2540 D23rd Edition 2017

End of Report

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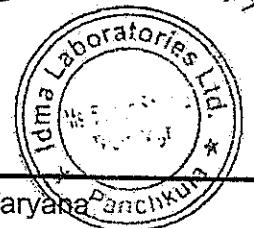
Analyst

(Renu Sharma)

For Idma Laboratories Limited

Authorized Signatory

(SUMON SUJANA)



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TEST REPORT

Lab No.	190322N-E-024	Page No. 1/1	
Customer	Jaiprakash Associates Ltd. Pakal Dul Hydro Electric Project (Dam Package), Dang Duru, Teh: Dachhan, District-Kistwar J&K -182204 Jammu & Kashmir		
Type of Sample	Waste Water		
Customer's Description of Sample	Surface Water		
Quantity	5 Ltr.		
Packing, Markings	Plastic Can. N/A		
Mode of Collection of Sample	Sampling by Laboratories		
Work Order No.	JAL/PAKAL/2022/WO/04	Dated	01/04/2022
Date of Receipt of Sample	19/03/2022		
Period of Analysis	19/03/2022 To 25/03/2022		
Sampling Team Idma	Jaiprakash Associates Ltd.	Client	Mr. PK Sharma
Sampling Location	Waste Water HRT Adit Tunnel		
Visual Observation	N/A		
Date of Sampling	16/03/2022		
Date of Reporting	25/03/2022		
Sampling Protocol	IS: 3025 (P-1) 1987		
Testing Protocol	CPCB		

RESULTS

S.No.	Test Parameter	Units	Results	Specifications	Test Method
	CHEMICAL TESTING (Waste Water)	-	-	-	-
1	pH	-	7.68	5.5-9.0	APHA4500-H+ B23rd Edition 2017
2	Chemical Oxygen Demand (COD)	mg/L	32.3	Max. 250	CPCB Guide Manual:Water & waste water Analysis
3	Biochemical Oxygen Demand (BOD), 3-days at 27 °C	mg/L	8	Max. 30	CPCB Guide Manual:Water & waste water Analysis
4	Oil & Grease	mg/L	1.5	Max. 10	EPA Method 1664
5	Total Dissolved Solids (TDS)	mg/L	234	-	APHA2540 C23rd Edition 2017
6	Total Suspended Solids (TSS)	mg/L	40	Max. 100	APHA2540 D23rd Edition 2017

RD
25/3/22

Analyst

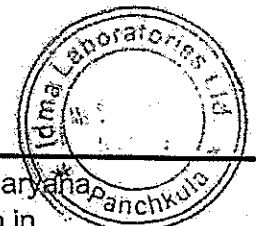
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End of Report

For Idma Laboratories Limited

(Signature)
Authorized Signatory

(Signature)



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TEST REPORT

Customer	Jaiprakash Associates Ltd. Pakal Dul Hydro Electric Project (Dam Package), Dang Duru, Teh: Dachhan, District-Kistwar J&K -182204 Jammu & Kashmir	Lab No.	190322N-E-025	Page No.	1/2
Type of Sample	Drinking Water				
Customer's Description of Sample	Drinking Water				
Quantity	5 Ltr.+250 ml				
Packing, Markings, Seal & Quantity	Plastic Can+ Glass Bottle. N/A				
Mode of Collection of Sample	Sampling by Laboratories				
Work Order No.	JAL/PAKAL/2022/WO/04	Dated	01/04/2022		
Date of Receipt of Sample	19/03/2022				
Period of Analysis	19/03/2022 To 26/05/2022				
Sampling Team Idma	Jaiprakash Associates Ltd.	Client	Mr. PK Sharma		
Sampling Location	Waste Water HRT Adft Tunnel				
Visual Observation	N/A				
Date of Sampling	16/03/2022				
Date of Reporting	26/03/2022				
Sampling Protocol	IS: 3025 (P-1) 1987				
Testing Protocol	IS: 10500:2012 Amdt 1 & 2				

RESULTS

S.No.	Test Parameter	Units	Results	Limit of IS: 10500-2012		Test Method
				Requirement (Acceptable Limit)	Permissible Limit In absence of alternate Source	
	Chemical Testing (Water)					
1	Color	Hazen	<1	Max. 5	Max. 15	APHA 2120 B&C 23rd Edition, 2017
2	Odour	Qualitative	Agreeable	Agreeable	Agreeable	APHA 2150 B 23rd Edition, 2017
3	pH	-	7.35	6.5-8.5	No Relaxation	APHA 4500H+B 23rd Edition, 2017
4	Alkalinity as CaCO ₃	mg/L	76	Max. 200	Max. 600	APHA 2320 B 23rd Edition, 2017
5	Boron	mg/L	<0.01	Max. 0.5	Max. 2.4	APHA 3125 B 23rd Edition, 2017
6	Calcium as Ca	mg/L	18	Max. 75	Max. 200	APHA 3500-Ca B 23rd Edition, 2017
7	Chloride as Cl	mg/L	9.3	Max. 250	Max. 1000	APHA 4500Cl- B 23rd Edition, 2017
8	Magnesium as Mg	mg/L	5.6	Max. 30	Max. 100	APHA 3500 Mg B 23rd Edition 2017
9	Cyanide as CN	mg/L	<0.01	Max. 0.05	No Relaxation	APHA 4500CN-C&F 23rd Edition, 2017
10	Fluoride as F	mg/L	0.051	Max. .1	Max. 1.5	CPCB Guide Manual:Water & waste water Analysis
11	Hardness Total (as CaCO ₃)	mg/L	68	Max. 200	Max. 600	APHA 2340C 23rd Edition, 2017
12	Total Dissolved Solids	mg/L	119	Max. 500	Max. 2000	APHA 2540 C 23rd Edition, 2017
13	Sulphate as SO ₄	mg/L	8.4	Max. 200	Max. 400	APHA 4500-SO ₄ E 23rd Edition, 2017

26/3/22

(Renu Sharma)

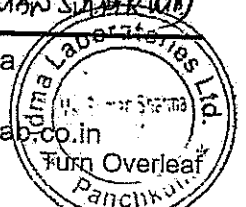
26/3/22

(Sumon Saha)

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TEST REPORT

				Lab No.	190322N-E-025	Page No.	2/2
S.No.	Test Parameter	Units	Results	Limit of IS: 10500-2012		Test Method	
				Requirement (Acceptable Limit)	Permissible Limit In absence of alternate Source		
14	Turbidity	NTU	<1	Max. 1	Max. 5	APHA 3130 B 23rd Edition, 2017	
15	Taste	Qualitative	Agreeable	Agreeable	Agreeable	APHA 2160 B 23rd Edition, 2017	
16	Residual Free chlorine	mg/L	0.21	Min. 0.2	1	APHA 4500Cl B 23rd Edition, 2017	
17	Cadmium	mg/L	<0.0005	Max. 0.003	No Relaxation	APHA 3125 B 23rd Edition 2017	
18	Potassium	mg/L	0.91	-	-	APHA 3125 B 23rd Edition 2017	
19	Sodium	mg/L	6.5	-	-	APHA 3125 B 23rd Edition 2017	
20	Copper as Cu	mg/L	<0.0005	Max. 0.05	Max. 1.5	APHA 3125 B 23rd Edition 2017	
21	Iron as Fe	mg/L	0.008	Max. 1.0	No Relaxation	APHA 3125 B 23rd Edition 2017	
22	Manganese as Mn	mg/L	<0.0005	Max. 0.1	Max. 0.3	APHA 3125 B 23rd Edition 2017	
23	Nickel as Ni	mg/L	<0.0005	Max. 0.02	No Relaxation	APHA 3125 B 23rd Edition 2017	
24	Zinc as Zn	mg/L	0.003	Max. 5	Max. 15	APHA 3125 B 23rd Edition 2017	
25	Aluminum as Al	mg/L	<0.0005	Max. 0.03	Max. 0.2	APHA 3125 B 23rd Edition 2017	
26	Selenium as Se	mg/L	<0.0005	Max. 0.01	No Relaxation	APHA 3125 B 23rd Edition 2017	
27	Mercury as Hg	mg/L	<0.0005	Max. 0.001	No Relaxation	APHA 3125 B 23rd Edition 2017	
28	Total Arsenic	mg/L	<0.0005	Max. 0.01	No Relaxation	APHA 3125 B 23rd Edition 2017	
29	Total Chromium	mg/L	<0.0005	Max. 0.05	No Relaxation	APHA 3125 B 23rd Edition 2017	
30	Nitrate	mg/L	1.2	Max. 45	No Relaxation	APHA 4500 NO3 23rd Edition 2017	
	Biological Testing (Water)	-	-	-	-	-	
31	E. Coli	/100ml	Absent	Shall not be detectable in any 100ml sample	--	IS 15185:2016	
32	Total Coliform Bacteria	/100ml	Absent	Shall not be detectable in any 100ml sample	--	IS 15185:2016	

End of Report

Resd
26/3/22

Analyst

Renu Sharma

For Idma Laboratories Limited

26/3/22
Authorized Signatory

(Suman Sharma)



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