



DASU HYDROPOWER CONSULTANTS

Dasu Hydropower Project

Joint Venture of



With sub-consultants



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Date: 15th December, 2022

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General Manager/ Project Director,
Dasu Hydropower Project,
WAPDA Office Dasu, Kohistan

Subject: Dasu HPP –31st ENVIRONMENTAL PROGRESS REPORT FOR THE PERIOD FROM JULY TO SEPTEMBER 2022

Please find enclosed 31st Environmental progress report for the period from July to September 2022. This report is submitted for your further necessary action please.

Sincerely Yours,


Project Manager
Dasu Hydropower Consultants

Encl: As above

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PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY

Dasu Hydropower Project

Environmental Quarterly Progress Report

Report Number : 31
Reporting Period : July to Sep 2022

November 2022

Project Management Unit & Dasu Hydropower Consultants

ACRONYMS

CEAP	Construction Environmental Action Plan
CGGC	China Gezhouba Group Co. Ltd.
DHP	Dasu Hydropower Project
WAPDA	Water and power development authority
ESA	Environmental and social assessment
DHP-I	Dasu Hydropower project Stage-1
DHC	Dasu Hydropower Consultants
WTEIR	Walkthrough Environmental Inspection Report
ECP	Environmental codes of practice
PC-02	Project Colony-Phase2
MW	Main works
CEAP	Construction Environmental Action Project
ROW	Right of Way
EOT	Extension of time
NEQS	National Environmental quality standards
pH	Power of hydrogen and Hydroxyl Ion
DO	Dissolved oxygen
ISM	Implementation Support Mission

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Executive Summary

This report presents the progress of the environmental performance of the Stage-I implementation of the Dasu Hydropower Project (DHP or the Project) from July to September 2022 and activities conducted during the period by the Project Management Unit (PMU) of the Pakistan Water and Power Development Authority (WAPDA or the Employer) and Construction Supervision Consultant (Dasu Hydropower Consultant or DHC or the Engineer). This quarterly progress report has been prepared to meet the World Bank-approved Environmental and Social Assessment (ESA) requirements of DHP. The progress on Occupational health and safety (OHS) and Social performance of the Project are covered under separate reports.

i. Key Construction Activities

Details of various contracts in the Stage-I of DHP (DHP-I) and a summary of major construction activities conducted under each contract during the reporting period are given in below Table.

Details of major construction activities carried out in DHP during the current quarter are given in the following table.

Table ES1: Details of major construction activities carried out in DHP during the current quarter

S. No.	CONTRACT NAME	CONTRACTOR	MAJOR ACTIVITIES DURING THIS QUARTER
A.	Main Works Contracts		
1	MW-01: Main Hydraulic Structure, Spillway, Low Level Outlets, River Diversion and Hydraulic Steel Structures	China Ghezouba Group Company Limited (CGGC)	<ul style="list-style-type: none"> • Underground excavation and concreting at Diversion Tunnel A&B • Underground excavation for left bank traffic diversion tunnel • Temporary access road construction to the right bank of the Dam • Excavation for the second layer of CR-5 road (access to left bank cable crane platform) • Existing CR-02 Eroded during flood on August 16, 2022. The Contractor recovered the CR-02 road after the flood. • Excavation of Diversion Tunnel • No Excavation and Concrete work inside the Diversion Tunnel except at DT.B Inlet Structure (Outside). Only dewatering works remained continued inside the Diversion Tunnel during the month of September. • Also de-silting inside the Diversion Tunnel started from 24th of September, 2022.
2	MW-02: Under Ground Power Complex, Tunnels and Hydraulic Steel Structure	CGGC	<p>Excavation of Surge chamber, STA, GIS room, Underground powerhouse crown portion, underground transformer cavern, drain tunnel and penstock Adit tunnel 1</p> <p>Underground Power House Portion Total Excavation Volume of Sep. 2022 is 36313.00 m³ of Total Powerhouse Cavern Excavation Volume of 378,570.46 m³ which is the progress of 9.6% in total. Support Work is in progress for the overall Crown Pilot Portion. Trail Test for PS Tendon Tensioning was in progress (August 2022)</p> <p>Excavation for 2nd Bench Central portion II-1 of Powerhouse Cavern was in progress (Commenced 25 Sep. 2022)</p> <p>Underground Transformer Cavern Excavation Bench 1 Crown Portion (Pilot Tunnel I-1) was commenced on 4 June 20. I-3 Enlargement was complete on 22nd July 2022. Total Excavation Volume of August. 2022 is 26,756.698 of Total Transformer Cavern Excavation Volume of 234,829.30 m³ which is the progress of 11.3% in total. Trail Test for PS Tendon Tensioning was in progress (August 2022)</p> <p>Excavation for 2nd Bench Central portion II-1 of Transformer Cavern was in progress (Commenced 25 Sep. 2022). Switchyard preparatory works Preparatory work for switchyard area Labour Camp.</p>

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S. No.	CONTRACT NAME	CONTRACTOR	MAJOR ACTIVITIES DURING THIS QUARTER
			<p>Contractor (CGGC) and Engineer have conducted joint topographic survey.</p> <p>Reinforcement and formwork of the water tank are in progress.</p> <p>Removing of Dumping material by Day work is in progress.</p> <p>Excavation of 5th layer El.975 to El.973 Drilling for blast was in progress, Excavation from El.930 to 920m was in progress (July 2022)</p> <p>Meeting was held regarding Boundary line of Switchyard and KKH Batching Plant.</p> <p>Excavation at Platform El.920m was in progress (September 2022)</p> <p><input type="checkbox"/> 5th Bench Excavation above El.960 was in progress (September 2022)</p>
3	EM-01	GE Hydro China Co. Ltd. and Power China Engineering Ltd (GE-PC)	<ul style="list-style-type: none"> Backfilling, levelling, excavation, and retaining wall construction work for the worker's camp
B	Preparatory Works		
I	Road Contracts		
1	KKH-01 Relocation of Karakoram Highway from KM 0+000 to 25+200 (preparatory works)	China Civil Engineering Construction Company (CCECC)	<p>Improvement of the Camp at K9 and batching plant commissioning started and continued during the month.</p> <p>Plant erection at K6+400 started & continued during the month.</p> <p>Slope protection works of Logro-An inlet area finished and installation of Serial Arches started and continued during the month.</p> <p>Slope protection works for outlet of tunnel portal at K4, RD= K4+631 continued during the month.</p> <p>Excavation work at K4+800 continued during the month.</p> <p>Camp construction at K5+100 continued during the month.</p> <p>Slope protection works at Zero-point third bench started and continued during the month.</p> <p>Removal of flood material and recovery of buried equipment's & machinery from Camp/workshop/plant areas started and are in progress.</p>
2	RAR-01 Construction of Right Bank Access Road from Komila to Seo Dam Site (preparatory works)	CCECC	<p>Checking & supervision of drilling and blasting activities at Zaid Khawar Nullah area, existing KKH (N35).</p> <p><input type="checkbox"/> Site supervision for ongoing drilling, blasting and excavation activities on existing KKH (N35) for Restoration.</p> <p><input type="checkbox"/> Existing KKH (N35) road restoration completed and opened for traffic.</p> <p><input type="checkbox"/> Excavation work, drilling and blasting work, boulder blasting etc. at start, middle and end portion of Komila bypass in progress.</p> <p><input type="checkbox"/> Checking and measurement of slide material at K11+500 area of RAR01 project.</p> <p><input type="checkbox"/> Joint site visit with Employer team and Chairman WAPDA to RAR-01 project.</p> <p><input type="checkbox"/> Joint visit with Employer for demolishing of local houses around K0+400, K0+450 and K1+620, ROW is now cleared in this location.</p> <p><input type="checkbox"/> Demolishing of local house by Contractor labours around K1+400 in progress.</p> <p>From K0 to K9 work completed and Taking over certificate issued to Contractor up to K9 on dated November 26, 2021 with effect from July 25, 2021.</p> <p>- From K9 to end of project work completed and second (2nd) TOC-Taking over certificate issued to Contractor up to K12 on dated July 26,2022 with effect from April 26,2022.</p> <p>- Combined Taking over Certificate for the original scope of works (RAR-01 Project) issued August 03, 2022.</p>

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S. No.	CONTRACT NAME	CONTRACTOR	MAJOR ACTIVITIES DURING THIS QUARTER
3	KKH-02: Relocation of Karakoram Highway from RD 25+200 to 62+213	CGGC	Excavation and blasting at K28 Kaigah access Road, K31 Access Road and K34 access Roads. - Excavation works at K 31 Access Road and K28 access roads have been completed and Contractor has started the excavation of main KKH-02 alignment. - Area for temporary spoil dumps has been identified and handed over to the Contractor. - Excavation and blasting at K28 Kaigah, K31 and K34 Panibah access Roads. - Excavation in ROW at K28+450 to K28+520, K31+000 to K31+230 and K33+550 to K33+630. - Clearing of landslide material from existing KKH at various locations up to Looter area after heavy rain and flood. - Construction of Security Check post at Kaigah has been started.
4	RAR-02: Construction of Right Bank Access Road from Dam Site to Uttar Gah	CGGC	Supervision of construction activities and checking of DPR, WPR and MPR. <input type="checkbox"/> The excavation and blasting works are continued from K13+090 to K13+400, Seer Gayal Access Road and K20+590 cableway foundation. <input type="checkbox"/> The excavation & blasting works are ongoing to reinstate existing Kandia access road after flood.
5	RAR-03: Construction of Right Bank Access Road from Uttar Gah to Shatial		Procurement is in progress
II	Electrification Contracts		
1	TL-01 Procurement, Design, Supply, Installation, Testing and Commissioning of 132 kV Single Circuit Transmission Line and Grid Station (From Switchyard Dubair Khawar to proposed Grid Station Dasu)	Power China Corporation Company (PCCC)	Block masonry work of Control house building at Grid Station is in progress. <input type="checkbox"/> Excavation/cutting of access road to Grid Station is in progress. <input type="checkbox"/> Foundation work for switchgear equipment's on upper terrace of Grid Station is in Progress. <input type="checkbox"/> Erection work at T-138B, T-139A and T-204A completed.
2	TL-02: 11kV Distribution Line to Resettlement Villages		Procurement is in progress
III	Colony Works		
1	PCI-01R: Project Colony & Infrastructure	China Gansu International Corporation for Economic and Technical Cooperation (CGIC)	Internal electrification at project office is in progress. Cleaning and clearing of project office in progress. Lawn area filling is in progress. Electrical pole fixing within the colony is in progress. Excavation for water supply pipes within colony is in progress. Laying of water supply pipes within colony is in progress. Painting at cat 2, 2A, 2B, 2C units is in progress. Roof treatment at cat 2A, 2B, 2C units is in progress. Marble tile fixing for floor at cat 2 is in progress. Boundary wall plastering of Cat1 units is in progress Painting for wall of cat 1 units is in progress. Ward robe work at cat 1 is in progress. Filing and levelling lawns of cat 1 unit's is in progress. <input type="checkbox"/> Plinth protection work for cat 1 units is in progress Repair work at cat 1 units is in progress. Main gate for cat 1 units is in progress. Main sewerage work is in progress. External boundary wall construction of colony is in progress. Block masonry at cat 3 and cat 4 is in progress. Slab concreting at cat 4 and cat 3 remaining units' is in progress.
2	PCI-02: Project Colony and Infrastructure		Procurement is in progress
IV	Resettlement Villages Contracts		
1	Resettlement of Villages Left Bank of Indus River LBRV-11	Zhongmei Engineering Group Limited (Zhongmei)	At Khoshe sites following activities are in progress. <input type="checkbox"/> Khoshe Site-01 <input type="checkbox"/> Laying of water supply pipes is in progress. <input type="checkbox"/> Khoshe Site-02 <input type="checkbox"/> Retaining wall construction in progress.

S. No.	CONTRACT NAME	CONTRACTOR	MAJOR ACTIVITIES DURING THIS QUARTER
			<input type="checkbox"/> Construction of water tank is in progress. (2) At Uchar the site is already handed over
2	Resettlement of Villages Left Bank of Indus River LBRV-12	Zhongmei	At Nasirabad- Site-1 <input type="checkbox"/> Slope protection is in progress At Nasirabad- Site-2 <input type="checkbox"/> Plot leveling is in progress <input type="checkbox"/> Water tank construction is in progress. <input type="checkbox"/> Filter tank construction is in progress.
3	RV: Resettlement of Village Chuchang & Construction of Shatyal Museum	Khyber Grace (Pvt.) Limited (KGL)	Stone masonry retaining wall, sewerage works, water supply and plot levelling at Chuchang Site 1 Retaining wall work at Kuz Chuchang Site Work has been stopped by locals at Shatial rock carving site since 20-11-2020.
4	Resettlement of Villages Right Bank of Indus River RBRV-11	China Railway 17th Bureau Group Co. Ltd. (CR17B)	Commencement letter not yet issued/Land issue
5	Resettlement of Villages Left Bank of Indus River LBRV-13- Right Bank of Indus River RBRV-12		The works are yet to be designed (subject to agreement with the affected communities)
6	Resettlement of Villages RV-01 & RV-02		The works are yet to be finalized
V	Other Works		
1	VTC-01: Vocational Training Centre for Men and Women		Procurement is in progress

ii. Site Inspections and Meetings

The Environment Team of PMU WAPDA and DHC daily visits the construction sites and completes the monitoring checklists. In addition, the Senior Environmental Specialists of DHC and AD Environment PMU WAPDA randomly conducted regular inspections to ensure environmental compliances and issued Walk through Environmental Inspection Reports (WTEIR) for any non-compliances. Further, the team also conducts regular progress review meetings with the contractors.

iii. Key Non-Compliances

The details of non-compliances noticed during the implementation of various site visits are given in below Table. The Contractors are instructed to address these non-compliances through the issue of WTEIRs and letters.

Table ES-2: Major Non-compliances & Number of WTEIRs Issued During This Quarter

Contract	No. of WTEIRs			Number of Letters			Main Non-Compliances
	July	Aug	Sep	July	Aug	Sep	
MW-01& MW-02	1	1	2	2	0	4	Minor oil spills, Dust, high pH of waste water, lack of Environmental officer, Not cleaning of Sedimentation Ponds, Delay in Hiring of Air Dispersion Modeling Team and non-submission of Seo crush plant installation NOC's
KKH-01	1	1	1	1	0	0	Minor oil spill, inadequate Waste Management, Inappropriate Utilities in Camp for Labor and Staff
RAR-01	1	0	1	0	0	0	
PCI-01R	1	1	1	1	0	1	Dust, Waste Littering, use of fuel Wood for cooking in labour camps, Minor oil spill,
KKH-02	1	0	1	0	1	2	Dust Issue, Minor oil spill, Non-hiring of Dedicated Environmental Officer, Spoil Disposal Management Issue
RAR-02	3	0	2	2	0	1	Dust Issue, Non-hiring of Dedicated Environmental Officer, Spoil Disposal Management Issue
TL-01	1	1	1	0	0	0	Improper Waste Management, inadequate Housekeeping, Minor Oil Spill
EM-01	0	0	0	1	0	1	Contract is in Design Stage.
LBRV-11&12	0	0	0	0	0	0	None reported

Contractors have conducted corrective actions to the issues raised by the Engineer, and these actions were reviewed in the monthly progress review meetings. A summary of issues raised during this quarter and their status is given in below Table.

Table ES-3: Number of environmental issues and status of their compliance during this quarter

Contract	No. of Issues Raised			Issues Closed			Issues Still Open			Issues Partially Closed		
	July	Aug*	Sep	July	Aug*	Sep	July	Aug*	Sep	July	Aug	Sep
MW-01&-02	0		12	0		4	0		8	0		1
KKH-01	0		8	0		2	0		6	0		1
RAR-01	4		9	1		5	5		0	1		2
TL-01	4		6	2		2	2		4	2		2
PCI-01R	5		6	1		2	4		4	1		1
LBRV-11&12	0		0	0		0	0		0	0		0
KKH-02	0		8	0		0	0		8	0		0
RAR-02	0		6	0		1	0		5	0		1

*Due to high flood, project activities were at halt during August 2022

iv. Monitoring of Air, Noise, Water and Wastewater

During the quarter, the Contractors conducted no quarterly environmental monitoring as they are in negotiations with a new third-party environmental laboratory to conduct the monitoring.

The monthly environmental spot monitoring was conducted during the quarter. The results of the spot monitoring are given below:

Table ES-4: Spot monitoring of Surface Water

Contractor	Upstream and downstream of the construction area from River Indus												Remarks
	Turbidity			pH			Conductivity			DO			
	July	Aug	Sep	July	Aug	Sep	July	Aug	Sep	July	Aug	Sep	
MW-01	<1000	Nil	486	8.6	Nil	8.8	150.8	Nil	177.7	4.8	Nil	7.9	
MW-02	<1000	Nil	403	8.1	Nil	8.4	142.1	Nil	295	7.2	Nil	7.8	

Locations at MW-01 is: Upstream of Uchar crush plant in River Indus,

Locations at MW-02 is: Downstream near Khoshe Batching plant,

Table ES-5: Spot Monitoring of Wastewater and Compliance with NEQS

		July	Aug*	Sep	July	Aug*	Sep	July	Aug*	Sep	July	Aug*	Sep	Remarks
		Turbidity			pH			Conductivity			DO			
MW-01	1	<1000		219	8.8		8.7	942		234	5.12		7.1	The Contractor was instructed to increase the freshwater addition to lower the pH value and turbidity. Also the contractor was advised to consider weak acid addition to lower the pH value.
	2	790		782	11.5		11.2	1528		1257	6.1		6.5	
	3	738		711	10.7		9.8	367		1777	3.5		6.0	
MW-02	1	180		104	10.8		11.3	471		949	5		6.1	
	2	Nil		116	Nil		11.5			1094			6.7	
Standard		200 NTU			6-9			µs/cm			ppm			

* Due to high flood, project activities were at halt

Locations at MW-01 are: 1. Sedimentation pond of Uchar crush plant, 2. Sedimentation pond at Uchar Batching plant, 3. Sedimentation pond near Adit-1).

Locations at MW-2 are: 1. Sedimentation Pond at Main Access Tunnel (MAT) 2. Sedimentation Pond at Khoshe Batching Plant

v. Other Activities and Outstanding Issues

The outstanding issues in the Project and other key activities conducted by the environmental team of DHC during this quarter are given in below Table.

Table ES-6: Summary of Other Activities and Outstanding Issues

Sr. No.	Activity/ Outstanding Issue	Progress in this Quarter
1	Solid Waste Disposal Site	The Screening report for Newly identified site at Kaigah (Near 24+600RD of KKH-01)with basic design drawings/layout plans were submitted to WAPDA on 4th of August 2022. PMU WAPDA has forwarded the case for Land Acquisition.
2	Flooding during July 2022 and August 2022	A series of flood occurrences happened at the project site during the month of July and August 2022. Flood occurred in Uchar nullah and Indus on 24th July, 2022, 27th July, 2022, 1st August, 2022, 12th August 2022, 15th August 2022, 17th August 2022. Uchar flow

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Sr. No.	Activity/ Outstanding Issue	Progress in this Quarter
		partially blocked the Indus river water resulting in “barrier lake effect” in Indus River. Zhongmei and CCECC Contractors’ camps were wiped out completely. Zaid Khawar nullah on 26th August 2022 damaged the KKH and part of it collapsed blocking the road. Main KKH was reopened on 3rd September 2022 from Zaid Khawar Nullah.
3	WB ISM Dated 10-13 Aug 2022	Environment team prepared presentations on two components i.e., “EMAP implementation” as well as for “Traffic Management Plan” for upcoming World Bank Implementation Support Mission from 10th till 13th of the August 2022. DHC, WAPDA environment teams inspected underground works of MW-01 and MW-02 with WB Teams and inspected the flood affected camp of CCECC and Uchar Nullah where the Uchar Nullah Bridge was washed away by debris flow on 11th of August 2022. A detailed Traffic Management Plan Presentation was delivered to World Bank Traffic Management Specialist and Technical Advisor to WB on Dasu Hydropower Project on 12th of Aug 2022.
5	Preparation of a Presentation to Chairman NHA on 14 th of July 2022	Environment team of DHC prepared presentation in consultation with DHC planning department regarding DHPP logistic arrangements and requirements. This was presented to Chairman WAPDA in Islamabad on 14th July 2022. NHA, NESPAK and Diamer Basha Dam management also participated in the meeting. NHA demanded that all safety measures that are planned under DHPP traffic management plan should be submitted with location map for approval. Similarly the requirement of layby area at Kuza Banda should also be submitted to NHA for onward processing. The list of heavy and oversized equipment under EM-01 contract supplied by the Contractor was submitted to WAPDA on 11 September 2022 for sharing with NHA.
6	Participation of Environment Team in District Monitoring Committee meeting for getting NOC’s for Seo and Uchar Crushing Plant to be installed by CGGC.	The Environment team participated in the district monitoring committee meeting of upper Kohistan at Dasu on 28th July 2022 regarding Seo and Uchar crusher plants NOC. All stakeholders were invited to the meeting which included representatives from KP EPA, Industries department, Mines and Mineral and Forest Department. A presentation was delivered by Col(retd) Abdul Ghaffar (Advisor to DHC management) regarding the crusher plants and informed that Seo crusher plant would be state of the art and modern plant which is unique to Pakistan and is fully covered to contain dust and noise. All the stakeholders put their queries before the committee which was replied by DHPP to their satisfaction. Deputy Commissioner Upper Kohistan granted conditional NOC and requested the stakeholders to represent the case in their respective departments to grant their NOC. Minutes of meeting were shared with the stakeholders. Later a site visit was also conducted.

1 Introduction

1.1 Background

Dasu Hydropower Project (DHP or the Project) is a World Bank-financed project in Pakistan and implemented by the Pakistan Water and Power Development Authority (WAPDA). The Project consists of a 242 m high concrete dam with an installed capacity of 4320 MW. The dam site is located 7 km north of Dasu km North of Dasu town in the Kohistan district of the Khyber Pakhtunkhwa Province and 350 km North of Islamabad, the capital city of Pakistan.

WAPDA has established a Project Management Unit (PMU) at Dasu to implement the Project and hired Dasu Hydropower Consultants (DHC) as the Engineer or Construction Supervision Consultant to oversee the implementation. Nippon Koei Ltd., Japan, is the lead consulting firm.

This report presents the progress of the environmental performance of the DHP from July to September 2022 and activities conducted during the period by the environmental staff of PMU and DHC. The progress of the Occupational Health and Safety (OHS) and the Project's social aspects are presented in separate standalone quarterly reports and hence are not covered in this report.

1.2 Environmental Compliance Requirements of DHP

The key documents that describe the environmental compliance requirements of DHP are:

- An Environmental and Social Assessment (ESA) of DHP was prepared by WAPDA in 2014 through a team of independent consultants and submitted to World Bank. The World Bank has approved the ESA, and its successful implementation is a critical legal covenant of the financing agreement with WAPDA. Hence the environmental performance requirements of DHP should comply with the environmental management plan (EMP) in the ESA.
- The environmental conditions and specifications in the bidding documents of the Contractors.
- The Contractors must prepare Construction Environmental Action Plans (CEAPs) before mobilization with site-specific management plans to address various environmental risks and impacts. The CEAPs were reviewed and approved by the Engineer.

During the detailed design of DHP (2012-2013), the design consultant has prepared an Environmental Management Action Plan (EMAP), which consists of 8 volumes of documents¹. These are the internal and background documents of WAPDA and the basis for preparing ESA by independent consultants of WAPDA for Word Bank approval.

During the implementation of DHP (2018-2019), WAPDA has prepared Detailed Ecological and Biodiversity Management Plans (DEBMP) consisting of 7 plans². The Project's biodiversity aspects will be addressed by implementing these plans. WAPDA is yet to start implementing these plans, and once the implementation begins, their progress will be presented through a separate quarterly report.

1.3 Project Description

The DHP is planned to be implemented in two stages, with each stage consisting of two phases. Currently, Stage I of the DHP (DHP-I) is under implementation with the World Bank financing. The stage-wise proposed activities in the DHP are given in Table 1.1:

Table 1.1: Stage I and Stage II activities in DHP

Stage	Phase	Description of Works
Stage I	Phase-1	Construction of the dam with full height including whole gate facilities for such as spillway, LLO and flushing tunnels; full construction of power intake; one waterway tunnel until the tailrace outlet; underground powerhouse complex for 3-unit generating equipment; control building with 1 bay of transmission line at switchyard.

¹ The EMAP documents are Volume 1: Executive Summary, Volume 2: Environmental Impact Assessment, Volume 3: Terrestrial Ecology, Volume 4: Aquatic Ecology, Volume 5: Physical Cultural Resources, Volume 6: Environmental Baseline Quality, Volume 7: Cumulative and Induced Impact Assessment, and Volume 8: Environmental Management Plan.

² The DEMBP plans are Plan 1: Aquatic Ecology – Fisheries Management Plan, Plan 2: Task 3: Terrestrial Ecology Management Plan, Plan 3: Avian Risk Management Plan, Plan 4: Wildlife Conservation Management Plan, Plan 5: Forestry Management Plan, Plan 6: Watershed Management Plan, and Plan 7: Physical Cultural Resources (PCR) Baseline and Management Plan

Stage	Phase	Description of Works
	Phase-2	Second waterway tunnel until the tailrace outlet; underground powerhouse complex for another 3-unit generating equipment; 1 bay of transmission line at switchyard.
Stage II	Phase-3	Third waterway tunnel until the tailrace outlet; underground powerhouse complex for another 3-unit generating equipment; 1 bay of transmission line at switchyard.
	Phase-4	Fourth waterway tunnel until the tailrace outlet; underground powerhouse complex for another 3-unit generating equipment; 1 bay of transmission line at switchyard.

1.4 Procurement Status of Contracts

The DHP-I will be implemented under several construction contracts. These are grouped into two categories, (i) the Preparatory Works, which include the project colony, access roads, power lines and resettlement villages, and (ii) Main Works, which include the construction of the dam, underground powerhouse and related electromechanical works.

The Procurement Status of Contracts works, Resettlement Works and Main Works is presented in Table 1.2.

Table 1.2: Procurement Status of Contracts

S. No.	Contract No.	Date of Award	Date of Signing	Commencement Date	Original completion date	Updated Completion Date	Name of Contractor
1	MW-01: Main Hydraulic Structure, Spillway, Low-Level Outlets, River Diversion, and Hydraulic Steel Structures	29.12.2016	08.03.2017	23.06.2017	22-1-2023	NA	China Ghezouba Group Company Limited (CGGC)s
2	MW-02: Under Ground Power Complex, Tunnels and Hydraulic Steel Structure	29.12.2016	08.03.2017	23.06.2017	21-2-2023	NA	China Ghezouba Group Company Limited (CGGC)
3	EM-01: Procurement of Plant Design, Supply, Installation, Testing & Commissioning of Hydro-Mechanical and Electrical Equipment	22.10.2019	25.11.2019	20.5.2020	19-6-2025	NA	G.E. Hydro China Co. Ltd. & Power China Zhongmei Engineering Corporation Ltd. Joint Venture (GE-PC JV)
4	KKH-01: Relocation of Karakoram Highway from KM 0+000 to 25+200	09.02.2015	16.03.2015	24.08.2015	20-2-2017	22-7-2024	China Civil Engineering Construction Company (CCECC)
5	RAR-01: Construction of Right Bank Access Road from Komila to SEO Dam Site	09.02.2015	16.03.2015	24.08.2015	22-8-2016	31-8-2022	China Civil Engineering Construction Company (CCECC)
6	TL-01: Procurement, Design, Supply, Installation, Testing & Commissioning of 132 kV Single Circuit Transmission Line and Grid Station (From Switchyard Dubair Khwar to proposed Grid Station Dasu)	03.03.2015	24.04.2015	02.11.2015	18-6-2016	19-11-2022	Power China Corporation Company (PCCC)
7	Resettlement of Villages Left Bank of Indus River LBRV-11	27.02.2017	20.04.2017	26.12.2018	25-12-2019	31-8-2022	Zhongmei Engineering Group Limited
8	Resettlement of Villages Left Bank of Indus River LBRV-12	27.02.2017	20.04.2017	26.12.2018	25-12-2019	31-8-2022	Zhongmei Engineering Group Limited
9	RAR-02: Construction of Right Bank Access Road from Dam Site to Uttar Gah	22.06.2016	18.01.2017	20.12.2021	18-5-2023	18-5-2023	China Ghezouba Group Company Limited (CGGC)
10	KKH-02: Relocation of Karakoram Highway from KM 25+200 to 62+213	27.02.2017	25.04.2017	15-5-2022	31-12-2024	NA	China Ghezouba Group Company Limited (CGGC)
11	Right Bank of Indus River RBRV-11	27.02.2017	25.04.2017	Commencement Letter not yet issued/ Land Issue	-	NA	China Railway 17th Bureau Group Co. Ltd. (CR17B)
12	PCI-01R: Project Colony & Infrastructure (Rebid)	27.08.2017	18.10.2018	20.5.2019	17-5-2021	31-10-2022	China Gansu International Corporation for Economic and Technical Cooperation (CGICOP)
13	RV: Resettlement of Village Chuchang & Construction of Shatial Museum (Re-Bid)	23.04.2019	18.06.2019	18.06.2019	15-12-2020 & 16-10-2019	31-12-2022	Khyber Grace (Pvt.) Limited (KGL)

1.5 Status of Project Implementation

The overall construction progress of signed contracts up to the reporting period is given in Table 1.3.

Table 1.3: Overall Construction Progress

Sr. No.	Contract	Elapsed Time		Work Progress up to reporting period		Progress in This Time period
		Month	%Age	Scheduled %	Actual %	
1	ICB No. DASU-KKH-01(ii)	85.3	165.1	100.0	32.4	<p>Limited Construction Activities in this month.</p> <ul style="list-style-type: none"> • Improvement of the Camp at K9 and batching plant commissioning started and continued during the month. • Plant erection at K6+400 started & continued during the month. • Slope protection works of Logro-An inlet area finished and installation of Serial Arches started and continued during the month. • Slope protection works for outlet of tunnel portal at K4, RD= K4+631 continued during the month. • Excavation work at K4+800 continued during the month. • Camp construction at K5+100 continued during the month. • Slope protection works at Zero-point third bench started and continued during the month. • Removal of flood material and recovery of buried equipment's & machinery from Camp/workshop/plant areas started and in progress.
2	ICB No. DASU-RAR-01(iii)	82.3	140	100	97.5	No Issues at RAR-01
3	ICB No. DASU-TL-01(iv)	83.0	152.2	100	90.0	<p>Block masonry work of Control house building at Grid Station is in progress.</p> <ul style="list-style-type: none"> • Excavation/cutting of access road to Grid Station is in progress. • Foundation work for switchgear equipment's on upper terrace of Grid Station is in Progress. • Erection work at T-138B, T-139A and T-204A completed.
4	ICB No. DASU-MW-01	63.3	59.4	29.9	18.4	<p>Contractor's Camp</p> <p>- The construction of Kass Main Camp is in progress. No work inside the Kass camp since August 9, 2022 due to interruption of the Local people. The status of the construction is as Follows.</p> <ul style="list-style-type: none"> - Ground levelling for the Contractor's main camp-63% - Building foundation of the prefabricated house- 49% - Prefabricated house hoisting- 65% - Pool Construction-60% - Stone Masonry for Retaining Wall-43% <p>- Installation of precast fence- 28%</p> <p>Batching Plant and 1# Crushing Plant at Uchar Area</p> <p>i) Land Development</p> <ul style="list-style-type: none"> - Retaining wall excavation Foundation- 100% - Stone Masonry for retaining wall- 85% - Stone masonry for 6# and 7# retaining wall- 100% - Coarse Crushing Platform Levelling- 100% - Foundation of the Belt Conveyor- 60% <p>ii) Batching Plant</p> <ul style="list-style-type: none"> - Batching Plant Foundation Excavation- 100% - Batching Plant Foundation Concrete- 40% <p>Diversion Tunnels</p> <p>No Excavation and Concrete work inside the Diversion Tunnel except at DT.B Inlet Structure (Outside). Only dewatering works remained continued inside the Diversion Tunnel during the month of September. Also de-silting inside the Diversion Tunnel started from 24th of September, 2022.</p> <p>Damage of Temporary Facility caused by Debris Flow in the Uchar Nullah on 24th , 27th July, 1st , 12th , 16th , 20th , 24th & 26th August 2022</p> <p>The Contractor's Water Supply Pipeline & pumps installed along the Uchar Nullah was washed out by debris flow in the Uchar Nullah which results in stoppage of concrete/shot Crete works for Diversion Tunnel.</p> <p>Backfill below Chinese and Local Dormitories at River side of Uchar Camp eroded due to debris flow in the Uchar Nullah which result damage to the Chinese Canteen. Other buildings</p>

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Sr. No.	Contract	Elapsed Time		Work Progress up to reporting period		Progress in This Time period
		Month	%Age	Scheduled %	Actual %	
						<p>at river side is also in danger if further severe flood occurs in future.</p> <p>Concrete Work of Diversion and Adit Tunnels Diversion Tunnel A</p> <ul style="list-style-type: none"> - Inlet Structure Works (Outside) - 11,462m³ / 21,515m³ (53%) completed till end of September 2022. - Inlet Lining Works (Inside) - Concrete Works: 5,975m³ / 10,873m³ (55%) completed till end of September 2022. - Invert Levelling Concrete (C20) - L/S- 1,183m / 1,502m (79%) - R/S- 1,199m/1,502m (80%) - Invert Structural Concrete (A25) - L/S- 90m / 1,502m (6%) - R/S- 786m/1,502m (52%) <p>Diversion Tunnel No. B</p> <p>1) Inlet Structure Works (Outside)</p> <ul style="list-style-type: none"> - 12,159m³/ 21,600m³ (56%) completed till end of September, 2022. <p>2) Inlet Lining Works (Inside)</p> <ul style="list-style-type: none"> - 6,102m³ / 10,418m³ (59%) completed till end of September, 2022. <p>3) Shear Zone Area</p> <ul style="list-style-type: none"> - Concrete Works: 6,024m³ / 9,045m³ (67%) completed till end of September, 2022. <p>4) Invert Levelling Concrete (C20)</p> <ul style="list-style-type: none"> - L/S- 775.50m / 1,309m (59%) - R/S- 953m/1,309m (73%) <p>5) Invert Structural Concrete (A25)</p> <ul style="list-style-type: none"> - L/S- 1013m / 1,309m (77%) - R/S- 963m/1,309m (74%) <p>Suspension of Construction Activities inside Diversion Tunnel</p> <ul style="list-style-type: none"> • Due to overtopping of the Indus River water from the Diversion Tunnel Inlet Dyke, all the excavation and concrete activities suspended inside the Tunnel since August 16, 2022. • Dewatering inside the Diversion Tunnel started from August 30th, 2022 and remaining continued during the month of September. • Desilting from DT-A started from night of 24th September, 2022.
5	ICB No. DASU-MW-02	63.3	58.7	41.5	7.5	<p>Main Access Platform</p> <ul style="list-style-type: none"> • Gravity Wall Type A: 0 m³ (949 m³ in total, 94% of design volume). • Gravity Wall Type C: 0 m³ (356 m³ in total) • Leaning Retaining Wall Type III: 0 m³ (791 m³ in total, 89% of design volume). • Criss Drain Culvert: 0 m³ (62 m³ in total), works was suspended <p>Surge Chamber Vault Access Tunnel</p> <ul style="list-style-type: none"> • Excavation of Surge Chamber Vault Access Tunnel was started on 29 Dec 2019. • Work progress of Surge Chamber Vault Access Tunnel in September 2022: 0.00 m • (518.00 m in total, 97.7 % of total length of 530.0 m) • Crown enlargement and support work Towards Galleries was in progress (Aug 2022) • Excavation and Support of SCVAT 1 Gallery was in progress (current chainage 0+022 m (26 Sep 2022)) • Excavation & Support of SCVAT 2 Gallery (Current chainage 0+026 m (26 Sep 2022)) <p>Service Tunnel A</p> <ul style="list-style-type: none"> • Excavation of Service Tunnel A was started on 20 January 2020. • Work progress of Service Tunnel A in September 2022: 0.00m (567 m in total, 99.5% of total length of 569.73 m) <p>GIS Room Access Tunnel</p>

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Sr. No.	Contract	Elapsed Time		Work Progress up to reporting period		Progress in This Time period
		Month	%Age	Scheduled %	Actual %	
						<ul style="list-style-type: none"> • Work progress of the GIS Room Access Tunnel in September 2022: 00.0m (113m intotal 98.9% of the total length of 114.18 m) • STB Tunnel Excavation was in Progress F.ch 0+64.5 approx. (26 September 2022) <p>Underground Powerhouse</p> <ul style="list-style-type: none"> ➤ Crown Portion • Total Excavation Volume of Sep. 2022 is 36313.00 m3 of Total Powerhouse Cavern Excavation Volume of 378,570.46 m3 which is the progress of 9.6% in total. • Support Work is in progress for the overall Crown Pilot Portion. • Trail Test for PS Tendon Tensioning was in progress (August 2022) • Excavation for 2nd Bench Central portion II-1 of Powerhouse Cavern was in progress ➤ (Commenced 25 Sep. 2022)Underground Transformer Cavern • I-3 Enlargement was complete on 22nd July 2022. • Total Excavation Volume of August. 2022 is 26,756.698 of Total Transformer Cavern • Excavation Volume of 234,829.30 m3 which is the progress of 11.3% in total. • Trail Test for PS Tendon Tensioning was in progress (August 2022) • Excavation for 2nd Bench Central portion II-1 of Transformer Cavern was in progress • (Commenced 25 Sep. 2022). ➤ Drain Tunnel • Work progress of the Drain Tunnel in July 2022: 0.00m (924.50 m in total, 97.36 % of total length of 949.50m). <p>Penstock Adit Tunnel No.01</p> <ul style="list-style-type: none"> • Lower pressure tunnel # 1 Crown enlargement was in progress (Sep.2022) • Penstock Adit Tunnel No.02 • The Excavation was stopped due Rock fall only support recovery was in progress • (stage 1) • Lower pressure tunnel # 2 Invert Cleaning was in progress (sep.2022).
6	ICB No. DASU-LBRV-11(v)	45.2	193.9	100.0	94.0	<p>At Khoshe sites following activities are in progress.</p> <ul style="list-style-type: none"> ➤ Khoshe Site-01 • Laying of water supply pipes is in progress. ➤ Khoshe Site-02 • Retaining wall construction in progress. • Construction of water tank is in progress.
7	ICB No. DASU-LBRV-12	45.2	201.6	100.0	96.0	<p>At Nasirabad sites following activities are in progress.</p> <ul style="list-style-type: none"> • At Nasirabad- Site-1 • Slope protection is in progress • At Nasirabad- Site-2 • Plot levelling is in progress • Water tank construction is in progress. • <input type="checkbox"/> Filter tank construction is in progress.
8	ICB No. DASU-PCI-01R	40.4	97.6	95.0 55.3	95.0 55.3	<ul style="list-style-type: none"> • The major construction activities undertaken during this month were: • Internal electrification at project office is in progress. • Cleaning and clearing of project office in progress. • Lawn area filling is in progress. • Electrical pole fixing within the colony is in progress. • Excavation for water supply pipes within colony is in progress. • Laying of water supply pipes within colony is in progress. • Painting at cat 2, 2A, 2B, 2C units is in progress. • Roof treatment at cat 2A, 2B, 2C units is in progress. • Marble tile fixing for floor at cat 2 is in progress. • Boundary wall plastering of Cat1 units is in progress • Painting for wall of cat 1 units is in progress.

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Sr. No.	Contract	Elapsed Time		Work Progress up to reporting period		Progress in This Time period
		Month	%Age	Scheduled %	Actual %	
						<ul style="list-style-type: none"> Ward robe work at cat 1 is in progress. Filing and levelling lawns of cat 1 unit's is in progress. Plinth protection work for cat 1 units is in progress. Repair work at cat 1 units is in progress. Main gate for cat 1 units is in progress. Main sewerage work is in progress. External boundary wall construction of colony is in progress. Block masonry at cat 3 and cat 4 is in progress. Slab concreting at cat 4 and cat 3 remaining units' is in progress.
9	ICB No. DASU-RV(Vi)	39.5	220.0	100.0	39.5	<p>Choochang-1 PCC road concreting is in progress. KUZ Chuchang lower portion & upper portion Breast wall construction in progress. Fencing Wall Concrete Columns from Points P2 to P3 is in progress.</p> <ul style="list-style-type: none"> Installation of GI Post dia 75mm along river side is completed. Stone pitching of parking area is in progress. Super structure work above plinth beam for staff residence building in progress
10	ICB No. DASU-EM-01	28.4	46.6	7.3	4.7	<p>Preparatory Works</p> <ul style="list-style-type: none"> Terrace#11 Excavation was in progress.The Work was suspended due to local disruption as the per datum of the diem dated 10th August 2022 to till Date. <p>Terrace#4</p> <ul style="list-style-type: none"> Boundary wall stone masonry was suspended 10th of August 2022 by locals due to demanding of a subcontract from the Main Contractor. Excavation/Cutting of Terrace #11 was in progress (up to August 10th, 2022). FDT tests were conducted in the Month of August 2022. (Only one Test was Conducted) Backfilling/filling of Terrace # 8 was completed on 4th of August 2022. Excavation and Levelling of Terrace #12 was on 5th of August 2022. Access Road to Camp Area: Surface Excavation Completed. Excavation and levelling of Terrace #7&6, was Completed The Work was suspended due to local Interruption on 10th August 2022 till Date.
11	ICB No. DASU-RAR-02	16.6	69.4	70.9	1.2	<p>The major construction activities undertaken during this month were:</p> <ul style="list-style-type: none"> The excavation and blasting works are continued from K13+090 to K13+400, Seer Gayal Access Road and K20+590 cableway foundation. The excavation & blasting works are ongoing to reinstate existing Kandia access road after flood.
12	ICB No. DASU-KKH-02	4.6	19.1	8.3	1.0	<p>The major construction activities undertaken during this month were:</p> <ul style="list-style-type: none"> Excavation and blasting at K28 Kaigah, K31 and K34 Panibah access Roads. Excavation in ROW at K28+450 to K28+800, K31+000 to K31+250 and K33+520 to K34+510. Construction of Security Check Post has been on going.

- Elapsed time of each contract/package is from commencement until the end of the reporting period.
- Scheduled progress of KKH-01 is based on EOT-02. The Contractor is preparing revised schedule (EOT-03) for re-alignment (new tunnels & bridges)
- The contractor is preparing revised schedule (EOT-4 for the remaining works of RAR-01 including VO of Komila bypass
- The revised schedule of TL-01 (EOT-4) is under preparation with the contractor
- Revised schedules (EOT-02) of LBRV-11&12 is based on change in scope of non-handover sites is under process.
- Revised schedule (EOT-1) of Dasu –RV based on change in scope is under progress.

1.6 Environmental Staffing of PMU and DHC

The staff in the environmental unit of PMU and DHC are given in Table 1.4. The OHS staff of DHC are not included in this table.

Table 1.4: Environmental Staff of PMU and DHC

Sr. No.	Position	Staff Status
A	PMU	
1	Director	Vacant
2	Deputy Director	Imran Tariq
3	Assistant Director Environment	Vacant
4	Assistant Director Ecology	Liaqat Ali
5	Supervisor Ecology	Vacant
6	Supervisor Env &OHS	Junaid
7	Supervisor Env &OHS	Arslan
B	DHC	
1	Chief Environmentalist	Zafar Iqbal Chaudhry
2	Sr. Environmental Specialist	Sardar Alam
3	Sr. Environmental Specialist	Awais Hassan
4	Jr. Environmental Specialist	Vacant
5	Supervisor	Nasir Khan
6	Supervisor	Hidayatullah
7	Supervisor	Mehmood Khan
8	Environmental Advisor	Venkata Nukala

1.7 Structure of this Report

This report is divided into various chapters, and the contents of each chapter are briefly given in Table 1.5.

Table 1.5: Structure of this Report

Chapter No.	Chapter Name	Contents of the Chapter
Chapter 1	Introduction	Introduction to the Project, description of project works and status of implementation
Chapter 2	Main Works Contracts	Progress of implementing MW-01 and MW-2 contracts, environmental inspections and monitoring conducted, and key environmental issues and non-compliances noticed during implementation.
Chapter 3	KKH-01 Contract	Progress of implementing the KKH-01 contract, environmental inspections and monitoring conducted, and key environmental issues and non-compliances noticed during implementation.
Chapter 4	RAR-01 Contract	Progress of implementing the RAR-01 contract, environmental inspections and monitoring conducted, and key environmental issues and non-compliances noticed during implementation.
Chapter 5	TL-01 (132 KV Transmission Line Contract)	Progress of implementing 132 KV Transmission Line contract, environmental inspections and monitoring conducted, and key environmental issues and non-compliances noticed during implementation.
Chapter 6	PCI-01R Contract	Progress of implementing PCI-01R contract, environmental inspections and monitoring conducted, and key environmental issues and non-compliances noticed during implementation.
Chapter 7	LBRV-11&12	Progress of implementing other contracts (LBRV11 and LBRV12), environmental inspections and monitoring carried out, and key environmental issues and non-compliances noticed during implementation.
Chapter 8	RAR-02	Progress of implementing other contracts (RAR-02), environmental inspections and monitoring carried out, and key environmental issues and non-compliances noticed during implementation.
Chapter 9	KKH-02	Progress of implementing other contracts (KKH-02), environmental inspections and monitoring carried out, and key environmental issues and non-compliances noticed during implementation. EM-01 status
Chapter 10	Other Environmental Aspects	Status of solid waste disposal site, WB Mission, other important Meetings and Floods in Uchaar Nullah, Indus River and Zaid Khwar Nullah in Month of July & Aug 2022.
Annex 1		Minutes of Environmental progress review meetings during the quarter
Annex 2		Results of Monthly Environmental Spot monitoring

2 Main Works Contracts (MW-01 & MW-02)

2.1 Overview of Contracts

A brief overview of the MW-01 and MW-02 contracts is given in Table 2.1. The MW-01 contract works are related to the dam construction, and MW-02 works are related to the powerhouse construction. CGGC is the Contractor for both MW-01 and MW-02 contracts.

Table 2.1: Overview of MW-01 and MW-02 Contracts

Sr. No.	Item	MW-01	MW-02
1	Contract Number	ICB No. Dasu-MW-01	ICB No. Dasu-MW-02
2	Contractor Name	Main Hydraulic Structure, Spill Way, Low-Level Outlets, River Diversions and Hydraulic Steel Structures	Underground Power Complex, Tunnels and Hydraulic Steel Structures
3	Contractor	China Gezhouba Group Co. Ltd (CGGC)	CGGC
4	Commencement Date	June 23, 2017	June 23, 2017
5	Contract Completion Date	Jan 22, 2023	Feb 21, 2023

2.2 Contractor Environmental Action Plan

The Contractor has submitted the Contractor Environmental Action Plan (CEAP) with the site-specific management plans to address the environmental impacts and risks of the construction activities. In addition, the Contractor has also prepared an Occupational Health and Safety Management Plan (OHSMP), and details of these plans are not covered in this report. The CEAP consists of 18 site-specific management plans. All these plans were approved by the Engineer except the plans on waste management and construction camp which were conditionally approved. Contractor has been instructed to submit the remaining plans.

2.3 Contractor's Facilities and ESHS Staff

The facilities established by the Contractor, such as workers' camps and construction yards, are given in Table 2.2. The Environmental Social Health and Safety (ESHS) Staff of the Contractor are given in Table 2.3.

Table 2.2: Contractor's Facilities

Sr. No.	Facility	Location	Details	Remarks
A.	Worker's Camps			
1	Chinese Workers Camp(MW-01)	Barseen	About 216 workers live in this camp	
2	Chinese Workers Camp(MW-02)	Barseen	About 214 workers live in this camp	
3	Pakistan Workers Camps(MW-01)	Barseen & Uchar	About 1089 workers live in this camp	
4.	Pakistan Workers Camps(MW-02)	Barseen & Uchar	About 707 workers live in this camp	
B.	Crushing/Batching Plants			
1	Crushing Plant	Uchar	A small plant with 120 tons/hr capacity	
2	Crushing plant	Uchar	250tons/hr	Under construction
3	Batching plant	Uchar	60 m ³ /hr capacity	
4	Batching plant	Khoshe	240 m ³ /hr capacity	
5	Pozzolan Plant	Gini	-Construction of Chillas Pozzolan milling plant- 98% completed -Equipment Installation of Chillas pozzolan milling plant- 70% completed	

Table 2.3: Contractor's ESHS Staff

Sr. No.	Position	MW-01 Contract	MW-02 Contract	Remarks
1	Director EHS	Sun Kang	Sun Kang	
2	Environmental Officer	Vacant	Vacant	The contractor has been instructed to fill the vacant positions for each contract
3	Environment supervisor	Izhar	Izhar	The contractor has been instructed to fill the vacant positions for each contract

2.4 Construction Activities

Details of construction activities conducted during the reporting period are shown in Table 2.4 and Table 2.5 for MW-01 and MW-02 Works, respectively.

Table 2.4: Construction Activities in MW-01 Contract

Sr. No.	Work Site	Details of Works	Remarks
	Diversion Tunnel A	Excavation	98.41% Completed
1	Diversion Tunnel A	Dewatering	100% Completed
	Diversion Tunnel B	Excavation	98% Completed
2	Diversion Tunnel B	De Watering	100% Completed
3	Adit Tunnels	Excavation works	100% Completed
4	Diversion Tunnel B	Excavation works	97% Completed
5	Left bank traffic diversion Tunnel	Excavation works	47%
6	Gini Pozzolan Plant	Equipment Installation	70% completed

Table 2.5: Construction Activities in MW-02 Contract

Sr. No.	Work Site	Details of Works	Remarks
1	Surge Chamber VAT	Excavation	97.7% completed
2	STA	Excavation	99.5 % completed
3	GIS Room access tunnel	Excavation	98.9% completed
4	Underground powerhouse Crown portion	Excavation	9.5% completed
5	Underground Transformer cavern Crown portion	Excavation	9.8% completed
6	Drain tunnel	Excavation	97.36% completed
7	Penstock Adit tunnel No.1	Excavation	100 % completed
8	Gini Pozzolan Plant	Equipment Installation	Same plant will be used for both contracts

2.5 Construction Supervision and Environmental Compliances

2.5.1 Site Inspections and WTEIRs

Site visits to the construction areas are conducted daily by the environmental staff to supervise environmental compliance of the construction activities. Daily monitoring checklists are filled after the observations are noted at site. In addition, walk-through environmental inspections have also been conducted at all work sites regularly by the senior environmental staff of DHC and PMU to identify any environmental issues and non-compliance. The issues identified at the construction sites are communicated with the Contractor through Walk-Through Environmental Inspection Reports (WTEIRs). The Contractor has also been instructed to address these issues within a suggested timeframe. The Contractor has resolved the non-compliances and submitted rectification report. The WTEIRs, consisting of both non-compliances and rectifications, are given in the following tables.

Table 2.6: Walk-Through Environmental Inspection Report 57







Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Completion Date
57.1	13-07-2022 MW -01 & MW 02 CR-02	Oil Spillage		Contractor is instructed to replace the contaminated soil with fresh soil and dispose of the contaminated soil as per SOPs provided in EMMP and ECP's.	Immediate		
57.2	13-7-22 CR-02	Poor Housekeeping		The contractor is instructed to maintain good housekeeping practices at all the construction sites as per SOPs provided in EMMP and ECP's.	Immediate		
57.3	13-07-2022 CR-02	Solid waste		The contractor is instructed to dispose off the solid waste at proper disposal site rather than Littering it. Provide waste bins at all working sites.			

Table 2.7: Walk-Through Environmental Inspection Report 58













Sr. No	Date and Location of Inspection	EHS Observations	Picture	Instructions to the Contractor	Timeline	Action Taken by Contractor	Completion Date
58.1	15-07-2022, CR2 batching plant	High turbidity in Water		Contractor is instructed to add the fresh water in the sedimentation pond	immediate		

Table 2.8: Walk-Through Environmental Inspection Report 59

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Completion Date
59.1	15-08-2022 Switch yard	littering		The contractor is instructed to place waste bins at the site and educate the workers to use the bins	immediate		15-08-2022
59.2	15-08-2022 Switch yard	inadequate housekeeping		The contractor is instructed maintain good housekeeping on site and manage construction material properly. This recyclable waste can be sent to local vendor.	immediate		15-8-2022
59.3	15-08-2022 Switch yard	Fuel wood		The contractor is instructed to stop usage of fuelwood and to provide LPG for cooking and heating purposes	immediate		15-8-2022

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Completion Date
59.4	15-08-2022 Switch yard	Oil spill		1.The contractor is instructed to remove the oil spill from the site by replacing fresh soil and dump properly 2. The contractor is instructed to make a proper concrete paved storage area (with small boundary) for the storage of Oil so that the soil may not contaminate continuously.	22-8-2022		15-8-2022
59.5	15-08-2022 CT-02	Oil spill		The contractor is instructed to remove the oil spill from the site by replacing fresh soil and dump properly	immediate		15-8-2022

2.5.2 Notices and Letters

In addition to the WTEIRs discussed in the previous section, the Engineer has issued notices to the Contractor on several persistent issues during the reporting period. A summary of these issues is given in the following table.

Table 2.9: Correspondence with the Contractor on Environmental Issues

S. No.	Environmental issues	No. of issued Letters
1	Engineers Comments on Environmental Report for June 2022.MW-01	01
2	Issuance of reminder letter regarding air dispersion modelling	01
3	Non Compliances with respect to EMAP & ECP's by CGGC MW-01 Component	01

2.5.3 Quarterly Monitoring of Air, Noise, Water and Wastewater

The Contractor has not yet conducted any Quarterly environmental monitoring. Negotiations with an approved third-party environmental monitoring laboratory (SGS) were underway during 2nd quarter of 2022 which had to be mobilized in July 2022 to start the environmental monitoring. Due to non-agreement between the contractor and "The Engineer" some parameters were not agreed by the Contractor CGGC. The Engineer was of the view that all NEQS should be monitored by the Third Party Environmental Monitoring Laboratory. After a long session of discussions among the concerned parties as well as with WAPDA Environmental Staff and International Advisor on Environment to The Engineer, Parameters have been reduced for ease of contractor which is mutually agreed by the Deputy. Director WAPDA and The Engineer. Now CGGC is looking for a new Third Party Laboratory which they want to hire for quarterly environmental monitoring.

2.5.4 Spot Monitoring of Wastewater Quality

Monthly spot monitoring was carried out during the reporting quarter to assess the quality of wastewater. The wastewater discharges from the construction sites are collected from the sedimentation ponds and assessed monthly for turbidity, conductivity, pH and dissolved oxygen (DO). These tests are conducted by the Contractor in the presence of the Environment team of PMU and DHC using portable equipment. pH in most of the samples showed high alkalinity due to the use of admixture with concrete inside the tunnels for shotcreting. Fortunately, the receiving body is of huge volume (River Indus) and the dilution factor resolves the issue which was confirmed from downstream surface water quality testing. The surface water was tested downstream of the sedimentation tanks to assess the pH value which was the same as was at upstream of the sedimentation tanks. The coordinates of the sampling locations are given below:

Table 2.10: Location of the spot monitoring

Sr.no	Location	Coordinates
Surface water		
1	Upstream Indus River at Uchar	35°20'31.93" N 73°12'18.76"E
2	Downstream Indus River near Kass area truss bridge	35°17'28.28" N 73°13'14.93"E
Wastewater		
1	Uchar crusher plant sedimentation pond	35°20'25.56" N 73°12'18.76"E
2	Uchar Batching plant sedimentation pond	35°19'31.10" N 73°12'01.71"E
3	Sedimentation tank near Adit-1	35°19'16.97" N 73°11'57.79"E
4	Sedimentation tank near MAT	35°18'21.15" N 73°11'35.55"E
5	Sedimentation tank at Khoshe batching plant	35°18'07.72" N 73°11'49.27"E

Table 2.11: Results of Spot Monitoring MW-01

Sr. No.	Month	Location	Turbidity (NTU)	Conductivity (uS/cm)	pH	DO mg/l	Temperature, °C	visual presence of Petroleum	Remarks
1	July	Uchar crusher plant sedimentation pond	<1000	942	8.8	5.12	25.5	No	Because of Flooding condition in July and August 2022, sediment load was high resulting in high turbidity and higher values of conductivity
		Uchar Batching plant sedimentation pond	790	1528	11.5	6.1	25.6	No	
		Sedimentation tank near Adit-1	Nil	Nil	Nil	Nil	Nil	Nil	
2	Aug	Uchar crusher plant sedimentation pond	-Nil	Nil	Nil	Nil	Nil	Nil	There was no spot monitoring conducted during the month of August due to stoppage of work and flooding condition in the project area.
		Uchar Batching plant sedimentation pond	Nil	Nil	Nil	Nil	Nil	Nil	
		Sedimentation tank near Adit-1	Nil	Nil	Nil	Nil	Nil	Nil	

Sr. No.	Month	Location	Turbidity (NTU)	Conductivity (uS/cm)	pH	DO mg/l	Temperature, °C	visual presence of Petroleum	Remarks
3	Sep	Uchar crusher plant sedimentation pond	219	234	8.7	7.1	22.7	No	
		Uchar Batching plant sedimentation pond	782	1257	11.2	6.5	21.1	No	
		Sedimentation tank near Adit-1	711	1777	9.8	6.0	22.7	No	The tank was full of Algae, the contractor was asked to clean it
NEQS			200NTU		6-9		<40		

Table 2.12: Results of Spot Monitoring MW-02

S. No.	Month	Location	Turbidity (NTU)	Conductivity (uS/cm)	pH	DO mg/l	Temperature, °C	The visual presence of Petroleum Product	Remarks
1	July	Sedimentation tank near MAT	Nil	Nil	Nil	Nil	Nil	Nil	
		Sedimentation tank at Khoshe batching plant	180	472	10.8	5	28.9	No	
2	Aug	Sedimentation tank near MAT	Nil	Nil	Nil	Nil	Nil	Nil	
		Sedimentation tank at Khoshe batching plant	Nil	Nil	Nil	Nil	Nil	Nil	
3	Sep	Sedimentation tank near MAT	104.8	949	11.3	5.1	22.9	No	
		Sedimentation tank at Khoshe batching plant	116	1094	11.5	6.7	22.5	No	
NEQS			200 NTU		6-9		<40		

2.5.5 Contractor's Effect Monitoring

The monitoring requirements of the Contractor as per the bidding documents are given in the following table. The Engineer's observation of the monitoring status is also given in the last column of this table.

Table 2.13: Status of Contractor's Effect Monitoring

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
1	Landslides	37 identified landslide prone areas in EIA	Visual Inspection on stability of landslides	Fortnightly	Geology team of the Engineer supervised this aspect during the reporting quarter and issued necessary instructions to the Contractors for the areas where there was a potential of landslide. As far as the 37 landslides are concerned that are coming in the reservoir area and the effect will be monitored once the dam impounding is started.
2	Erosion	Earthwork areas and material storage sites	Visual inspection of erosion prevention measures and occurrence of erosion	Monthly	Monthly visual inspection carried out. No occurrence was recorded during the quarter.
3	Surface water quality	In the rivers and tributaries at the downstream of the construction sites. The locations of sampling can be same locations of baseline water quality or new locations recommended by the CSC.	Sampling and analysis of river water quality and wastewater discharges for the key parameters given in NEQS (river water quality – DO, BOD, COD, Temperature, pH, Conductivity, TSS, turbidity, nitrate, Wastewater – BOD, TSS, turbidity, TDS, COD, grease and	Quarterly	The Contractor is in negotiation with SGS Environmental laboratory to conduct the third-party environmental monitoring.

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
			oil, iron, ammonia, sulfates, chlorides)		
4	Air Quality (dust, smoke)	Construction sites, quarry areas along KKH and blasting areas	Visual inspection to ensure good standard equipment is in use and dust suppression measures (spraying of waters) are in place.	Weekly	Weekly visual inspections were carried out during the quarter and instructions were given to contractor for compliance. The Contractor was strictly instructed to increase water sprinkling frequency. The dust is under control.
5	Air Quality (PM ₁₀ , NO ₂ , SO ₂ , CO ₂ , CO)	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC.	Air quality monitoring for 24 hours for the parameters specified in NEQS 2000	Quarterly	The Engineer and the Contractor are in negotiation with each other on the issue pertaining to addition of some parameters for third party monitoring laboratory. Due to this issue Contractor is in search of a new Laboratory.
6	Emissions from plant and equipment	At all the construction sites for dam, KKH and tunnels	Visual Inspection	Monthly	Monthly visual inspections were carried out during the quarter and no issue was observed.
7	Noise and vibration	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC	24-hour noise monitoring	Quarterly	The Contractor is in negotiation with Green Crescent and SGS Environmental laboratory to conduct the third-party environmental monitoring.
8	Waste Management	At the designated rock disposal area	Visual inspection on spoil disposal in accordance with EMP Sub plan on Waste Management	Monthly	The Contractor is disposing the spoil in the designated spoil dumping site at Khoshe and is also transporting the spoil to the crushing plant at Uchar as raw material for aggregate
9	Construction camps and construction management		Visual inspection that solid waste is disposed of at designated site	Monthly	Monthly monitoring was carried out and contractor disposed the waste in Barseen area as a temporary arrangement till the landfill site is finalized by the DHPP.
10	Spills from Hydrocarbon	Material storage sites and construction yards	Visual Inspection for leaks and spills	Monthly	Monthly monitoring was carried out. The spills were recorded during the quarter and contractor was instructed to rectify the issue.
11	Traffic Safety	Along KKH and access roads to the construction areas	Visual inspection to see whether Traffic Management Plan (EMP Sub Plan 12) is implemented	Monthly	Supervised by OHS
12	Local Roads	Approach Roads	Visual inspection to ensure local roads are not damaged	Monthly	Monthly monitoring was carried out and no damage was observed to the local roads

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
13	Cultural and archeological Sites	At the physical and cultural resources identified in the EIA	Visual observation on implementation of EMP Sub Plan 13 on Physical Cultural Resources Management	Monthly	The contractor kept in consideration this aspect during the excavation activities. There was no archeological site present in the current construction area.
14	Drinking water and sanitation	In construction sites and construction camps	Ensure the construction workers are provided with safe water and sanitation facilities on the site	Weekly	Weekly Monitored. The contractor provided water coolers to the workers at the sites.

2.5.6 Key Performance Indicators

The key performance indicators identified in the ESA3 of DHP to mitigate the environmental impacts and risks during construction can be summarized into five categories, as shown in the following table.

Table 2.14: Key Performance Indicators for compliance with mitigation measures

Sr. No	Key Performance Indicator	Description of the Indicator
1	Number of any non-compliance reports	The number of non-compliances noticed and reported to the Contractor.
2	Number of public complaints or grievances	The number of complaints or grievances received from the communities on the construction-related nuisances such as traffic, dust, noise and vibration, or any other construction-related activities
3	Number of accidents/incidents	The number of accidents or incidents, or near misses involving construction activities and construction vehicles
4	Number of exceeding values against NEQS	The number of parameters in ambient air and noise quality, drinking water, wastewater discharges and surface waters found beyond the national standards.
5.	Other Indicators	Any other indicators that are not covered in the above categories are given in 'other indicators.' This includes the number of times chance finds are noticed, the number of trainings conducted, etc.

A detailed assessment of the status of compliance with the performance indicators and their status during the reporting period is given in the following table. Any indicators related to OHS and social aspects are covered in the relevant reports, not in this report.

³ See Table 9.2: Mitigation Plan for Construction Stage of ESA of Dasu Hydropower Project

Table 2.15: Key Performance Indicators and their Status during the reporting period

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
1. Contractor Mobilisation and Demobilisation	1.1 Traffic Management						None reported in this quarter
	1.2 Soil Erosion and Contamination						-do-
	1.3 Air Quality						-do-
	1.4 Noise						-do-
	1.5 Public Safety						-do-
	1.6 Damage to Infrastructure						-do-
2. Contractor's Camp	2.1 Soil and Water Contamination						-do-
	2.2 Air Quality						No quarterly environmental monitoring is done
	2.3 Vegetation loss					Number of trees felled: 0	
	2.4 Noise						No monitoring is done
	2.5 Health and Safety						Covered under OHS Quarterly Report
	2.6 Social and Gender Issues						Covered under Social Quarterly report
	2.7 Damage to PCRs					Number of chance finds: 0	None reported this quarter
	2.8 Increased load on local services						Covered under Social Report
3. Transportation of Equipment	3.1 Traffic Management						Two letters were issued on the hauling of oversized equipment
	3.2 Soil Erosion and Contamination						None reported
	3.3 Air Quality						-do-
	3.4 Noise						-do-
	3.5 Public Safety					Number of trainings provided:	Covered under social report
	3.6 Damage to infrastructure						None reported
4. Construction of Dam, Powerhouse and other Infrastructure	4.1 Changes to topography						-do-
	4.2 Landslides					Number of landslides: Number of blasting events:	-do-
	4.3 Soil erosion					Number of incidences borrow pits not covered:	-do-
	4.4. Soil and water contamination		3				

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
	4.5 Water pollution						
	4.6 Air Quality	Nil					
	4.7 Health and Safety					Covered under OHS	Covered under OHS report
	4.8 Noise and vibration						-do-
	4.9. Landscape and visual Intrusion	Nil					Nil
	4.10. Vegetation Loss	Nil				The number of trees felled:0 The number of saplings planted:0 The survival rate of samplings after one year: 0	-do-
	4.11. Fauna/wildlife	Nil				Number of reports of sighting key wildlife species	-do-
	4.12 Mortality of fish	Nil					-do-
	4.13 Impact on ecological connectivity						Covered under BEDMP
	4.14 Damage to infrastructure						None reported
	4.15 Damage to PCRs	Nil				Number of chance finds:0	-do-
	4.16. Loss of access to villages	Nil				Presence of new roads:	-do-
	4.17 Disturbance to visual landscape and natural habitats	Nil					-do-
	4.18. Social conflicts due to labour influx						Covered under Social Report
	4.19 Local cultural values						do
4.20. Health impacts on local community					Number of patients being treated in local hospitals:	-do-	
4.21 Increased load on local services and supplies						-do-	
5. Quarry Operation	5.1 Changes to topography 5.2 Landslide 5.3 Soil erosion 5.4 Soil and water contamination 5.5 Air Quality	Nil					No quarry operation started

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
	5.6 Health and Safety 5.7 Noise and Vibration 5.8 Landscape and Visual Intrusion 5.9 Vegetation loss 5.10 Fauna / Wildlife 5.11 Damage to infrastructure 5.12 Damage to PCRs						
6. Spoil Area Management	6.1 Changes to topography 6.2 Landslide 6.3 Soil erosion 6.4 Air Quality 6.5 Landscape and Visual Intrusion 6.6 Vegetation loss	Nil					
7. Waste Management	7.1 Soil and water contamination 7.2 Odor		2				2 incidences of waste management and 2 incidences of poor housekeeping are mentioned in WTEIRs of this quarter

2.5.7 Overall Compliance Status – Tri-Partite Monthly Meetings

Monthly meetings were held with the Contractor by the Engineer and PMU to discuss pending environmental non-compliance and the actions taken by the Contractor to address these issues. The minutes of these meetings are shown in Annexure-1.

The Major pending issues are:

- Third party environmental monitoring
- Adaptive measures for the closure of NCRs
- Status of Air dispersion modelling for the proposed Seo crusher plant
- Appointment of Environmental Officer

3 KKH-01 Contract

3.1 Overview of Contracts

A brief overview of the KKH-01 contract is given in Table 3.1. The KKH-01 contract works are related to the construction of 25.2 km of road along with the tunnels.

Table 3.1: Overview of KKH-01 Contract

Sr. No.	Item	Data
1	Contract Number	ICB No. Dasu-KKH-01
2	Contractor Name	Relocation of Karakorum Highway (KKH) RD0+000 to RD 25+200
3	Contractor	China Civil Engineering Construction Corporation (CCECC)
4	Commencement Date	March 16, 2015
5	Contract Completion Date	Feb 20, 2017
6	Updated Completion Date	July 22, 2024

3.2 Contractor Environmental Action Plan

The Contractor has submitted the Contractor Environmental Action Plan (CEAP) with the site-specific management plans to address the environmental impacts and risks of the construction activities. In addition, the Contractor has also prepared an Occupational Health and Safety Management Plan (OHSMP), and details of these plans are not covered in this report.

3.3 Contractor's Facilities and ESHS Staff

The facilities established by the Contractor, such as workers' camps and construction yards, are given in Table 3.2. The Environmental Social Health and Safety (ESHS) Staff of the Contractor are given in Table 3.3.

Table 3.2: Contractor's Facilities

Sr. No.	Facility	Location	Details	Remarks
A.	Worker's Camps			
1	Chinese Workers Camp	Uchar/Shaal/Chuchang/Dasu/Zaal	About 62 workers live in this camp	
2	Pakistan Workers Camps	Uchar/K4/K9/K3/K4	About 264 workers live in these camp	
B.	Crushing/Batching Plants			
1	Crushing Plant	Uchar	A small plant with 2 ton/day capacity	Submerged in July & Aug Floods
2	Batching plant	Uchar		Submerged in July & Aug Floods. Now recovering in Bits and Pieces and planning to install at Chuchang
C.	Other Facilities			
1	Construction Yard	Uchar		
2.	Explosive Magazine	Barseen	20 Ton capacity	

Table 3.3: Contractor's ESHS Staff

Sr. No.	Position	KKH-01 Contract	Remarks
1	Manager EHS	Manzoor Hussain	
2	Environmental Officer	Vacant	
3	Environmental Supervisor	Arif Hussain	

3.4 Construction Activities

Details of construction activities conducted during the reporting period are shown in Table 3.4.

Table 3.4: Construction Activities in KKH-01 Contract

Sr. No.	Work Site	Details of Works	Remarks
1	K3 Tunnel	Seismic reinforcement wall at K3 tunnel	Continued during the quarter
2	Khoshe K6+400	Plant erection at K6+400 started and continued in this quarter.	Continued during the quarter
3	Khoshe K9 camp	Improvement of the Camp at K9 and batching plant commissioning started and continued during the 3 rd quarter. Tunnel Shotcreting as well as Mouth of Tunnel Completed and 10m progress inside the tunnel from mouth of the tunnel	Continued during the quarter
4	Zero Point	Slope Protection work at zero point third bench continued this quarter	Continued during the quarter
5	K4+631	Slope Protection work for outlet of tunnel portal K4+631 continued this quarter	Continued during the quarter
6	K5+100	Camp Construction in progress	Continued during the quarter
7	Uchar Camp Area	Removal of Flood Material and recovery of buried equipment and machinery from camp / workshop/ plant areas is in progress.	Continued during the quarter

3.5 Construction Supervision and Environmental Compliances

3.5.1 Site Inspections and WTEIRs

Site visits to the construction areas are conducted daily by the environmental staff to supervise environmental compliance of the construction activities and complete daily monitoring checklists. In addition, walk-through environmental inspections have been conducted at all work sites regularly by the senior environmental staff of DHC and PMU to identify any environmental issues and non-compliance. The issues identified at the construction sites are communicated with the Contractor through Walk-Through Environmental Inspection Reports (WTEIRs). The Contractor has also been instructed to address these issues within a suggested timeframe. The Contractor has rectified these non-compliances and submitted the report with the actions taken. The WTEIRs, consisting of both non-compliances and rectifications, are given in the following tables.

Table 3.5: Walk-Through Environmental Inspection Report 30

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Completion Date
30.1	30-07-2022 K4	Poor / Inadequate Housekeeping		Contractor is instructed to keep construction material properly and maintain good housekeeping on site.	Immediate		
30.2	30-07-2022 K4	Solid waste		Contractor is instructed to keep waste bins at provide awareness to their workers to put all the waste in the bins only.	Immediate		






30.3	30-07-2022 K4	Oil spill		Contractor is instructed to remove the contaminated soil with clean and fresh soil. Use spill kits for oil spills (If Needed) on the site. Dispose of the toxic Soil as per ECP: Waste Management.	Immediate		
30.4	30-07-2022 K4	Heavy dust		Contractor is instructed to ensure water sprinkling on all project area roads	Immediate		

Table 3.6: Walk-Through Environmental Inspection Report 31

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Completion Date
31.1	02-08-2022 K4	Inadequate housekeeping		Contractor is instructed to keep construction material properly and maintain good housekeeping on site.	Immediate		

<p>31.2</p>	<p>02-08-2022 K4</p>	<p>Oil spill</p>		<p>Contractor is instructed to replace the contaminated soil with clean and fresh soil Use spill kits (If Required) Dispose off the contaminated Soil as per SOP's provided in the ECP": Waste Management.</p>	<p>Immediate</p>		
<p>31.3</p>	<p>02-08-2022 K4</p>	<p>No water sprinkling</p>		<p>Contractor is instructed to ensure water sprinkling on all allocated roads.</p>	<p>Immediate</p>		

Table 3.7: Walk-Through Environmental Inspection Report 32


Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Completion Date
32.1	13-09-2022 K4 Tunnel Portal	Fuel/ Oil Spills		Contractor is instructed to replace the contaminated soil with clean and fresh soil Use spill kits if needed. Dispose off the contaminated soil as per SOP's provided in ECP's/ EMAP	Immediate		25-9-2022


							25-10-2022
32.2	13-09-2022 K4 Tunnel Portal	Improper and open placement of Oil drums		Contractor is instructed to place the double lined containers(drums) at designated abounded area	Immediate		Contrctor is building storages to shift chemical drums

							<p>25-10-2022</p>
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Table 3.8: Walk-Through Environmental Inspection Report 33

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor
33.1	19-9-2022 K4 tunnel	Fuel wood is used to Cooking and heating		The contractor is instructed that open burning is strictly prohibited and usage of fuel wood at the site. Provide the LPG cylinder for heating and cooking purposes	Immediate	Site Engineer and in charges have been instructed to avoid wood burning or cooking activities at working sites

33.2	19-9-2022 K4 tunnel Near camp	Heavy dust		<p>Crawler hydraulic drill's exhaust is not functional</p> <p>The contractor is instructed to maintain all equipments in good working order in accordance with manufactures maintenance procedures.</p>	immediate	 <p>Drill operator is informed to install dust collector, exhaust vacuum or water sprinkling hose to minimize dust pollution</p>
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33.4	19-9-2022 In front of K9 tunnel	Solid waste		The contractor is instructed to place the waste bin at the site. And aware the workers and staff to put the solid waste in the waste bin		
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3.5.2 Notices and Letters

There are no Letters/ Notices issued to the KKH-01 Contractor except WTEIRs by the Engineer

3.5.3 Quarterly Monitoring of Air, Noise, Water and Wastewater

During the quarter the scope of the work was i.e., breast wall construction, K4, K3, K9 Tunnel working camps establishment work was going on etc. The KKH-01 has balance quantities for Environmental monitoring which will be utilized once the construction works starts momentum.

3.6 Contractor's Effect Monitoring

The monitoring requirements of the Contractor as per the bidding documents are given in the following table. The Engineer's observation of the monitoring status is also given in the last column of this table.

Table 3.9: Status of Contractor's Effect Monitoring

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
1	Landslides	37 identified landslide prone areas in EIA	Visual Inspection on stability of landslides	Fortnightly	Most of the identified landslides will be triggered once the reservoir impounding is started. However, the construction related landslides are supervised by DHC Geology team during the reporting quarter. Slope stabilization works were in place during the quarter
2	Erosion	Earthwork areas and material storage sites	Visual inspection of erosion prevention measures and occurrence of erosion	Monthly	Monthly monitored visually. No occurrence was recorded during the quarter.
3	Surface water quality	In the rivers and tributaries at the downstream of the construction sites. The locations of sampling can be same locations of baseline water quality or new locations recommended by the CSC.	Sampling and analysis of river water quality and wastewater discharges for the key parameters given in NEQS (river water quality – DO, BOD, COD, Temperature, pH, Conductivity, TSS, turbidity, nitrate, Wastewater – BOD, TSS, turbidity, TDS, COD, grease and oil, iron, ammonia, sulfates, chlorides)	Quarterly	Not done due to the current limited scope of work. If the work pace is enhanced in next quarter then it might re start again.
4	Air Quality (dust, smoke)	Construction sites, quarry areas along KKH and blasting areas	Visual inspection to ensure good standard equipment is in use and dust suppression measures (spraying of waters) are in place.	Weekly	Weekly visual inspections were carried out during the quarter and instructions were given to contractor for compliance. The Contractor was strictly instructed to increase water sprinkling frequency. The dust is under control. In this regard a Real time Whats App group is also established to quickly communicate with contractor if any non-compliance is noted
5	Air Quality (PM ₁₀ , NO ₂ ,	Near the sensitive sites and settlements	Air quality monitoring for 24 hours for the	Quarterly	Not done due to the current limited scope of work

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Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
	SO ₂ , CO ₂ , CO)	at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC.	parameters specified in NEQS 2000		
6	Emissions from plant and equipment	At all the construction sites for dam, KKH and tunnels	Visual Inspection	Monthly	Monthly visual inspections were carried out during the quarter and no issue was observed.
7	Noise and vibration	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC	24-hour noise monitoring	Quarterly	Not done due to the current limited scope of work
8	Waste Management	At the designated rock disposal area	Visual inspection on spoil disposal in accordance with EMP Sub plan on Waste Management	Monthly	The Contractor is disposing the spoil in the designated spoil dumping site at Khoshe and is also transporting the spoil to the crushing plant at Uchar as a raw material for aggregate
9	Construction camps and construction management		Visual inspection that solid waste is disposed of at designated site	Monthly	Monthly monitoring was carried out. The Contractor is temporarily storing the waste at the camp. The Organic waste is dumped in a pit at Uchar and covered with soil. This temporary practice is adopted due to non-availability of landfill site. Whereas the reusable and recyclable material are sent to local vendors.
10	Spills from Hydrocarbon	Material storage sites and construction yards	Visual Inspection for leaks and spills	Monthly	Monthly monitoring was carried out. The spills were recorded during the quarter were communicated to the contractor through the walkthrough environmental inspection reports.
11	Traffic Safety	Along KKH and access roads to the construction areas	Visual inspection to see whether Traffic Management Plan (EMP Sub Plan 12) is implemented	Monthly	Supervised by OHS
12	Local Roads	Approach Roads	Visual inspection to ensure local roads are not damaged	Monthly	This aspect was also monitored on monthly basis. No damage was observed to the local roads

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
13	Cultural and archeological Sites	At the physical and cultural resources identified in the EIA	Visual observation on implementation of EMP Sub Plan 13 on Physical Cultural Resources Management	Monthly	The contractor kept in consideration this aspect during the excavation activities. There was no archeological site present in the current construction area.
14	Drinking water and sanitation	In construction sites and construction camps	Ensure the construction workers are provided with safe water and sanitation facilities on the site	Weekly	Weekly monitored. The contractor provided water coolers to the workers at the sites.

3.7 Key Performance Indicators

The key performance indicators identified in the ESA4 of DHP to mitigate the environmental impacts and risks during construction can be summarized into five categories, as shown in the following table.

Table 3.10: Key Performance Indicators for compliance with mitigation measures

Sr. No	Key Performance Indicator	Description of the Indicator
1	Number of any non-compliance reports	The number of non-compliances noticed and reported to the Contractor.
2	Number of public complaints or grievances	The number of complaints or grievances received from the communities on the construction-related nuisances such as traffic, dust, noise and vibration, or any other construction-related activities
3	Number of accidents/incidents	The number of accidents or incidents, or near misses involving construction activities and construction vehicles
4	Number of instances where parameters values exceeded over NEQS	The number of parameters in ambient air and noise quality, drinking water, wastewater discharges and surface waters found beyond the national standards.
5	Other Indicators	Any other indicators that are not covered in the above categories are given in 'other indicators.' This includes the number of times chance finds are noticed, the number of trainings conducted, etc.

A detailed assessment of the status of compliance with the performance indicators and their status during the reporting period is given in the following table. Any indicators related to OHS and social aspects are covered in the relevant reports, not in this report.

⁴ See Table 9.2: Mitigation Plan for Construction Stage of ESA of Dasu Hydropower Project

Table 3.11: Key Performance Indicators and their Status during the reporting period

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding in values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks	
1. Contractor Mobilisation and Demobilisation	3.1 Traffic Management	Nil					Contractor traffic management plan implemented	
	3.2 Soil Erosion and Contamination	Nil						
	3.3 Air Quality	Nil						
	3.4 Noise	Nil						
	3.5 Public Safety	Nil						
	3.6 Damage to Infrastructure	Nil						
4. Contractor's Camp	4.1 Soil and Water Contamination						4 Incident of minor spill reported to Contractor which was rectified	
	4.2 Air Quality	Nil						
	4.3 Vegetation loss	Nil				Number of trees felled: 0		
	4.4 Noise	Nil						
	4.5 Health and Safety							Covered under OHS Report
	4.6 Social and Gender Issues							Covered under social report
	4.7 Damage to PCRs	Nil				Number of chance finds: 0		
	4.8 Increased load on local services							Covered under social report
5. Transportation of Equipment	5.1 Traffic Management						Covered under OHS Report	
	5.2 Soil Erosion and Contamination	Nil						
	5.3 Air Quality	Nil						
	5.4 Noise	Nil						
	5.5 Public Safety	Nil				Number of trainings provided:		
	5.6 Damage to infrastructure	Nil						
7. KKH Construction	7.1 Changes to topography							
	7.2 Landslides	Nil						
	7.3 Soil erosion							

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding in values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
	7.4 Soil and water contamination	Nil	4				
	7.5 Air Quality	Nil	3				Fugitive dust issues were monitored and raised in the What's app group as well as a WTEIR were issued to the contractor
	7.6 Health and Safety						Covered under OHS
	7.7 Noise and Vibration	Nil					
	7.8 Landscape and Visual Intrusion	Nil					
	7.9 Vegetation loss	Nil					Not reported during the quarter
	7.10 Fauna / Wildlife	Nil					Not reported during the quarter
	7.11 Mortality of Fish	Nil					Not reported during the quarter
	7.12 Damage to infrastructure	Nil					Not reported during the quarter
	7.13 Damage to PCRs	Nil					Not reported during the quarter
	7.14 Disturbance of Visual Landscape and Natural Habitats	Nil					Nil
	7.15 Social conflict due to the Influx of Workers and In-migrants						Covered under Social report
	7.16 Conflicts due to culturally inappropriate behaviors by the workers						Covered under Social report
	7.17 Adverse Effects on Health Situation						
	7.18 Increased Load on Local Services and Supplies						
8. Quarry Operation	8.1 Changes to topography 8.2 Landslide 8.3 Soil erosion						No quarry operation has started. The excavated rock is used as a raw material for aggregate.

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding in values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
	8.4 Soil and water contamination 8.5 Air Quality 8.6 Health and Safety 8.7 Noise and Vibration 8.8 Landscape and Visual Intrusion 8.9 Vegetation loss 8.10 Fauna / Wildlife 8.11 Damage to infrastructure 8.12 Damage to PCRs						
9. Spoil Area Management	9.1 Changes to topography 9.2 Landslide 9.3 Soil erosion 9.4 Air Quality 9.5 Landscape and Visual Intrusion 9.6 Vegetation loss	Nil					
12. Waste Management	12.1 Soil and water contamination 12.2 Odor		1				

3.8 Overall Compliance Status – Tri-Partite Monthly Meetings

Monthly meetings were held with the Contractor by the Engineer and PMU to discuss pending environmental non-compliance and the actions taken by the Contractor to address these issues. The minutes of these meetings are shown in Annex-1. The following were the major issues discussed during the meetings:

- Ensure water sprinkling at Khoshe access Road
- Ensure solid waste management
- Oil spillages removal
- Proper disposal of used oils and other chemical vessels

4 RAR-01 Contract

4.1 Overview of Contracts

A brief overview of the RAR-01 contract is given in Table 4.1. The RAR-01 contract works are related to the construction of 12 km of road from Komila town up to the dam site.

Table 4.1: Overview of RAR-01 Contract

Sr. No.	Item	Data
1	Contract Number	ICB No. Dasu-RAR-01
2	Contractor Name	Right Bank Access Road RD0+000 to RD 12+000
3	Contractor	China Civil Engineering Construction Corporation (CCECC)
4	Commencement Date	March 16, 2015
5	Contract Completion Date	Aug 22, 2016
6	Updated Completion Date	August 31, 2022

4.2 Contractor Environmental Action Plan

The Contractor has submitted the Contractor Environmental Action Plan (CEAP) with the site-specific management plans to address the environmental impacts and risks of the construction activities. In addition, the Contractor has also prepared an Occupational Health and Safety Management Plan (OHSMP), and details of these plans are not covered in this report.

4.3 Contractor's Facilities and ESHS Staff

The facilities established by the Contractor, such as workers' camps and construction yards, are given in Table 4.2. The Environmental Social Health and Safety (ESHS) Staff of the Contractor are given in Table 4.3.

Table 4.2: Contractor's Facilities

Sr. No.	Facility	Location	Details	Remarks
A.	Worker's Camps			
1	Chinese Workers Camp	Zaal	About 16 workers live in this camp	
2	Pakistan Workers Camps	Zaal	About 72 workers live in this camp	
B.	Crushing/Batching Plants			
1	Crushing Plant	Kass	The crushing plant has now been removed	
2	Batching plant	Kass	The Batching plant will be removed as the road work has almost been completed	
C.	Other Facilities			
1	Construction Yard			
2	Explosive Magazine	Kass	20 Ton capacity	

Table 4.3: Contractor's ESHS Staff

Sr. No.	Position	RAR-01 Contract	Remarks
1	Manager EHS	Junaid Gillani	
2	Environmental Officer	Vacant	
3	Environmental Supervisor	Kifayat	

4.4 Construction Activities

Details of construction activities conducted during the reporting period are shown in Table 4.4.

Table 4.4: Construction Activities in RAR-01 Contract

Sr. No.	Work Site	Details of Works	Remarks
1	Komila Bypass K0+500-K1+000 and K2+280	Excavation, drilling and blasting works, formwork, reinforcement and concrete works for foundation of breast wall	In progress
2	K9+300 to K12+071	Excavation, pavement and concrete pavement	In progress

4.5 Construction Supervision and Environmental Compliances

4.5.1 Site Inspections and WTEIRs

Site visits to the construction areas are conducted daily by the environmental staff to supervise environmental compliance of the construction activities and complete daily monitoring checklists. In addition, walk-through environmental inspections have been conducted at all work sites regularly by the senior environmental staff of DHC and PMU to identify any environmental issues and non-compliance. The issues identified at the construction sites are communicated with the Contractor through Walk-Through Environmental Inspection Reports (WTEIRs). The Contractor has also been instructed to address these issues within a suggested timeframe. The Contractor has rectified these mistakes and submitted the report with the actions taken. The WTEIRs, consisting of both non-compliances and rectifications, are given in the following tables.

Table 4.5: Walk-Through Inspection Report 13

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Completion Date
13.1	18-07-2022 RAR-01 Komila bypass	Oil Spillage	 <p style="text-align: right; font-size: small;">Jul 18, 2022 9:25:48 AM 228° SW Index number: 1919</p>	<p>The contractor is instructed to remove the contaminated soil and add fresh soil . And also remove the spill from the place Don't pour the oil in plastic bottle Pour oil at the oil drum. And place the drum at the proper designed place.</p>	Immediate		
13.2	18-07-2022 RAR-01 Komila bypass	Poor housekeeping	 <p style="text-align: right; font-size: small;">Jul 18, 2022 9:27:14 AM 211° SW Index number: 1920</p>	<p>The contractor is instructed to place the construction materials and equipment At the proper place rather than thrown everywhere. Maintain good housekeeping.</p>			

Table 4.6: Walk-Through Inspection Report 14

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Completion Date
14.1	17-8-2022 Zaal camp.	Improper waste disposal		The contractor is instructed to collect the waste, direct the staff to use the bins and increase the numbers of labelled waste bins.	immediate		
14.2	17-8-2022 Zaal camp.	inadequate housekeeping	 Aug 17, 2022 10:47:01 AM 73° E Index number: 2453	The contractor is instructed to maintain good housekeeping on site and manage construction material properly	immediate		
14.3	17-8-2022 zaal camp.	Oil spill		The contractor is instructed to make a bund and close the drain at the end of the generator from where the spill finds its way out.	immediate		

4.5.2 Notices and Letters

No notices have been issued to the Contractor during the reporting quarter except WTEIRs.

4.5.3 Quarterly Monitoring of Air, Noise, Water and Wastewater

No quarterly environmental monitoring was conducted during the quarter

4.6 Contractor's Effect Monitoring

The monitoring requirements of the Contractor as per the bidding documents are given in the following table. The Engineer's observation of the monitoring status is also given in the last column of this table.

Table 4.7: Status of Contractor's Effect Monitoring

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
1	Landslides	37 identified landslide prone areas in EIA	Visual Inspection on stability of landslides	Fortnightly	Most of the identified landslides will be triggered once the reservoir impounding is started. However, the construction related landslides are supervised by DHC Geology team during the reporting quarter.
2	Erosion	Earthwork areas and material storage sites	Visual inspection of erosion prevention measures and occurrence of erosion	Monthly	Monthly monitored visually. No occurrence was recorded during the quarter.
3	Surface water quality	In the rivers and tributaries at the downstream of the construction sites. The locations of sampling can be same locations of baseline water quality or new locations recommended by the CSC.	Sampling and analysis of river water quality and wastewater discharges for the key parameters given in NEQS (river water quality – DO, BOD, COD, Temperature, pH, Conductivity, TSS, turbidity, nitrate, Wastewater – BOD, TSS, turbidity, TDS, COD, grease and oil, iron, ammonia, sulfates, chlorides)	Quarterly	Not done due to the current limited scope of work. If the work pace is enhanced in next quarter then it might re start again.
4	Air Quality (dust, smoke)	Construction sites, quarry areas along KKH and blasting areas	Visual inspection to ensure good standard equipment is in use and dust suppression measures (spraying of waters) are in place.	Weekly	Weekly visual inspections were carried out during the quarter and instructions were given to contractor for compliance. The Contractor was strictly instructed to increase water sprinkling frequency. The dust is under control. In this regard a Real time WhatsApp group is also established to quickly communicate with contractor if any non-compliance is noted
5	Air Quality (PM ₁₀ , NO ₂ , SO ₂ , CO ₂ , CO)	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC.	Air quality monitoring for 24 hours for the parameters specified in NEQS 2000	Quarterly	Not done due to the current limited scope of work
6	Emissions from plant and equipment	At all the construction sites for dam, KKH and tunnels	Visual Inspection	Monthly	Monthly visual inspections were carried out during the quarter and no issue was observed.
7	Noise and vibration	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC	24-hour noise monitoring	Quarterly	Not done due to the current limited scope of work

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
8	Waste Management	At the designated rock disposal area	Visual inspection on spoil disposal in accordance with EMP Sub plan on Waste Management	Monthly	The Contractor is disposing the spoil in the designated spoil dumping site at Kass area
9	Construction camps and construction management		Visual inspection that solid waste is disposed of at designated site	Monthly	Monthly monitoring was carried out. The Contractor is temporarily storing the waste at the camp. The Organic waste is dumped in a pit at Uchar and covered with soil. This temporary practice is adopted due to non-availability of landfill site. Whereas the reusable and recyclable material are sent to local vendors.
10	Spills from Hydrocarbon	Material storage sites and construction yards	Visual Inspection for leaks and spills	Monthly	Monthly monitoring was carried out. The spills were recorded during the quarter were communicated to the contractor through the walkthrough environmental inspection reports.
11	Traffic Safety	Along KKH and access roads to the construction areas	Visual inspection to see whether Traffic Management Plan (EMP Sub Plan 12) is implemented	Monthly	Supervised by OHS
12	Local Roads	Approach Roads	Visual inspection to ensure local roads are not damaged	Monthly	This aspect was also monitored on monthly basis. No damage was observed to the local roads
13	Cultural and archeological Sites	At the physical and cultural resources identified in the EIA	Visual observation on implementation of EMP Sub Plan 13 on Physical Cultural Resources Management	Monthly	The contractor kept in consideration this aspect during the excavation activities. There was no archeological site present in the current construction area.
14	Drinking water and sanitation	In construction sites and construction camps	Ensure the construction workers are provided with safe water and sanitation facilities on the site	Weekly	Weekly monitored. The contractor provided water coolers to the workers at the sites.

4.7 Key Performance Indicators

The key performance indicators identified in the ESA5 of DHP to mitigate the environmental impacts and risks during construction can be summarized into five categories, as shown in the following table.

Table 4.8: Key Performance Indicators for compliance with mitigation measures

Sr. No	Key Performance Indicator	Description of the Indicator
1	Number of any non-compliance reports	The number of non-compliances noticed and reported to the Contractor.
2	Number of public complaints or grievances	The number of complaints or grievances received from the communities on the construction-related nuisances such as traffic, dust, noise and vibration, or any other construction-related activities
3	Number of accidents/incidents	The number of accidents or incidents, or near misses involving construction activities and construction vehicles
4	Number of parameters exceeding over NEQS	The number of parameters in ambient air and noise quality, drinking water, wastewater discharges and surface waters found beyond the national standards.
5	Other Indicators	Any other indicators that are not covered in the above categories are given in 'other indicators.' This includes the number of times chance finds are noticed, the number of trainings conducted, etc.

A detailed assessment of the status of compliance with the performance indicators and their status during the reporting period is given in the following table. Any indicators related to OHS and social aspects are covered in the relevant reports, not in this report.

⁵ See Table 9.2: Mitigation Plan for Construction Stage of ESA of Dasu Hydropower Project

Table 4.9: Key Performance Indicators and their Status during the reporting period

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding Parameters against Standards (air, noise, water, etc.)	Other Indicators	Remarks
1. Design/Pre-Construction Stage							Not relevant
3. Contractor Mobilisation and Demobilisation	3.1 Traffic Management	Nil					
	3.2 Soil Erosion and Contamination	Nil					
	3.3 Air Quality	Nil					
	3.4 Noise	Nil					
	3.5 Public Safety	Nil					
	3.6 Damage to Infrastructure	Nil					
4. Contractor's Camp	4.1 Soil and Water Contamination	Nil					
	4.2 Air Quality	Nil					
	4.3 Vegetation loss	Nil				Number of trees felled: 0	
	4.4 Noise	Nil					
	4.5 Health and Safety	Nil					Covered under OHS Report
	4.6 Social and Gender Issues	Nil					Covered under social report
	4.7 Damage to PCRs	Nil				Number of chance finds: 0	
	4.8 Increased load on local services	Nil					Covered under social report
5. Transportation of Equipment	5.1 Traffic Management	Nil					
	5.2 Soil Erosion and Contamination						2 incidence of Oil spillage reported which was rectified by contractor
	5.3 Air Quality						2 incidence was reported through WTEIRs which were rectified by the contractor
	5.4 Noise	Nil					
	5.5 Public Safety					Number of trainings provided:	
	5.6 Damage to infrastructure						
7. RAR-01 Construction	7.1 Changes to topography						
	7.2 Landslides						
	7.3 Soil erosion						
	7.4 Soil and water contamination		2				
	7.5 Air Quality						
	7.6 Health and Safety						
	7.7 Noise and Vibration						
	7.8 Landscape and Visual Intrusion						
	7.9 Vegetation loss					Number of trees felled: 0	
	7.10 Fauna / Wildlife						

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding Parameters against Standards (air, noise, water, etc.)	Other Indicators	Remarks
	7.11 Mortality of Fish	Nil					
	7.12 Damage to infrastructure	Nil					
	7.13 Damage to PCRs	Nil					
	7.14 Disturbance of Visual Landscape and Natural Habitats	Nil					
	7.15 Social conflict due to the Influx of Workers and In-migrants						Covered under Social section report
	7.16 Conflicts due to culturally inappropriate behaviors by the workers						Covered under Social section report
	7.17 Adverse Effects on Health Situation	Nil					Covered under Social section report
	7.18 Increased Load on Local Services and Supplies						
9. Spoil Area Management	9.1 Changes to topography 9.2 Landslide 9.3 Soil erosion 9.4 Air Quality 9.5 Landscape and Visual Intrusion 9.6 Vegetation loss	Nil					
12. Waste Management	12.1 Soil and water contamination 12.2 Odor	Nil	2				2 incidences of improper waste management and 2 incidences of inadequate housekeeping was reported through WTEIR for rectification

4.8 Overall Compliance Status – Tri-Partite Monthly Meetings

Monthly meetings were held with the Contractor by the Engineer and PMU to discuss pending environmental non-compliance and the actions taken by the Contractor to address these issues. The minutes of these meetings are shown in Annex-2. The major environmental issues discussed during the meetings were:

- Solid waste management procedures to be reported in MPR
- Oil spillage removal at K4
- Proper disposal of spoil disposal

5 TL-01 Contract

5.1 Overview of Contracts

A brief overview of the TL-01 contract is given in Table 5.1. The TL-01 contract works are related to the construction of transmission line from Pattan up to Chuchang and a Grid station at Kuz Chuchang.

Table 5.1: Overview of TL-01 Contract

Sr. No.	Item	Data
1	Contract Number	ICB No. Dasu-TL-01
2	Contract Name	Procurement, Design, Supply, Installation, Testing and Commission of 132KV Single Circuit Transmission Line and Grid Station (From 132KV Switchyard Dubair Khwar to Proposed 132 KV Grid Station Dasu)
3	Contractor	Power China Corporation of China Ltd (PCCL)
4	Commencement Date	November 02, 2015
5	Contract Completion Date	June 19, 2016
6	Updated Completion Date	November 19, 2022

5.2 Contractor Environmental Action Plan

The Contractor has submitted the Contractor Environmental Action Plan (CEAP) with the site-specific management plans to address the environmental impacts and risks of the construction activities. In addition, the Contractor has also prepared an Occupational Health and Safety Management Plan (OHSMP), and details of these plans are not covered in this report.

5.3 Contractor's Facilities and ESHS Staff

The facilities established by the Contractor, such as workers' camps and construction yards, are given in Table 5.2. The Environmental Social Health and Safety (ESHS) Staff of the Contractor are given in Table 5.3.

Table 5.2: Contractor's Facilities

Sr. No.	Facility	Location	Details	Remarks
A.	Worker's Camps			
1	Chinese Workers Camp	Dasu	About 11 workers live in this camp	
2	Pakistan Workers Camps	Dasu	About 13 workers live in this camp	
B.	Crushing/Batching Plants			
1	Crushing Plant	Nil		
2	Batching plant	Nil		
C.	Other Facilities			
1	Construction Yard			
	Explosive Magazine	Dubair, lower kohistan	The explosives are purchased from a license supplier at Dubair	

Table 5.3: Contractor's ESHS Staff

Sr. No.	Position	TL-01 Contract	Remarks
1	Manager EHS	Mr. Waleed	
2	Environmental Officer	vacant	
3	Environmental Supervisor	vacant	

5.4 Construction Activities

Details of construction activities conducted during the reporting period are shown in Table 5.4.

Table 5.4: Construction Activities in TL-01 Contract






Sr. No.	Work Site	Details of Works	Remarks
1	Grid Station	Block Masonry work of Control House	In progress
2	Chuchang	Excavation/ cutting for access road to grid station and transformer foundation	In progress
3	T-138B, T-139A and T- 204A	Erection work completed	In progress

5.5 Construction Supervision and Environmental Compliances

5.5.1 Site Inspections and WTEIRs

Site visits to the construction areas are conducted daily by the environmental staff to supervise environmental compliance of the construction activities and complete daily monitoring checklists. In addition, walk-through environmental inspections have been conducted at all work sites regularly by the senior environmental staff of DHC and PMU to identify any environmental issues and non-compliance. The issues identified at the construction sites are communicated with the Contractor through Walk-Through Environmental Inspection Reports (WTEIRs). The Contractor has also been instructed to address these issues within a suggested timeframe. The Contractor has rectified these mistakes and submitted the report with the actions taken. The WTEIRs, consisting of both non-compliances and rectifications, are given in the following tables. Although the rectification was done at site, but the reports were not submitted to the Engineer due to resignation of HSE manager.

Table 5.5: Walk-Through Inspection Report No.11



Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Corrective Action	Completion Date
11.1	28-07-2022 Grid Station	Oil spill		The contractor is instructed to remove the oil spill by replacing soil and the contaminated soil dump in a drum temporary and follow spill protocols and use spill kits, (if required).	Immediate	Contractor remove the contaminated crush with fresh sand OHS officer also instructed the site supervisor to repair engine if it continuously spill oil.	 	04-08-2022
11.2	28-07-2022 grid station	Poor housekeeping		Contractor is instructed to maintain good housekeeping at construction site.		Contractor remove all solid waste that is scatared on site		04-08-2022

		 				 	
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Table 5.6: Walk-Through Inspection Report No.12

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Corrective Actions Pictorial proof	Action Taken by the Contractor	Completion Date
12.1	02-08-2022 grid station	Oil spill		Contractor is instructed to replace the contaminated soil with clean and fresh soil Use spill kits (If Required) Dispose off the contaminated Soil as per SOP's provided in the ECP": Waste Management.		Contractor remove contaminated soil with clean and fresh soil and dispose off contaminated soil. Contractor also conduct training about oil spill and use of drip tray	12-08-22
12.2	02-08-2022 grid station	Inadequate housekeeping		Contractor is instructed to maintain good housekeeping at construction site.		Contractor remove scattered wood pieces and planks	

Table 5.7: Walk-Through Inspection Report No.13





Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeli ne	Action Taken by the Contractor	Rectification pictures	Completion Date
13.1	13-09-2022 Grid station	Oil spill		The contractor is instructed to remove the oil spill by replacing contaminated soil and Disposing Contaminated soil as per SOP's provided in ECP's and EMAP.	Imme diate	Contractor remove oil tank place in open area and strictly warned to mechenic to cover oil tank and place in designated place		27/9/22

							
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13.2	13-09-2022 Grid station	Inadequate housekeeping		Contractor is instructed to maintain good housekeeping at construction site.	Immediate	Contractor remove solid waste from site.	 	





							
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		 <p>15-Sep-2022, 11:09</p>					
		 <p>15-Sep-2022, 11:12</p>					

							
13.3	13-09-2022 Grid station	Improve placement oil drums		Contractor is instructed to place the drums at designated area and cover it with proper lid to avoid spill over on the site.	Immediate	Contractor designate a site for drums and oil cane etc storage. Contractor heavy vehicles also maintain on site ,sometimes mechanic ad helper left equipments on place.contractor is trying to fully comply with rules.	

							
13.4	13-09-2022 Grid station	Sludge / Mud		<p>Contractor is instructed to compact the dirt road which is very slippery due to muddy surface. It can cause an accident on site.</p>	Immediate	<p>Contractor remove sludge from site. this was due to heavy rain</p>	

Table 5.8: Walk-Through Inspection Report No.14

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Rectification Pictures	Action Taken by the Contractor	Completion Date
14.1	22-09-2022 grid station	littering		The contractor is instructed to place wastebins at the site and educate the workers to use the bins and follow 3R principal	immediate		Contractor remove solid waste from site and conduct a training about housekeeping	28/9/22

5.5.2 Notices and Letters

No notices were issued to the contractor except WTEIRs.

5.6 Contractor's Effect Monitoring

The monitoring requirements of the Contractor as per the bidding documents are given in the following table. The Engineer's observation of the monitoring status is also given in the last column of this table.

Table 5.9: Status of Contractor's Effect Monitoring

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
1	Landslides	37 identified landslide prone areas in EIA	Visual Inspection on stability of landslides	Fortnightly	NA
2	Erosion	Earthwork areas and material storage sites	Visual inspection of erosion prevention measures and occurrence of erosion	Monthly	Monthly visual inspection done. No incident was recorded during the quarter.
3	Surface water quality	In the rivers and tributaries at the downstream of the construction sites. The locations of sampling can be same locations of baseline water quality or new locations recommended by the CSC.	Sampling and analysis of river water quality and wastewater discharges for the key parameters given in NEQS (river water quality – DO, BOD, COD, Temperature, pH, Conductivity, TSS, turbidity, nitrate, Wastewater – BOD, TSS, turbidity, TDS, COD, grease and oil, iron, ammonia, sulfates, chlorides)	Quarterly	NA
4	Air Quality (dust, smoke)	Construction sites, quarry areas along KKH and blasting areas	Visual inspection to ensure good standard equipment is in use and dust suppression measures (spraying of waters) are in place.	Weekly	Weekly visual inspections were carried out during the quarter at the Grid Station and instructions were given to contractor for compliance. The Contractor was strictly instructed to increase water sprinkling frequency. The dust is under control.
5	Air Quality (PM10, NO2, SO2, CO2, CO)	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC.	Air quality monitoring for 24 hours for the parameters specified in NEQS 2000	Quarterly	NA
6	Emissions from plant and equipment	At all the construction sites for dam, KKH and tunnels	Visual Inspection	Monthly	Monthly visual inspections were carried out during the quarter and no issue was observed.
7	Noise and vibration	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC	24-hour noise monitoring	Quarterly	NA
8	Waste Management	At the designated rock disposal area	Visual inspection on spoil disposal in accordance with EMP Sub plan on Waste Management	Monthly	Spoil is being dumped at the Khoshe disposal site

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
9	Construction camps and construction management		Visual inspection that solid waste is disposed of at designated site	Monthly	Monthly visual inspection was carried out. The Contractor is temporarily storing the waste at the camp. The Contractor is disposing the spoil in the waste bins of Local government at Komila bazar. This temporary practice is adopted due to non-availability of landfill site. Whereas the reusable and recyclable material are sent to local vendors.
10	Spills from Hydrocarbon	Material storage sites and construction yards	Visual Inspection for leaks and spills	Monthly	Monthly visual inspection was carried out during the quarter.
11	Traffic Safety	Along KKH and access roads to the construction areas	Visual inspection to see whether Traffic Management Plan (EMP Sub Plan 12) is implemented	Monthly	Supervised by OHS
12	Local Roads	Approach Roads	Visual inspection to ensure local roads are not damaged	Monthly	Monthly visual inspection was carried out and no damage was observed to the local roads
13	Cultural and archeological Sites	At the physical and cultural resources identified in the EIA	Visual observation on implementation of EMP Sub Plan 13 on Physical Cultural Resources Management	Monthly	The contractor kept in consideration this aspect during the excavation activities. There was no archeological site present in the current construction area.
14	Drinking water and sanitation	In construction sites and construction camps	Ensure the construction workers are provided with safe water and sanitation facilities on the site	Weekly	Monitored. The contractor provided water coolers to the workers at the sites.

5.7 Key Performance Indicators

The key performance indicators identified in the ESA6 of DHP to mitigate the environmental impacts and risks during construction can be summarized into five categories, as shown in the following table.

Table 5.10: Key Performance Indicators for compliance with mitigation measures

Sr. No	Key Performance Indicator	Description of the Indicator
1	Number of any non-compliance reports	The number of non-compliances noticed and reported to the Contractor.
2	Number of public complaints or grievances	The number of complaints or grievances received from the communities on the construction-related nuisances such as traffic, dust, noise and vibration, or any other construction-related activities
3	Number of accidents/incidents	The number of accidents or incidents, or near misses involving construction activities and construction vehicles
4	Number of parameters exceeding against NEQS values.	The number of parameters in ambient air and noise quality, drinking water, wastewater discharges and surface waters found beyond the national standards.
5.	Other Indicators	Any other indicators that are not covered in the above categories are given in 'other indicators.' This includes the number of times chance finds are noticed, the number of trainings conducted, etc.

A detailed assessment of the status of compliance with the performance indicators and their status during the reporting period is given in the following table. Any indicators related to OHS and social aspects are covered in the relevant reports, not in this report.

⁶ See Table 9.2: Mitigation Plan for Construction Stage of ESA of Dasu Hydropower Project

Table 5.11: Key Performance Indicators and their Status during the reporting period

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
1.Design/Pre-Construction Stage							Not relevant
2. Contractor Mobilisation and Demobilisation	3.1 Traffic Management	Nil					
	3.2 Soil Erosion and Contamination	Nil	3				3 incidences of Oil spillage reported through WTEIR
	3.3 Air Quality	Nil					
	3.4 Noise	Nil					
	3.5 Public Safety	Nil					
	3.6 Damage to Infrastructure	Nil					
3. Contractor's Camp	4.1 Soil and Water Contamination	Nil					
	4.2 Air Quality	Nil					
	4.3 Vegetation loss	Nil				Number of trees fallen= 0	
	4.4 Noise	Nil					
	4.5 Health and Safety						Covered under OHS Report
	4.6 Social and Gender Issues						Covered under social report
	4.7 Damage to PCRs					Number of chance finds: 0	
	4.8 Increased load on local services						Covered under social report
4. Transportation of Equipment	5.1 Traffic Management	Nil					
	5.2 Soil Erosion and Contamination						
	5.3 Air Quality	Nil					
	5.4 Noise	Nil					
	5.5 Public Safety					Number of trainings provided:	
	5.6 Damage to infrastructure	Nil					

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
5. Spoil Area Management	9.1 Changes to topography 9.2 Landslide 9.3 Soil erosion 9.4 Air Quality 9.5 Landscape and Visual Intrusion 9.6 Vegetation loss	Nil					
6. Waste Management	12.1 Soil and water contamination 12.2 Odor	Nil	2				2 incidences of littering of waste and hiadequate housekeeping reported through WTEIR for rectification

5.8 Overall Compliance Status – Tri-Partite Monthly Meetings

Monthly meetings were held with the Contractor by the Engineer and PMU to discuss pending environmental non-compliance and the actions taken by the Contractor to address these issues. The minutes of these meetings are shown in the Annex-2. The Major issues discussed during the meetings were:

- Maintaining of good housekeeping
- Dust suppression measures
- Provision of Drinking water to Labor and staff at site.

6 PCI-01R Contract

6.1 Overview of Contracts

A brief overview of the PCI-01R contract is given in Table 6.1. The PCI-01R contract works are related to the construction of project colony and infrastructure at Chuchang.

Table 6.1: Overview of PCI-01R Contract

Sr. No.	Item	Data
1	Contract Number	ICB No. Dasu- PCI-01R
2	Contract Name	Construction of Project Colony and Infrastructure
3	Contractor	China Gansu International Corporation for Economic and Technical Corporation (CGICOP)
4	Commencement Date	Oct 18, 2018
5	Contract Completion Date	May 17, 2021
6	Revised Completion Date	October 31, 2022

6.2 Contractor Environmental Action Plan

The Contractor has submitted the Contractor Environmental Action Plan (CEAP) with the site-specific management plans to address the environmental impacts and risks of the construction activities. In addition, the Contractor has also prepared an Occupational Health and Safety Management Plan (OHSMP), and details of these plans are not covered in this report.

6.3 Contractor's Facilities and ESHS Staff

The facilities established by the Contractor, such as workers' camps and construction yards, are given in Table 6.2. The Environmental Social Health and Safety (ESHS) Staff of the Contractor are given in Table 6.3.

Table 6.2: Contractor's Facilities

Sr. No.	Facility	Location	Details	Remarks
A.	Worker's Camps			
1	Chinese Workers Camp	Chuchang	About 12 workers live in this camp	
2	Pakistan Workers Camps	Chuchang	About 28 workers live in this camp	
B.	Crushing/Batching Plants			
1	Crushing Plant	Chuchang		Not operational
2	Batching plant	Chuchang		Not operational
C.	Other Facilities			
1	Construction Yard	Chuchang		

Table 6.3: Contractor's ESHS Staff

Sr. No.	Position	PCI-01R Contract	Remarks
1	Manager EHS	Mr. Fazal Mabood	
2	Environmental Officer	Vacant	
3	Environmental Supervisor	Vacant	

6.4 Construction Activities

Details of construction activities conducted during the reporting period are shown in Table 6.4.

Table 6.4: Construction Activities in PCI-01R Contract

Sr. No.	Work Site	Details of Works	Remarks
1	DHPP Project Office	Internal Electrification Activities	In progress
2	DHPP Project Office	Cleaning and clearing	In progress
3	DHPP Colony	Electrical Pole Fixing	In progress

Sr. No.	Work Site	Details of Works	Remarks
4	DHPP Project Office	Lawn area filling	In progress
5	DHPP Colony	Laying of water supply Pipes	In progress
6	Category 2 Houses	Roof Treatment, Marble Tile Fixing, Painting	In progress
7	Category 1 Houses	Filing of Lawns, Boundary wall plastering, plinth protection, Main gates installation	In progress
8	DHPP Colony	External Boundary Wall Construction is in progress.	In progress
9	Category 3 & 4	Block Masonry and Slab concreting in remaining houses	In progress

6.5 Construction Supervision and Environmental Compliances

6.5.1 Site Inspections and WTEIRs

Site visits to the construction areas are conducted daily by the environmental staff to supervise environmental compliance of the construction activities and complete daily monitoring checklists. In addition, walk-through environmental inspections have been conducted at all work sites regularly by the senior environmental staff of DHC and PMU to identify any environmental issues and non-compliance. The issues identified at the construction sites are communicated with the Contractor through Walk-Through Environmental Inspection Reports (WTEIRs). The Contractor has also been instructed to address these issues within a suggested timeframe. The Contractor has rectified these mistakes and submitted the report with the actions taken. The WTEIRs, consisting of both non-compliances and rectifications, are given in the following tables.

Table 6.5: Walk-Through Inspection Report-No.34

Sr. No	Date and Location of Inspection	EHS observations	Before rectification Picture	Action taken by the contractor	After rectification picture
34.1	16-8-2022 Near labor camp	Improper waste disposal	 <p>Aug 16, 2022 9:35:53 AM 295° NW Index number: 2421</p> <p>Aug 16, 2022 10:33:02 AM 120° SE Index number: 2440</p>	Removed all the scattered waste from labour camp and dispose off at designated site also place number of waste bins at different locations	

					
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<p>34.2</p>	<p>16-8-2022 Near labour camp</p>	<p>inadequate housekeeping</p>	 <p style="text-align: right; font-size: small;">Aug 16, 2022 10:32:39 AM 137° SE Index number: 2438</p>	<p>Removed all the construction material from site and stored at designated site and housekeeping is done</p>	
<p>34.3</p>	<p>16-8-2022 Near labour camp</p>	<p>Waste water</p>	 <p style="text-align: right; font-size: small;">Aug 16, 2022 9:35:19 AM 60° NE Index number: 2420</p>	<p>Cleaned the area and maintained proper drainage system.</p>	 <p style="text-align: left; font-size: small;">SSS</p>

34.4	16-8-2022 Near crush plant	Oil spill		Removed the contaminated soil from ground and stored as hazardous waste and add fresh soil.	
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Table 6.6: Walk-Through Inspection Report-No.35

Sr. No	Date and Location of Inspection	EHS observations	Before rectification Picture	Action taken by the contractor	After rectification picture
35.1	13-9-2022 WAPDA colony chuchang	Inadequate housekeeping		Removed all the scattered waste from site and dispose off at designated site, also place number of waste bins at different locations and install signages to aware the workers.	

<p>35.2</p>	<p>13-9-2022 WAPDA colony chuchang</p>	<p>inadequate housekeeping</p>		<p>These construction material are there for their frequent use ,collected all the scattered material form site and stacking properly to a side.</p>	
<p>35.3</p>	<p>13-9-2022 WAPDA colony chuchang Labour camp</p>	<p>Fuel wood</p>		<p>Removed all the fuel wood from site and strictly instructed the canteen owner to use LPG as fuel at construction site .its prohibited to use wood as fuel at DHPP</p>	







35.4	13-9-2022 WAPDA Colony Chuchang Labor camp	Untreated open waste water discharge	 <p>Sep 13, 2022 11:27:45 AM 48° NE Index number: 2701</p>	Maintained proper drainage for waste water discharge from labour canteen.	
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Table 6.7: Walk-Through Inspection Report-No.36

Sr. No	Date and Location of Inspection	EHS observations	Before rectification Picture	Action taken by the contractor	After rectification picture
36.1	22-09-2022 labor camp	Littering		<p>Removed the scattered waste from site and disposed off at temporary waste disposal site.</p>	

<p>36.2</p>	<p>22-09-2022 labor camp</p>	<p>inadequate housekeeping</p>		<p>These material are there for their frequent use collected the construction material form site and stacking properly to a side.</p>	
<p>36.3</p>	<p>22-09-2022 labor camp</p>	<p>Untreated water</p>		<p>Install pipe to waste water from ablution place and surface water from back side of labour camp</p>	

6.5.2 Notices and Letters

In addition to the WTEIRs discussed in the previous section, the Engineer also issues Notices and Letters but in this quarter no Letters/ notices were issued.

6.5.3 Quarterly Monitoring of Air, Noise, Water and Wastewater

5th Quarterly environmental monitoring was postponed with the consent of Employer as the work were very limited during the quarter. The monitoring will be conducted once the construction work starts momentum.

6.5.4 Contractor's Effect Monitoring

The monitoring requirements of the Contractor as per the bidding documents are given in the following table. The Engineer's observation of the monitoring status is also given in the last column of this table.

Table 6.8: Status of Contractor's Effect Monitoring

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
1	Landslides	37 identified landslide prone areas in EIA	Visual Inspection on stability of landslides	Fortnightly	NA
2	Erosion	Earthwork areas and material storage sites	Visual inspection of erosion prevention measures and occurrence of erosion	Monthly	Monthly monitored visually. No incident was recorded during the quarter.
3	Surface water quality	In the rivers and tributaries at the downstream of the construction sites. The locations of sampling can be same locations of baseline water quality or new locations recommended by the CSC.	Sampling and analysis of river water quality and wastewater discharges for the key parameters given in NEQS (river water quality – DO, BOD, COD, Temperature, pH, Conductivity, TSS, turbidity, nitrate, Wastewater – BOD, TSS, turbidity, TDS, COD, grease and oil, iron, ammonia, sulfates, chlorides)	Quarterly	5th Quarterly Environmental monitoring was postponed with the consent of Employer due to limited construction work i.e., whitewashing/paint, electrification etc.
4	Air Quality (dust, smoke)	Construction sites, quarry areas along KKH and blasting areas	Visual inspection to ensure good standard equipment is in use and dust suppression measures (spraying of waters) are in place.	Weekly	Weekly visual inspections were carried out during the quarter at the DHPP Colony site and instructions were given to contractor for compliance. The Contractor was strictly instructed to increase water sprinkling frequency. The dust is under control.
5	Air Quality (PM10, NO2, SO2, CO2, CO)	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations	Air quality monitoring for 24 hours for the parameters specified in NEQS 2000	Quarterly	5th Quarterly Environmental monitoring was postponed with the consent of Employer due to limited construction work i.e., whitewashing/paint, electrification etc.

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
		recommended by the CSC.			
6	Emissions from plant and equipment	At all the construction sites for dam, KKH and tunnels	Visual Inspection	Monthly	Monthly visual inspections were carried out during the quarter and no issue was observed.
7	Noise and vibration	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC	24-hour noise monitoring	Quarterly	5th Quarterly Environmental monitoring was postponed with the consent of Employer due to limited construction work i.e., whitewashing/paint, electrification etc.
8	Waste Management	At the designated rock disposal area	Visual inspection on spoil disposal in accordance with EMP Sub plan on Waste Management	Monthly	Spoil (if any) is being dumped at the Khoshe disposal site
9	Construction camps and construction management		Visual inspection that solid waste is disposed of at designated site	Monthly	Monthly visual inspection was carried out. The Contractor is temporarily storing the waste at the camp. The Contractor using the Organic waste as compost for the kitchen garden while the reusable and recyclables are temporarily stored at the site for onward sending to local trash vendor.
10	Spills from Hydrocarbon	Material storage sites and construction yards	Visual Inspection for leaks and spills	Monthly	Weekly and monthly visual inspection was carried out. The non-compliances are reported to the contractor in the WTEIRs for rectification.
11	Traffic Safety	Along KKH and access roads to the construction areas	Visual inspection to see whether Traffic Management Plan (EMP Sub Plan 12) is implemented	Monthly	Supervised by OHS
12	Local Roads	Approach Roads	Visual inspection to ensure local roads are not damaged	Monthly	Regular monitoring was carried out and no damage was observed to the local roads
13	Cultural and archeological Sites	At the physical and cultural resources identified in the EIA	Visual observation on implementation of EMP Sub Plan 13 on Physical Cultural Resources Management	Monthly	The contractor kept in consideration this aspect during the excavation activities. There was no archeological site present in the current construction area.
14	Drinking water and sanitation	In construction sites and construction camps	Ensure the construction workers are provided with safe water and sanitation facilities on the site	Weekly	Monitored. The contractor provided water coolers to the workers at the sites.

6.5.5 Key Performance Indicators

The key performance indicators identified in the ESA7 of DHP to mitigate the environmental impacts and risks during construction can be summarized into five categories, as shown in the following table.

Table 6.9: Key Performance Indicators for compliance with mitigation measures

Sr. No	Key Performance Indicator	Description of the Indicator
1	Number of any non-compliance reports	The number of non-compliances noticed and reported to the Contractor.
2	Number of public complaints or grievances	The number of complaints or grievances received from the communities on the construction-related nuisances such as traffic, dust, noise and vibration, or any other construction-related activities
3	Number of accidents/incidents	The number of accidents or incidents, or near misses involving construction activities and construction vehicles
4	Number of exceeding values over NEQS	The number of parameters in ambient air and noise quality, drinking water, wastewater discharges and surface waters found beyond the national standards.
5.	Other Indicators	Any other indicators that are not covered in the above categories are given in 'other indicators.' This includes the number of times chance finds are noticed, the number of trainings conducted, etc.

A detailed assessment of the status of compliance with the performance indicators and their status during the reporting period is given in the following table. Any indicators related to OHS and social aspects are covered in the relevant reports, not in this report.

⁷ See Table 9.2: Mitigation Plan for Construction Stage of ESA of Dasu Hydropower Project

Table 6.10: Key Performance Indicators and their Status during the reporting period

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
1. Design/Pre-Construction Stage							Not relevant
2. Contractor Mobilisation and Demobilisation	3.1 Traffic Management	Nil					
	3.2 Soil Erosion and Contamination	Nil					
	3.3 Air Quality	Nil					
	3.4 Noise	Nil					
	3.5 Public Safety	Nil					
	3.6 Damage to Infrastructure	Nil					
3. Contractor's Camp	4.1 Soil and Water Contamination		3				3 incidences of minor oil spill observed which was reported to contractor and was rectified
	4.2 Air Quality	Nil					
	4.3 Vegetation loss	Nil				Number of trees felled: 0	
	4.4 Noise	Nil					
	4.5 Health and Safety						Covered under OHS Report
	4.6 Social and Gender Issues						Covered under social report
	4.7 Damage to PCRs	Nil				Number of chance finds: 0	
	4.8 Increased load on local services						Covered under social report
4. Transportation of Equipment	5.1 Traffic Management	Nil					
	5.2 Soil Erosion and Contamination						
	5.3 Air Quality						
	5.4 Noise						
	5.5 Public Safety					Number of trainings provided:	
	5.6 Damage to infrastructure						
5. Spoil Area Management	9.1 Changes to topography	Nil					
	9.2 Landslide						
	9.3 Soil erosion						
	9.4 Air Quality						

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
	9.5 Landscape and Visual Intrusion 9.6 Vegetation loss						
6. Construction Colony	10.1 Change in topography 10.2 Landslide 10.3 Soil erosion 10.4 Soil and water contamination 10.5 Air Quality 10.6 Health and Safety 10.7 Noise and Vibration 10.8 Landscape and Visual Intrusion 10.9 Vegetation loss 10.10 Fauna / Wildlife 10.11 Damage to infrastructure 10.12 Damage to PCRs 10.13 Access	Nil	1				1 incident of Oil spillage, 4 incidences of inadequate housekeeping reported through WTEIR for rectification
7. Waste Management	12.1 Soil and water contamination 12.2 Odor		2				2 incidences reported through WTEIRs for rectification

6.5.6 Overall Compliance Status – Tri-Partite Monthly Meetings

Monthly meetings were held with the Contractor by the Engineer and PMU to discuss pending environmental non-compliance and the actions taken by the Contractor to address these issues. The minutes of these meetings are shown in Annex-1. The major issues discussed during the meetings were:

- Submission NOC for Fuel storage license
- Housekeeping
- Dust control

7 LBRV-11&12 Contract

7.1 Overview of Contracts

A brief overview of the LBRV-11&12 contract is given in Table 7.1. The LBRV-11&12 contract works are related to the construction of resettlement sites at Khoshe, Uchar and Nasirabad etc.

Table 7.1: Overview of LBRV-11&12 Contract

Sr. No.	Item	Data
1	Contract Number	ICB No. Dasu- LBRV-11&12
2	Contract Name	Left Bank Resettlement Villages 11&12
3	Contractor	Zhongmei Engineering group Limited (ZEGL)
4	Commencement Date	Dec 26, 2018
5	Contract Completion Date	Dec 25, 2019
6	Updated Completion Date	August 31, 2022

7.2 Contractor Environmental Action Plan

The Contractor has submitted the Contractor Environmental Action Plan (CEAP) with the site-specific management plans to address the environmental impacts and risks of the construction activities. In addition, the Contractor has also prepared an Occupational Health and Safety Management Plan (OHSMP), and details of these plans are not covered in this report.

7.3 Contractor's Facilities and ESHS Staff

The facilities established by the Contractor, such as workers' camps and construction yards, are given in Table 7.2. The Environmental Social Health and Safety (ESHS) Staff of the Contractor are given in Table 7.3.

Table 7.2: Contractor's Facilities

Sr. No.	Facility	Location	Details	Remarks
A. Worker's Camps				
1	Chinese Workers Camp	Uchar	About 04 workers live in this camp	These workers were present in July 2022 before flood in Uchar Nullah
2	Pakistan Workers Camps	Uchar	About 18 workers/ staff live in this camp	These workers were present in July 2022 before flood in Uchar Nullah
B. Crushing/Batching Plants				
1	Crushing Plant	Nil		
2	Batching plant	Nil		
C. Other Facilities				
1	Construction Yard	Uchar		
2	Explosive magazine	Barseen	20 tons capacity	

Table 7.3: Contractor's ESHS Staff

Sr. No.	Position	LBRV-11&12 Contract	Remarks
1	Manager EHS	Mr. Attique Khokar	Present till July 2022
2	Environmental Officer	Vacant	
3	Environmental Supervisor	Vacant	

7.4 Construction Activities

Details of construction activities conducted during the reporting period are shown in Table 7.4.

Table 7.4: Construction Activities in LBRV-11 Contract

Sr. No.	Work Site	Details of Works	Remarks
1	Khoshe-1	PCC on permanent Access road	In progress
2	Khoshe-2	Retaining wall construction, Construction of water tank	In progress
3	Uchar site	Site handed over	No activity

Table 7.5: Construction Activities in LBRV-12 Contract

Sr. No.	Work Site	Details of Works	Remarks
1	Nasirabad-1	Slope protection	In progress
2	Nasirabad-2	Plot levelling is in progress, Water tank construction, Filter tank construction	In progress

7.5 Construction Supervision and Environmental Compliances

7.5.1 Site Inspections and WTEIRs

Site visits have not been undertaken in this quarter because of floods in July 2022 and Aug 2022.

Almost all staff of Zhongmei contractor has already been relieved except some key staff. During the Floods in the Indus River water and Uchar Nullah Water Rising and Debris flow has completely wiped out all of the Zhongmei camp area along river Indus. Presently only few staff is running the office from colony area.

7.5.2 Notices and Letters

No notices or letters were issued to the contractor except the WTEIRs during the reporting quarter.

7.5.3 Quarterly Monitoring of Air, Noise, Water and Wastewater

The Contractor has not conducted 24-hour monitoring of air, and noise quality during the quarter.

7.6 Contractor's Effect Monitoring

The monitoring requirements of the Contractor as per the bidding documents are given in the following table. The Engineer's observation of the monitoring status is also given in the last column of this table.

Table 7.6: Status of Contractor's Effect Monitoring

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
1	Landslides	37 identified landslide prone areas in EIA	Visual Inspection on stability of landslides	Fortnightly	Landslides identified in EIA is not applicable for this contract. However, the construction related slope stability is addressed by protection of the slope through wire meshing and concreting at the resettlement sites. No landslides activity seen at the LBRV Sites.
2	Erosion	Earthwork areas and material storage sites	Visual inspection of erosion prevention measures and occurrence of erosion	Monthly	No incident Monitored neither was recorded during this quarter.
3	Surface water quality	In the rivers and tributaries at the downstream of the construction sites. The locations of sampling can be	Sampling and analysis of river water quality and wastewater discharges for the key parameters given in NEQS (river water quality – DO, BOD,	Quarterly	No Quarterly Environmental monitoring was conducted during the quarter.

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Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
		same locations of baseline water quality or new locations recommended by the CSC.	COD, Temperature, pH, Conductivity, TSS, turbidity, nitrate, Wastewater – BOD, TSS, turbidity, TDS, COD, grease and oil, iron, ammonia, sulfates, chlorides)		
4	Air Quality (dust, smoke)	Construction sites, quarry areas along KKH and blasting areas	Visual inspection to ensure good standard equipment is in use and dust suppression measures (spraying of waters) are in place.	Weekly	No visual inspections were carried out during this quarter at the Access Road to the resettlement site. There is some portion of Khoshe access road was also allocated to Zhongmei contractor. The Contractor was instructed to increase water sprinkling frequency. As LBRV contract is finished therefore the area allocated to this contractor is re-assigned to CCECC and CGGC. The dust is under control.
5	Air Quality (PM10, NO2, SO2, CO2, CO)	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC.	Air quality monitoring for 24 hours for the parameters specified in NEQS 2000	Quarterly	No Quarterly Environmental monitoring was conducted during the quarter.
6	Emissions from plant and equipment	At all the construction sites for dam, KKH and tunnels	Visual Inspection	Monthly	No visual inspections were carried out during the quarter
7	Noise and vibration	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC	24-hour noise monitoring	Quarterly	No Quarterly Environmental monitoring was conducted during the quarter.
8	Waste Management	At the designated rock disposal area	Visual inspection on spoil disposal in accordance with EMP Sub plan on Waste Management	Monthly	Spoil/ discarded materials are being dumped at the Khoshe disposal site
9	Construction camps and construction management		Visual inspection that solid waste is disposed of at designated site	Monthly	No monitoring was carried out. The Contractor is temporarily storing the waste at its camp. The reusable and recyclables are temporarily stored at the site for onward sending to local trash vendor. Due to floods everything was washed away by Flood water rising in Indus and Uchar Nullah
10	Spills from Hydrocarbon	Material storage sites and construction yards	Visual Inspection for leaks and spills	Monthly	No monitoring was carried out. No WTEIRs were issued this quarter.
11	Traffic Safety	Along KKH and access roads to	Visual inspection to see whether Traffic	Monthly	Supervised by OHS

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
		the construction areas	Management Plan (EMP Sub Plan 12) is implemented		
12	Local Roads	Approach Roads	Visual inspection to ensure local roads are not damaged	Monthly	Regular monitoring was carried out and no damage was observed to the local roads
13	Cultural and archeological Sites	At the physical and cultural resources identified in the EIA	Visual observation on implementation of EMP Sub Plan 13 on Physical Cultural Resources Management	Monthly	The contractor kept in consideration this aspect during the excavation activities. There was no archeological site present in the current construction area.
14	Drinking water and sanitation	In construction sites and construction camps	Ensure the construction workers are provided with safe water and sanitation facilities on the site	Weekly	No monitoring was undertaken this month

7.7 Key Performance Indicators

The key performance indicators identified in the ESA8 of DHP to mitigate the environmental impacts and risks during construction can be summarized into five categories, as shown in the following table.

Table 7.7: Key Performance Indicators for compliance with mitigation measures

Sr. No	Key Performance Indicator	Description of the Indicator
1	Number of any non-compliance reports	The number of non-compliances noticed and reported to the Contractor.
2	Number of public complaints or grievances	The number of complaints or grievances received from the communities on the construction-related nuisances such as traffic, dust, noise and vibration, or any other construction-related activities
3	Number of accidents/incidents	The number of accidents or incidents, or near misses involving construction activities and construction vehicles
4	Number of exceeding values against NEQS	The number of parameters in ambient air and noise quality, drinking water, wastewater discharges and surface waters found beyond the national standards.
5.	Other Indicators	Any other indicators that are not covered in the above categories are given in 'other indicators.' This includes the number of times chance finds are noticed, the number of trainings conducted, etc.

A detailed assessment of the status of compliance with the performance indicators and their status during the reporting period is given in the following table. Any indicators related to OHS and social aspects are covered in the relevant reports, not in this report.

⁸ See Table 9.2: Mitigation Plan for Construction Stage of ESA of Dasu Hydropower Project

Table 7.8: Key Performance Indicators and their Status during the reporting period

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
1. Design/Pre-Construction Stage							Not relevant
2. Contractor Mobilisation and Demobilisation	3.1 Traffic Management	Nil					
	3.2 Soil Erosion and Contamination	Nil					
	3.3 Air Quality	Nil					
	3.4 Noise	Nil					
	3.5 Public Safety	Nil					
	3.6 Damage to Infrastructure	Nil					
3. Contractor's Camp	4.1 Soil and Water Contamination	Nil					
	4.2 Air Quality	Nil					
	4.3 Vegetation loss	Nil				Number of trees felled: 0	
	4.4 Noise	Nil					
	4.5 Health and Safety	Nil					Covered under OHS Report
	4.6 Social and Gender Issues	Nil					Covered under social report
	4.7 Damage to PCRs	Nil				Number of chance finds: 0	
	4.8 Increased load on local services	Nil					Covered under social report
4. Transportation of Equipment	5.1 Traffic Management	Nil					
	5.2 Soil Erosion and Contamination	Nil					
	5.3 Air Quality	Nil					
	5.4 Noise	Nil					
	5.5 Public Safety	Nil				Number of trainings provided:	
	5.6 Damage to infrastructure	Nil					
5. Spoil Area Management	9.1 Changes to topography	Nil					
	9.2 Landslide						
	9.3 Soil erosion						
	9.4 Air Quality						
	9.5 Landscape and Visual Intrusion						
	9.6 Vegetation loss						
6. Waste Management	12.1 Soil and water contamination	Nil					
	12.2 Odor						

7.8 Overall Compliance Status – Tri-Partite Monthly Meetings

No Monthly meetings were held with Zhongmei Contractor by the Engineer and PMU in this 3rd quarter of 2022 as the contractor has been demobilized.

8 RAR-02 Contract

8.1 Overview of Contracts

A brief overview of the RAR-02 contract is given in Table 8.1. The RAR-02 contract works are related to the construction of construction of Right bank access road that is starting from dam site up to Uttar Gah.

Table 8.1: Overview of RAR-02 Contract

Sr. No.	Item	Data
1	Contract Number	ICB No. Dasu- RAR-02
2	Contract Name	Construction of Right bank Access Road (Dam site to Uttar Gah)
3	Contractor	China Gezhouba Group Co. Ltd. (CGGC)
4	Commencement Date	May 20, 2021
5	Contract Completion Date	May 18, 2023

8.2 Contractor Environmental Action Plan

The Contractor has submitted the Contractor Environmental Action Plan (CEAP) with the site-specific management plans to address the environmental impacts and risks of the construction activities. In addition, the Contractor has also prepared an Occupational Health and Safety Management Plan (OHSMP), and details of these plans are not covered in this report.

8.3 Contractor's Facilities and ESHS Staff

The facilities established by the Contractor, such as workers' camps and construction yards, are given in Table 8.2. The Environmental Social Health and Safety (ESHS) Staff of the Contractor are given in Table 8.3.

Table 8.2: Contractor's Facilities

Sr. No.	Facility	Location	Details	Remarks
A.	Worker's Camps			
1	Chinese Workers Camp	Kaigah	About 19 workers live in this camp	
2	Pakistan Workers Camps	Kaigah	About 110 workers live in this camp	
B.	Crushing/Batching Plants			
1	Crushing Plant	Nil		
2	Batching plant	Nil		
C.	Other Facilities			
1	Construction Yard	Nil		
2	Explosive magazine	Nil	Explosive from MW-02 at Kass area is being used for the construction work	

Table 8.3: Contractor's ESHS Staff

Sr. No.	Position	RAR-02 Contract	Remarks
1	Manager EHS	Liaqat Ali Khan	Contractor has been instructed to engage environmental officer along with supervisory staff
2	Environmental Officer	vacant	
3	Environmental Supervisor	vacant	

8.4 Construction Activities

Details of construction activities conducted during the reporting period are shown in Table 8.4.

Table 8.4: Construction Activities in RAR-02 Contract



Sr. No.	Work Site	Details of Works	Remarks
1	K13+090 to K13+400	Excavation and Blasting	In progress
2	K20+590	Cableway foundation concrete	In progress
3	Seer Gayal & Kandia	Access Road working	In progress

8.5 Construction Supervision and Environmental Compliances

8.5.1 Site Inspections and WTEIRs

Site visits to the construction areas are conducted daily by the environmental staff to supervise environmental compliance of the construction activities and complete daily monitoring checklists. In addition, walk-through environmental inspections have been conducted at all work sites regularly by the senior environmental staff of DHC and PMU to identify any environmental issues and non-compliance. The issues identified at the construction sites are communicated with the Contractor through Walk-Through Environmental Inspection Reports (WTEIRs). The Contractor has also been instructed to address these issues within a suggested timeframe. The Contractor has rectified these mistakes and submitted the report with the actions taken. The WTEIRs, consisting of both non-compliances and rectifications, are given in the following tables.

Table 8.5: Walk-Through Inspection Report No. 5

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Completion Date
5.1	27-07-2022 RAR-02	Heavy dust because of spoil disposal down the slope of right bank of Indus river.		Contractor is instructed to haul the excavated material to dumping site and do not roll down in Indus river which cause of generating dust. The dumper are reachable to working face need to perform haulage of excavated material.	Immediate		

			 <p style="text-align: right;">Jul 27, 2022 9:49:17 AM 34° NE Index number: 2226</p>				
5.2	27-07-2022 RAR-02	Oil Spillage	 <p style="text-align: right;">Jul 27, 2022 9:44:56 AM 349° N Index number: 2222</p>	<p>Contractor is instructed to replace the contaminated soil with clean and fresh soil on immediate basis. Use spill kits (if needed), for oil spill on the site.</p>			







<p>5.3</p>	<p>27-07-2022 RAR-02</p>	<p>Poor Housekeeping</p>		<p>The contractor is instructed to maintain good housekeeping practices at all the construction sites.</p>			
							



Table 8.6: Walk-Through Inspection Report No. 6

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Completion Date
06.1	09-09-2022 RAR-02	No water sprinkling		<p>The site is dry d dusty no water sprinkling is observed at site. Contractor is instructed to ensure water sprinkling at site.</p>	Immediate		11-09-2022

06.2	09-09-2022 RAR-02	Spillage of oil		Contractor is instructed to replace the contaminated soil with clean and fresh soil. If needed then use spill kits for oil spill on the site.	Immediate		11-09-2022
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Table 8.7: Walk-Through Inspection Report No. 7

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Completion Date
07.1	15-9-2022 Kandia Bypass	Oil spill		The contractor is instructed to remove the contaminated soil from the site by replacing it with clean and fresh soil and dispose off as per SOP's Provided in the ECP's.	Immediate		20-09-2022

07.2	15-9-2022 Kandia bypass.	Heavy dust from drill machine		The contractor is instructed to ensure water sprinkling overcome fugitive dust or use drilling Jumbo with water input so that there is no drill dust.	Immediate		20-09-2022
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<p>07.3</p>	<p>15-9-2022 Kandia bypass.</p>	<p>Warning sign</p>		<p>The contractor is instructed to display the warning sign and warning board to aware the workers and public that what happen at the site.</p>			<p>20-09-2022</p>
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Table 8.8: Walk-Through Inspection Report No. 8

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor
8.1	23-09-2022 kandia bypass and Gayal road	littering		The contractor is instructed to place waste bins at the site and educate the workers to use the bins and follow 3R principal	immediate	

8.5.2 Notices and Letters

No notices or letters were issued to the contractor except the WTEIRs during the reporting quarter.

8.5.3 Quarterly Monitoring of Air, Noise, Water and Wastewater

The Contractor has not conducted 24-hour monitoring of air, and noise quality during the quarter.

8.6 Contractor's Effect Monitoring

The monitoring requirements of the Contractor as per the bidding documents are given in the following table. The Engineer's observation of the monitoring status is also given in the last column of this table.

Table 8.9: Status of Contractor's Effect Monitoring

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
1	Landslides	37 identified landslide prone areas in EIA	Visual Inspection on stability of landslides	Fortnightly	Fortnight visual inspection was conducted, and no landslide was observed.
2	Erosion	Earthwork areas and material storage sites	Visual inspection of erosion prevention measures and occurrence of erosion	Monthly	Monitored visually. No incident was recorded during the quarter.
3	Surface water quality	In the rivers and tributaries at the downstream of the construction sites. The locations of sampling can be same locations of baseline water quality or new locations recommended by the CSC.	Sampling and analysis of river water quality and wastewater discharges for the key parameters given in NEQS (river water quality – DO, BOD, COD, Temperature, pH, Conductivity, TSS, turbidity, nitrate, Wastewater – BOD, TSS, turbidity, TDS, COD, grease and oil, iron, ammonia, sulfates, chlorides)	Quarterly	No Quarterly Environmental monitoring was conducted during the quarter.
4	Air Quality (dust, smoke)	Construction sites, quarry areas along KKH and blasting areas	Visual inspection to ensure good standard equipment is in use and dust suppression measures (spraying of waters) are in place.	Weekly	Weekly visual inspection was conducted during the quarter. Contractor was instructed to ensure water sprinkling.
5	Air Quality (PM ₁₀ , NO ₂ , SO ₂ , CO ₂ , CO)	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC.	Air quality monitoring for 24 hours for the parameters specified in NEQS 2000	Quarterly	No Quarterly Environmental monitoring was conducted during the quarter.
6	Emissions from plant and equipment	At all the construction sites for dam, KKH and tunnels	Visual Inspection	Monthly	Regular visual inspections were carried out during the quarter and no issue was observed.
7	Noise and vibration	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling	24-hour noise monitoring	Quarterly	No Quarterly Environmental monitoring was conducted during the quarter.

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
		can be same locations of baseline air quality or new locations recommended by the CSC			
8	Waste Management	At the designated rock disposal area	Visual inspection on spoil disposal in accordance with EMP Sub plan on Waste Management	Monthly	Spoil is being dumped along the slope of designated spoil dump area.
9	Construction camps and construction management		Visual inspection that solid waste is disposed of at designated site	Monthly	Regular monitoring was carried out. The Contractor is temporarily storing the waste at the camp.
10	Spills from Hydrocarbon	Material storage sites and construction yards	Visual Inspection for leaks and spills	Monthly	Monthly visual inspection observation regarding the spills was reported to the contractor for rectification.
11	Traffic Safety	Along KKH and access roads to the construction areas	Visual inspection to see whether Traffic Management Plan (EMP Sub Plan 12) is implemented	Monthly	Supervised by OHS
12	Local Roads	Approach Roads	Visual inspection to ensure local roads are not damaged	Monthly	Regular monitoring was carried out and no damage was observed to the local roads
13	Cultural and archeological Sites	At the physical and cultural resources identified in the EIA	Visual observation on implementation of EMP Sub Plan 13 on Physical Cultural Resources Management	Monthly	The contractor kept in consideration this aspect during the excavation activities. There was no archeological site present in the current construction area.
14	Drinking water and sanitation	In construction sites and construction camps	Ensure the construction workers are provided with safe water and sanitation facilities on the site	Weekly	Monitored. The contractor provided water coolers to the workers at the sites.

8.7 Key Performance Indicators

The key performance indicators identified in the ESA9 of DHP to mitigate the environmental impacts and risks during construction can be summarized into five categories, as shown in the following table.

Table 8.10: Key Performance Indicators for compliance with mitigation measures

Sr. No	Key Performance Indicator	Description of the Indicator
1	Number of any non-compliance reports	The number of non-compliances noticed and reported to the Contractor.
2	Number of public complaints or grievances	The number of complaints or grievances received from the communities on the construction-related nuisances such as traffic, dust, noise and vibration, or any other construction-related activities
3	Number of accidents/incidents	The number of accidents or incidents, or near misses involving construction activities and construction vehicles

⁹ See Table 9.2: Mitigation Plan for Construction Stage of ESA of Dasu Hydropower Project

Sr. No	Key Performance Indicator	Description of the Indicator
4	Number of exceeding values against NEQS	The number of parameters in ambient air and noise quality, drinking water, wastewater discharges and surface waters found beyond the national standards.
5.	Other Indicators	Any other indicators that are not covered in the above categories are given in 'other indicators.' This includes the number of times chance finds are noticed, the number of trainings conducted, etc.

A detailed assessment of the status of compliance with the performance indicators and their status during the reporting period is given in the following table. Any indicators related to OHS and social aspects are covered in the relevant reports, not in this report.

Table 8.11: Key Performance Indicators and their Status during the reporting period

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
1. Design/Pre-Construction Stage							Not relevant
2. Contractor Mobilisation and Demobilisation	3.1 Traffic Management	Nil					
	3.2 Soil Erosion and Contamination	Nil	3				3 occurrence of Minor oil spill reported through WTEIR for rectification
	3.3 Air Quality	Nil					
	3.4 Noise	Nil					
	3.5 Public Safety	Nil					
	3.6 Damage to Infrastructure	Nil					
3. Contractor's Camp	4.1 Soil and Water Contamination	Nil					
	4.2 Air Quality						
	4.3 Vegetation loss	Nil				Number of trees felled: 0	
	4.4 Noise	Nil					
	4.5 Health and Safety	Nil					Covered under OHS Report
	4.6 Social and Gender Issues	Nil					Covered under social report
	4.7 Damage to PCRs	Nil				Number of chance finds: 0	
	4.8 Increased load on local services	Nil					Covered under social report
4. Transportation of Equipment	5.1 Traffic Management	Nil					
	5.2 Soil Erosion and Contamination	Nil					
	5.3 Air Quality		3				3 occurrence of dust reported through WTEIR which was rectified
	5.4 Noise	Nil					
	5.5 Public Safety	Nil				Number of trainings provided:	

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
	5.6 Damage to infrastructure	Nil					
5. Spoil Area Management	5.1 Changes to topography 5.2 Landslide 5.3 Soil erosion 5.4 Air Quality 5.5 Landscape and Visual Intrusion 5.6 Vegetation loss	Nil					
6. Waste Management	6.1 Soil and water contamination 6.2 Odor		1				2 times Soil contamination issues were reported through the WTEIR and rectified by the contractor later on

8.8 Overall Compliance Status – Tri-Partite Monthly Meetings

Monthly meetings were held with the Contractor by the Engineer and PMU to discuss pending environmental non-compliance and the actions taken by the Contractor to address these issues. The minutes of these meetings are shown in the Annex-1. The major environmental issues discussed during the meeting were:

- Hiring of environmental officer
- Submission of monthly MPR
- Oil Spillage
- Suppression of dust
- Proper haulage of spoil
- Use of Wood as Fuel for Cooking & Heating

9 KKH-02 Contract

9.1 Overview of Contracts

A brief overview of the KKH-02 contract is given in Table 9.1. The KKH-02 contract work is related to the construction of construction of relocated road that is starting from Kaigah 25 RD up to Lachi Nullah.

Table 9.1: Overview of KKH-02 Contract

Sr. No.	Item	Data
1	Contract Number	ICB No. Dasu- KKH-02
2	Contract Name	Construction of Relocated KKH-02 (K24 to K61)
3	Contractor	China Gezhouba Group Co. Ltd. (CGGC)
4	Commencement Date	May 15, 2022
5	Contract Completion Date	May 12, 2024

9.2 Contractor Environmental Action Plan

The Contractor has submitted the Contractor Environmental Action Plan (CEAP) with the site-specific management plans to address the environmental impacts and risks of the construction activities. The plan was reviewed by the Engineer and the contractor was asked to revise the plan as per engineer comments. The revised report is not yet submitted. In addition, the Contractor has also prepared an Occupational Health and Safety Management Plan (OHSMP), and details of these plans are not covered in this report.

9.3 Contractor's Facilities and ESHS Staff

The facilities established by the Contractor, such as workers' camps and construction yards, are given in Table 9.2. The Environmental Social Health and Safety (ESHS) Staff of the Contractor are given in Table 9.3.

Table 9.2: Contractor's Facilities

Sr. No.	Facility	Location	Details	Remarks
A.	Worker's Camps (Kaigah)			
1	Chinese Workers Camp	Kaigah	About 42 workers in this camp	
2	Pakistan Workers Camps	Kaigah	About 105 workers in this camp	
B.	Crushing/Batching Plants	Nil		
1	Crushing Plant	Nil		
2	Batching plant	Nil		
C.	Other Facilities			
1	Construction Yard	Nil		
2	Explosive magazine	Barseen	20 ton capacity	

Table 9.3: Contractor's ESHS Staff

Sr. No.	Position	KKH-02 Contract	Remarks
1	Manager EHS	Usman Iftikhar	Contractor has been instructed to engage environmental officer along with supervisory staff
2	Environmental Officer	Vacant	Contractor has been instructed to engage environmental officer along with supervisory staff
3	Environmental Supervisor	Vacant	Contractor has been instructed to engage environmental officer along with supervisory staff

9.4 Construction Activities

Details of construction activities conducted during the reporting period are shown in Table 9.4.

Table 9.4: Construction Activities in KKH-02 Contract


Sr. No.	Work Site	Details of Works	Remarks
1	K28 Kaigah, K31 and K34 Panibah Access Road	Excavation and Blasting	In progress
2	K28+450 to K28+800, K31+000 to K31+250 and K33+520 to K34+510	Excavation for ROW	In progress


9.5 Construction Supervision and Environmental Compliances


9.5.1 Site Inspections and WTEIRs

Site visits to the construction areas are conducted daily by the environmental staff to supervise environmental compliance of the construction activities and complete daily monitoring checklists. In addition, walk-through environmental inspections have been conducted at all work sites regularly by the senior environmental staff of DHC and PMU to identify any environmental issues and non-compliance. The issues identified at the construction sites are communicated with the Contractor through Walk-Through Environmental Inspection Reports (WTEIRs). The Contractor has also been instructed to address these issues within a suggested timeframe. The Contractor has rectified these mistakes and submitted the report with the actions taken. The WTEIRs, consisting of both non-compliances and rectifications, are given in the following tables.

Table 9.5: Walk-Through Inspection Report No. 3



Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Completion Date
3.1	16-07-2022 KKH-02	Oil Spillage		Contractor is instructed to replace the contaminated soil with fresh soil and dispose of the contaminated soil as per SOPs.	Immediate		



<p>3.2</p>	<p>16-7-22 KKH-02</p>	<p>Poor Housekeeping</p>		<p>The contractor is instructed to maintain good housekeeping practices at all the construction sites as per SOPs.</p>	<p>Immediate</p>		
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<p>3.3</p>	<p>16-07-2022 KKH-02</p>	<p>Heavy dust</p>		<p>The contractor is instructed to undertake water sprinkling activity with immediate effect. At Panibah KKH-02 site. The water sprinkling activity should be done at least four time a day. As instructed during Monthly meetings as well.</p>			
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<p>3.4</p>	<p>16-07-2022 KKH-02</p>	<p>Excavation of spoil downwards to Indus river and at main KKH</p>	 <p>Jul 16, 2022 3:13:12 PM 337° NW Index number: 1895</p> <p>Jul 16, 2022 3:09:56 PM 1° N Index number: 1890</p>	<p>The contractor is instructed to immediate halt rolling down the Excavated materials which should be hauled to designated spoil dumping site rather than thrown down the slope to Indus river and onto the KKH.</p>			
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Table 9.6: Walk-Through Inspection Report No. 4

Sr. No	Date and Location of Inspection	EHS observations	Picture	Instructions to the Contractor	Timeline	Action Taken by the Contractor	Completion Date
	12-09-2022 KKH-02	Dust		Contractor is instructed to Sprinkling on the site should done daily to overcome air pollution . Increase the frequency of the sprinkling	 <p data-bbox="1395 994 1720 1294">During the visit of the inspector, water was not available at our camp due to the damage to pipelines by the flash flood. Despite the above problem, we brought the water from far away and sprinkled the water over the site thrice a day to overcome the air pollution on site.</p>		15-09-2022

	<p>12-09-2022 KKH-02</p>	<p>Excavated spoil is rolled downwards into Indus river</p>		<p>Contactor is instructed to Stop excavated material being rolling down the slope and make sure haulage of spoil which is thrown down the slope</p>	 <p>During the excavation, some of the excavated materials roll down the slope unintentionally. Actually the excavated materials loaded on the dumpers and dumping in designated area. The rolled down materials could not enter in to the river as there more distance between the river edge and deposited area.</p>		
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<p>12-09-2022 KKH-02</p>	<p>No warning sign</p>		<p>Contactor is instructed to install warning sign at the construction site to avoid any unusual situation. Install warning board to aware the staff, workers and public that the site is under progress or not.</p>	 <p>To be protected from any danger and unusual situation, the warning signages are fixed on both sides of the working area as per the DHC inspector's direction. The warning board is not available at the moment and we already placed the order. It would be reached within fifteen days.</p>		
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9.5.2 Notices and Letters

No notices or letters were issued to the contractor except the WTEIRs during the reporting quarter.

9.5.3 Quarterly Monitoring of Air, Noise, Water and Wastewater

The Contractor has not conducted 24-hour monitoring of air, and noise quality during the quarter.

9.6 Contractor's Effect Monitoring

The monitoring requirements of the Contractor as per the bidding documents are given in the following table. The Engineer's observation of the monitoring status is also given in the last column of this table.

Table 9.7: Status of Contractor's Effect Monitoring

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
1	Landslides	37 identified landslide prone areas in EIA	Visual Inspection on stability of landslides	Fortnightly	NA at the moment in the areas of construction.
2	Erosion	Earthwork areas and material storage sites	Visual inspection of erosion prevention measures and occurrence of erosion	Monthly	Monitored visually. No incident was recorded during the quarter.
3	Surface water quality	In the rivers and tributaries at the downstream of the construction sites. The locations of sampling can be same locations of baseline water quality or new locations recommended by the CSC.	Sampling and analysis of river water quality and wastewater discharges for the key parameters given in NEQS (river water quality – DO, BOD, COD, Temperature, pH, Conductivity, TSS, turbidity, nitrate, Wastewater – BOD, TSS, turbidity, TDS, COD, grease and oil, iron, ammonia, sulfates, chlorides)	Quarterly	No Quarterly Environmental monitoring was conducted during the quarter.
4	Air Quality (dust, smoke)	Construction sites, quarry areas along KKH and blasting areas	Visual inspection to ensure good standard equipment is in use and dust suppression measures (spraying of waters) are in place.	Weekly	Regular visual inspections were carried out during the quarter. The contractor was instructed to ensure water sprinkling
5	Air Quality (PM ₁₀ , NO ₂ , SO ₂ , CO ₂ , CO)	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC.	Air quality monitoring for 24 hours for the parameters specified in NEQS 2000	Quarterly	No Quarterly Environmental monitoring was conducted during the quarter.
6	Emissions from plant and equipment	At all the construction sites for dam, KKH and tunnels	Visual Inspection	Monthly	Regular visual inspections were carried out during the quarter and no issue was observed.
7	Noise and vibration	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC	24-hour noise monitoring	Quarterly	No Quarterly Environmental monitoring was conducted during the quarter.
8	Waste Management	At the designated rock disposal area	Visual inspection on spoil disposal in accordance	Monthly	Spoil is being dumped at the designated spoil disposal sites

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
			with EMP Sub plan on Waste Management		along KKH, If not then WTEIR was issued for non compliance
9	Construction camps and construction management		Visual inspection that solid waste is disposed of at designated site	Monthly	Regular monitoring was carried out. The Contractor is temporarily storing the waste at the camp. The reusable and recyclables are temporarily stored at the site for onward sending to local trash vendor.
10	Spills from Hydrocarbon	Material storage sites and construction yards	Visual Inspection for leaks and spills	Monthly	Regular monitoring was carried out. The non-compliances are reported to the contractor in the WTEIRs for rectification.
11	Traffic Safety	Along KKH and access roads to the construction areas	Visual inspection to see whether Traffic Management Plan (EMP Sub Plan 12) is implemented	Monthly	Supervised by OHS
12	Local Roads	Approach Roads	Visual inspection to ensure local roads are not damaged	Monthly	Regular monitoring was carried out and no damage was observed to the local roads
13	Cultural and archeological Sites	At the physical and cultural resources identified in the EIA	Visual observation on implementation of EMP Sub Plan 13 on Physical Cultural Resources Management	Monthly	The contractor kept in consideration this aspect during the excavation activities. There was no archeological site present in the current construction area.
14	Drinking water and sanitation	In construction sites and construction camps	Ensure the construction workers are provided with safe water and sanitation facilities on the site	Weekly	Monitored. The contractor provided water coolers to the workers at the sites.

9.7 Key Performance Indicators

The key performance indicators identified in the ESA10 of DHP to mitigate the environmental impacts and risks during construction can be summarized into five categories, as shown in the following table.

Table 9.8: Key Performance Indicators for compliance with mitigation measures

Sr. No	Key Performance Indicator	Description of the Indicator
1	Number of any non-compliance reports	The number of non-compliances noticed and reported to the Contractor.
2	Number of public complaints or grievances	The number of complaints or grievances received from the communities on the construction-related nuisances such as traffic, dust, noise and vibration, or any other construction-related activities
3	Number of accidents/incidents	The number of accidents or incidents, or near misses involving construction activities and construction vehicles
4	Number of exceeding values against NEQS	The number of parameters in ambient air and noise quality, drinking water, wastewater discharges and surface waters found beyond the national standards.
5.	Other Indicators	Any other indicators that are not covered in the above categories are given in 'other indicators.' This includes the number of times chance finds are noticed, the number of trainings conducted, etc.

A detailed assessment of the status of compliance with the performance indicators and their status during the reporting period is given in the following table. Any indicators related to OHS and social aspects are covered in the relevant reports, not in this report.

¹⁰ See Table 9.2: Mitigation Plan for Construction Stage of ESA of Dasu Hydropower Project

Table 9.9: Key Performance Indicators and their Status during the reporting period

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
1. Design/Pre-Construction Stage							Not relevant
2. Contractor Mobilisation and Demobilisation	3.1 Traffic Management	Nil					
	3.2 Soil Erosion and Contamination	Nil					
	3.3 Air Quality	Nil					
	3.4 Noise	Nil					
	3.5 Public Safety	Nil					
	3.6 Damage to Infrastructure	Nil					
3. Contractor's Camp	4.1 Soil and Water Contamination	Nil					
	4.2 Air Quality	Nil					
	4.3 Vegetation loss	Nil					
	4.4 Noise	Nil					
	4.5 Health and Safety	Nil					Covered under OHS Report
	4.6 Social and Gender Issues	Nil					Covered under social report
	4.7 Damage to PCRs	Nil				Number of chance finds: 0	
	4.8 Increased load on local services	Nil					Covered under social report
4. Transportation of Equipment	5.1 Traffic Management	Nil					
	5.2 Soil Erosion and Contamination	Nil					
	5.3 Air Quality	Nil					
	5.4 Noise	Nil					
	5.5 Public Safety	Nil				Number of trainings provided:	
	5.6 Damage to infrastructure	Nil					
5. Spoil Area Management	9.1 Changes to topography	Nil	2				2 incidences were reported to contractor through
	9.2 Landslide						
	9.3 Soil erosion						
	9.4 Air Quality						

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
	9.5 Landscape and Visual Intrusion 9.6 Vegetation loss						WTEIRs for rectification
6. Waste Management	12.1 Soil and water contamination 12.2 Odor						1 occurrence of soil contamination reported through WTEIR
7. KKH-2 Construction	7.1 Changes to topography						
	7.2 Landslides	Nil					
	7.3 Soil erosion						
	7.4 Soil and water contamination	Nil	1				1 incidence of minor oil spill were reported to contractor through WTEIRs for rectification
	7.5 Air Quality	Nil	2				2 Incidences reported to contractor through WTEIRs for rectification
	7.6 Health and Safety						Covered under OHS
	7.7 Noise and Vibration	Nil					
	7.8 Landscape and Visual Intrusion	Nil					
	7.9 Vegetation loss	Nil					
	7.10 Fauna / Wildlife	Nil					Not reported during the quarter
	7.11 Mortality of Fish	Nil					Not reported during the quarter

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
	7.12 Damage to infrastructure	Nil					Not reported during the quarter
	7.13 Damage to PCRs	Nil					Not reported during the quarter
	7.14 Disturbance of Visual Landscape and Natural Habitats	Nil					Nil
	7.15 Social conflict due to the Influx of Workers and In-migrants						Covered under Social report
	7.16 Conflicts due to culturally inappropriate behaviors by the workers						Covered under Social report
	7.17 Adverse Effects on Health Situation						
	7.18 Increased Load on Local Services and Supplies						

9.8 Overall Compliance Status – Tri-Partite Monthly Meetings

Monthly meetings were held with the Contractor by the Engineer and PMU to discuss pending environmental non-compliance and the actions taken by the Contractor to address these issues. The minutes of these meetings are shown in the Annex-1. The major environmental issues discussed during the meeting were:

- Hiring of dedicated Environmental Officer
- Submission of monthly environmental progress report
- Submission of revised CEAP
- Dust suppression measures
- Haulage of spoil material to designated spoil disposal sites

10 Electromechanical Works (EM-01)

10.1 Overview of Contracts

A brief overview of the EM-01 contract is given in Table 10.1. The EM-01 contract work is related to the electromechanical works.

Table 10.1: Overview of EM-01 Contract

Sr. No.	Item	Data
1	Contract Number	ICB No. Dasu- EM-01
2	Contract Name	Electromechanical Works EM-01
3	Contractor	JV Power China & Zhongnan Engineering Corporation limited
4	Commencement Date	May 20, 2020
5	Contract Completion Date	June 19, 2025

10.2 Contractor Environmental Action Plan

The Contractor has submitted a draft Contractor Environmental Action Plan (CEAP) with the site-specific management plans to address the environmental impacts and risks of the construction activities. The plan was reviewed by the Engineer and the contractor was asked to revise the plan as per engineer comments. The revised report is not yet submitted.

10.3 Contractor's Facilities and ESHS Staff

The facilities established by the Contractor, such as workers' camps and construction yards, are given in Table 10.2. The Environmental Social Health and Safety (ESHS) Staff of the Contractor are given in Table 10.3.

Table 10.1: Contractor's Facilities

Sr. No.	Facility	Location	Details	Remarks
A.	Worker's Camps (Kas)			Under construction at Kas. While the staff is living in a rented building at Dasu
1	Chinese Workers Camp	Dasu	About 2 workers in this camp	
2	Pakistan Workers Camp	Dasu	About 5 workers in this camp	
B.	Crushing/Batching Plants	Nil		
1	Crushing Plant	Nil		
2	Batching plant	Nil		
C.	Other Facilities			
1	Construction Yard	Nil		
2	Explosive magazine	Nil		

Table 10.3: Contractor's ESHS Staff

Sr. No.	Position	KKH-02 Contract	Remarks
1	Manager EHS	Vacant	Contractor has been instructed to engage environmental officer along with supervisory staff
2	Environmental Officer	Vacant	
3	Environmental Supervisor	Vacant	

10.4 Construction Activities

Details of construction activities conducted during the reporting period are shown in Table 10.4.

Table 10.2: Construction Activities in EM-01 Contract

Sr. No.	Work Site	Details of Works	Remarks
1	Kass	Excavation and levelling	In progress

10.5 Construction Supervision and Environmental Compliances

10.5.1 Site Inspections and WTEIRs

Site visits to the construction areas are conducted daily by the environmental staff to supervise environmental compliance of the construction activities and complete daily monitoring checklists. In addition, walk-through environmental inspections have been conducted at all work sites regularly by the senior environmental staff of DHC and PMU to identify any environmental issues and non-compliance. The issues identified at the construction sites are communicated with the Contractor through Walk-Through Environmental Inspection Reports (WTEIRs). Currently the work has just been started at site, so observation were observed during the quarter..

10.5.2 Notices and Letters

No notices or letters were issued to the contractor during the reporting quarter.

10.5.3 Quarterly Monitoring of Air, Noise, Water and Wastewater

The Contractor has not conducted 24-hour monitoring of air, and noise quality during the quarter.

10.6 Contractor's Effect Monitoring

The monitoring requirements of the Contractor as per the bidding documents are given in the following table. The Engineer's observation of the monitoring status is also given in the last column of this table.

Table 10.5: Status of Contractor's Effect Monitoring

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
1	Landslides	37 identified landslide prone areas in EIA	Visual Inspection on stability of landslides	Fortnightly	NA
2	Erosion	Earthwork areas and material storage sites	Visual inspection of erosion prevention measures and occurrence of erosion	Monthly	Monitored visually. No incident was recorded during the quarter.
3	Surface water quality	In the rivers and tributaries at the downstream of the construction sites. The locations of sampling can be same locations of baseline water quality or new locations recommended by the CSC.	Sampling and analysis of river water quality and wastewater discharges for the key parameters given in NEQS (river water quality – DO, BOD, COD, Temperature, pH, Conductivity, TSS, turbidity, nitrate, Wastewater – BOD, TSS, turbidity, TDS, COD, grease and oil, iron, ammonia, sulfates, chlorides)	Quarterly	No Quarterly Environmental monitoring was conducted during the quarter.
4	Air Quality (dust, smoke)	Construction sites, quarry areas along KKH and blasting areas	Visual inspection to ensure good standard equipment is in use and dust suppression measures (spraying of waters) are in place.	Weekly	Regular visual inspections were carried out during the quarter. The contractor was instructed to ensure water sprinkling

Sr. No.	Parameter	Location	Means Monitoring	Frequency	Status
5	Air Quality (PM ₁₀ , NO ₂ , SO ₂ , CO ₂ , CO)	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC.	Air quality monitoring for 24 hours for the parameters specified in NEQS 2000	Quarterly	No Quarterly Environmental monitoring was conducted during the quarter.
6	Emissions from plant and equipment	At all the construction sites for dam, KKH and tunnels	Visual Inspection	Monthly	Regular visual inspections were carried out during the quarter and no issue was observed.
7	Noise and vibration	Near the sensitive sites and settlements at the close to the construction works and along KKH. The locations of sampling can be same locations of baseline air quality or new locations recommended by the CSC	24-hour noise monitoring	Quarterly	No Quarterly Environmental monitoring was conducted during the quarter.
8	Waste Management	At the designated rock disposal area	Visual inspection on spoil disposal in accordance with EMP Sub plan on Waste Management	Monthly	No spoil is generated during the activities at site. However, the spoil disposed by RAR-01 at Kas was used in levelling of the underconstruction camp.
9	Construction camps and construction management		Visual inspection that solid waste is disposed of at designated site	Monthly	Under-construction
10	Spills from Hydrocarbon	Material storage sites and construction yards	Visual Inspection for leaks and spills	Monthly	Regular monitoring was carried out. No incident observed
11	Traffic Safety	Along KKH and access roads to the construction areas	Visual inspection to see whether Traffic Management Plan (EMP Sub Plan 12) is implemented	Monthly	Supervised by OHS
12	Local Roads	Approach Roads	Visual inspection to ensure local roads are not damaged	Monthly	Regular monitoring was carried out and no damage was observed to the local roads
13	Cultural and archeological Sites	At the physical and cultural resources identified in the EIA	Visual observation on implementation of EMP Sub Plan 13 on Physical Cultural Resources Management	Monthly	The contractor kept in consideration this aspect during the excavation activities. There was no archeological site present in the current construction area.
14	Drinking water and sanitation	In construction sites and construction camps	Ensure the construction workers are provided with safe water and sanitation facilities on the site	Weekly	Monitored. The contractor provided water coolers to the workers at the sites.

10.7 Key Performance Indicators

The key performance indicators identified in the ESA11 of DHP to mitigate the environmental impacts and risks during construction can be summarized into five categories, as shown in the following table.

Table 10.6: Key Performance Indicators for compliance with mitigation measures

Sr. No	Key Performance Indicator	Description of the Indicator
1	Number of any non-compliance reports	The number of non-compliances noticed and reported to the Contractor.
2	Number of public complaints or grievances	The number of complaints or grievances received from the communities on the construction-related nuisances such as traffic, dust, noise and vibration, or any other construction-related activities
3	Number of accidents/incidents	The number of accidents or incidents, or near misses involving construction activities and construction vehicles
4	Number of exceeding values against NEQS	The number of parameters in ambient air and noise quality, drinking water, wastewater discharges and surface waters found beyond the national standards.
5.	Other Indicators	Any other indicators that are not covered in the above categories are given in 'other indicators.' This includes the number of times chance finds are noticed, the number of trainings conducted, etc.

A detailed assessment of the status of compliance with the performance indicators and their status during the reporting period is given in the following table. Any indicators related to OHS and social aspects are covered in the relevant reports, not in this report.

¹¹ See Table 9.2: Mitigation Plan for Construction Stage of ESA of Dasu Hydropower Project

Table 10.7: Key Performance Indicators and their Status during the reporting period

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
1. Design/Pre-Construction Stage							Not relevant
2. Contractor Mobilisation and Demobilisation	3.1 Traffic Management	Nil					
	3.2 Soil Erosion and Contamination	Nil					
	3.3 Air Quality	Nil					
	3.4 Noise	Nil					
	3.5 Public Safety	Nil					
	3.6 Damage to Infrastructure	Nil					
3. Contractor's Camp	4.1 Soil and Water Contamination	Nil					
	4.2 Air Quality	Nil					
	4.3 Vegetation loss	Nil					
	4.4 Noise	Nil					
	4.5 Health and Safety	Nil					Covered under OHS Report
	4.6 Social and Gender Issues	Nil					Covered under social report
	4.7 Damage to PCRs	Nil				Number of chance finds: 0	
	4.8 Increased load on local services	Nil					Covered under social report
4. Transportation of Equipment	5.1 Traffic Management	Nil					
	5.2 Soil Erosion and Contamination	Nil					
	5.3 Air Quality	Nil					
	5.4 Noise	Nil					
	5.5 Public Safety	Nil				Number of trainings provided:	
	5.6 Damage to infrastructure	Nil					
5. Spoil Area Management	9.1 Changes to topography	Nil					
	9.2 Landslide						
	9.3 Soil erosion						
	9.4 Air Quality						
	9.5 Landscape and Visual Intrusion						

Activity	Environmental Impact/Issue	Number of any non-compliance reports	Number of related incidents	Number of related grievances	Exceeding values against NEQS (air, noise, water, etc.)	Other Indicators	Remarks
	9.6 Vegetation loss						
6. Waste Management	12.1 Soil and water contamination 12.2 Odor						
7. KKH-2 Construction	7.1 Changes to topography						
	7.2 Landslides	Nil					
	7.3 Soil erosion						
	7.4 Soil and water contamination	Nil					
	7.5 Air Quality	Nil					
	7.6 Health and Safety						Covered under OHS
	7.7 Noise and Vibration	Nil					
	7.8 Landscape and Visual Intrusion	Nil					
	7.9 Vegetation loss	Nil					
	7.10 Fauna / Wildlife	Nil					Not reported during the quarter
	7.11 Mortality of Fish	Nil					Not reported during the quarter
	7.12 Damage to infrastructure	Nil					Not reported during the quarter
	7.13 Damage to PCRs	Nil					Not reported during the quarter
	7.14 Disturbance of Visual Landscape and Natural Habitats	Nil					Nil
	7.15 Social conflict due to the Influx of Workers and In-migrants						Covered under Social report
	7.16 Conflicts due to culturally inappropriate behaviors by the workers						Covered under Social report
	7.17 Adverse Effects on Health Situation						
	7.18 Increased Load on Local Services and Supplies						

10.8 Overall Compliance Status – Tri-Partite Monthly Meetings

No monthly meetings have been conducted with the contractor during the quarter.

11 Other Environmental Activities

11.1 Solid Waste Disposal Site finalization at 24+100 RD of Relocated KKH-01

DHC Surveyed a potential solid waste disposal site at Kaigah along the realigned KKH. The landfill site criteria as per the IFC guidelines was checked and the site was promising as it was fulfilling most of the criteria. DHC Survey section was engaged to conduct its topographic survey which after completion was later handed over to DHC geology section to carry out its geological investigation. The potential site has an area of 34 Kanals approx. and can accommodate solid waste up to 7 years. The detailed environmental assessment was submitted to GM/PD Office of WAPDA on 5th of Aug 2022.

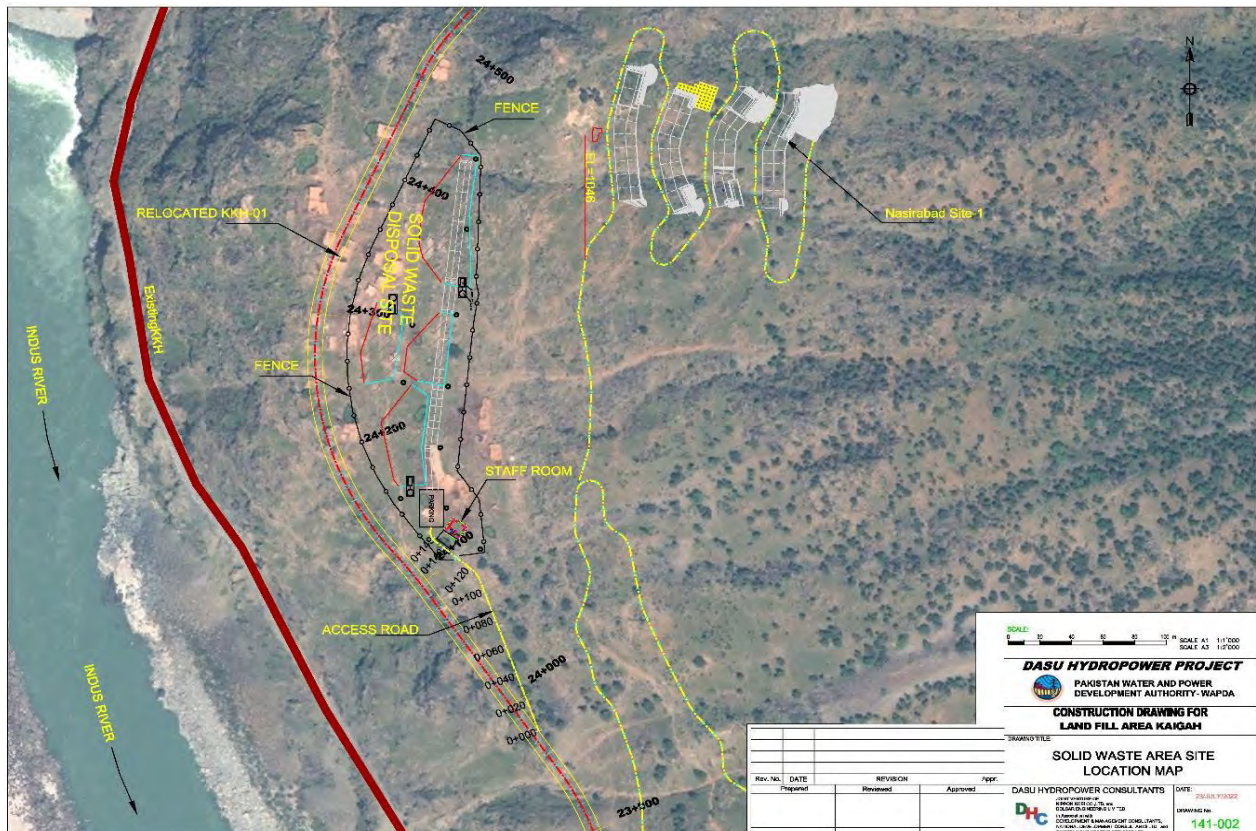


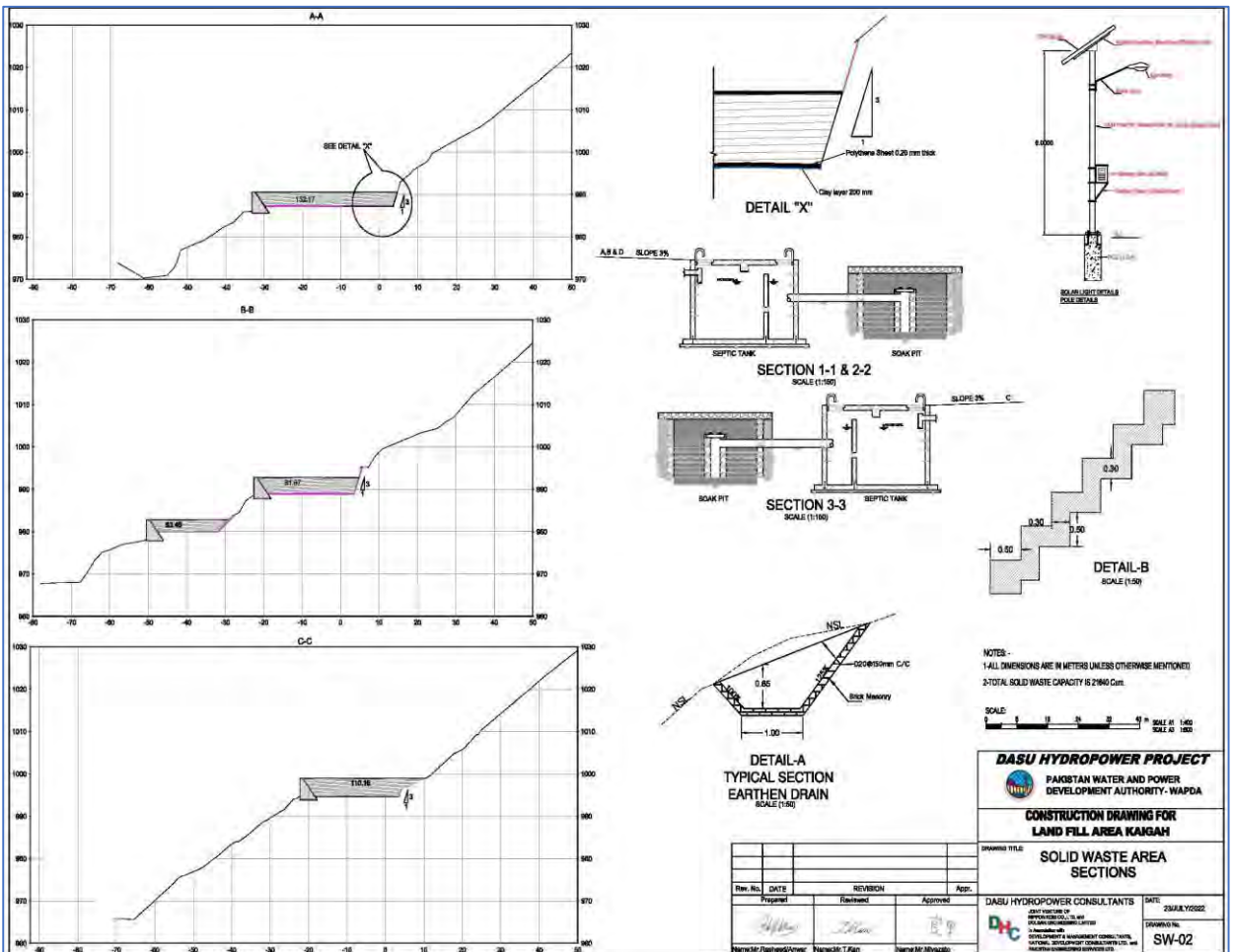
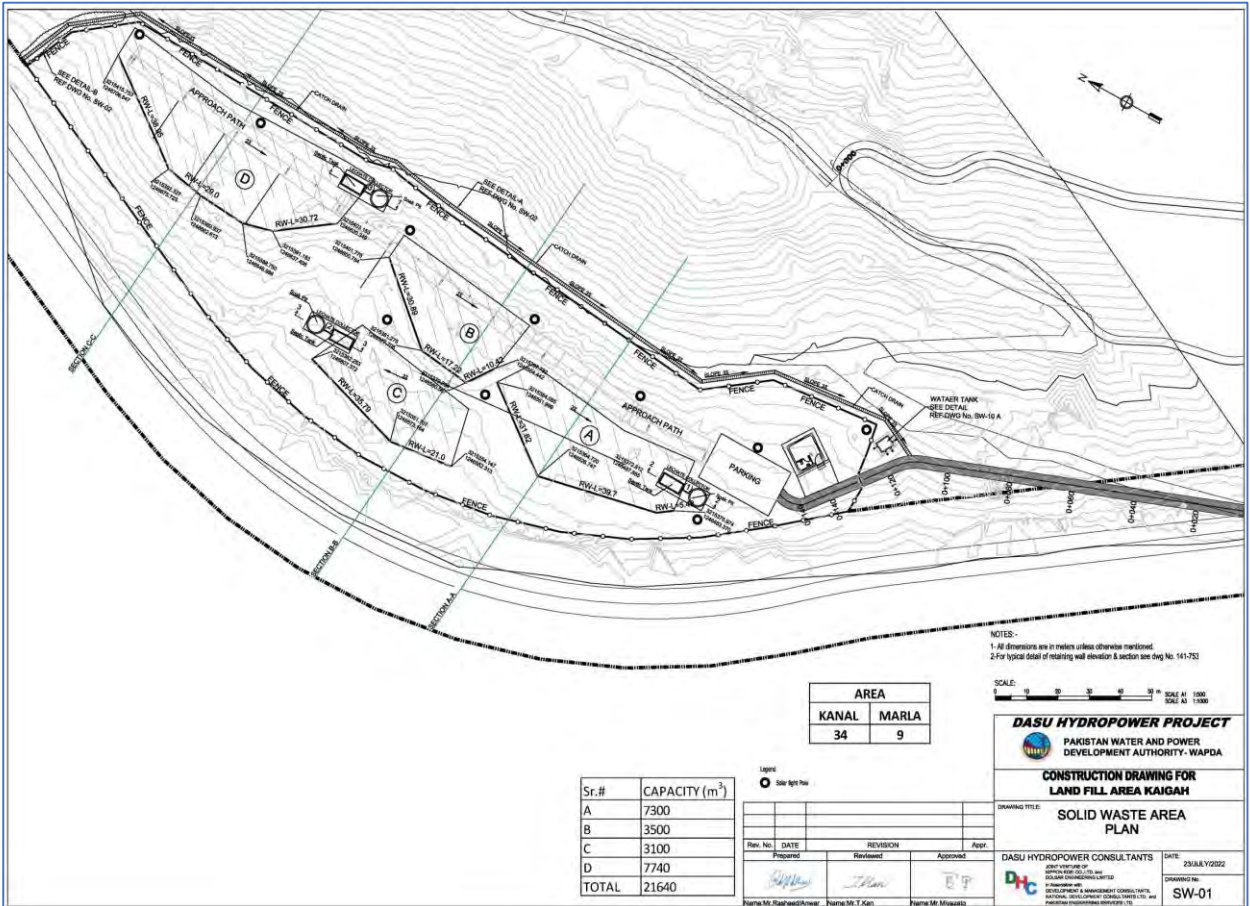
Figure 10.1: Proposed Solid Waste Disposal Site near Valley Kaigah

11.1.1 Infrastructure Design of Solid Waste Facility

The total area for development of solid waste facility was 34 kanals and 9 marlas after accommodating different structures like road and room for watchman, the area available for landfill site was 20 kanals. The length of the internal road was 415 m. Three ditches will be prepared to manage the solid waste. The total volume of waste that can be accommodated in the site is 21640 m³. The generation of organic waste was estimated at a rate of 0.3 & 0.4 kg per person per day in different years. This site can serve the disposal of solid waste for seven (7) years.

11.1.2 Recommendations

The site has been investigated in detail. The impacts on the environment, birds, wild animals, groundwater, noise, air quality, soil and rock at site and the accessibility reveal that there could be negligible significant impacts, which can be mitigated through implementation of DHP's environmental code of practices. With usual operational care, the site will be able to handle DHP's domestic solid waste. The site is recommended for acquisition and development. Subject to proper management, the site will accommodate bio degradable domestic solid waste of the Project for next seven (7) years.



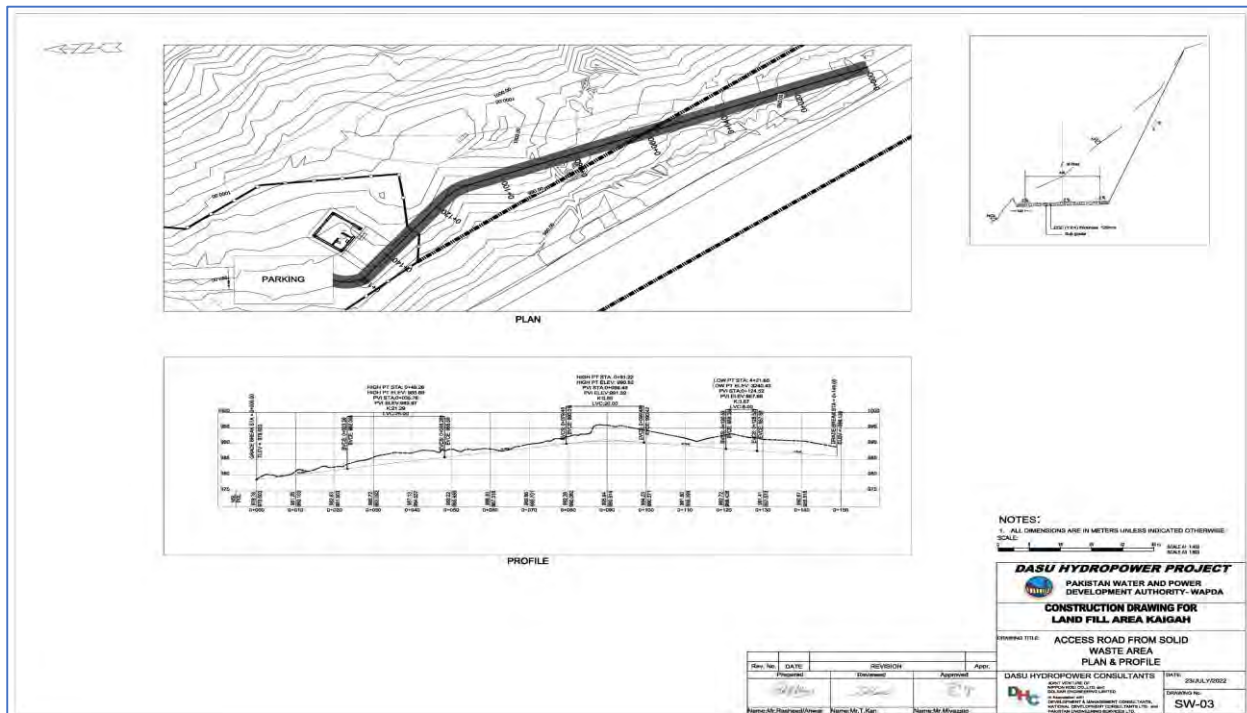


Figure 10.2: Proposed Design of Solid Waste Disposal Site near Valley Kaigah

11.2 Significant Meetings Held in Third Quarter of 2022

11.2.1 Meeting with Chairman WAPDA regarding DHPP Logistic arrangements

Environment team of DHC prepared presentation in consultation with DHC planning department regarding DHPP logistic arrangements and requirements. This was presented to Chairman WAPDA in Islamabad on 14th July 2022. NHA, NESPAK and Diamer Basha Dam management also participated in the meeting. NHA demanded that all safety measures that are planned under DHPP traffic management plan should be submitted with location map for approval. Similarly the requirement of layby area at Kuzabanda should also be submitted to NHA for onward processing. The list of heavy and oversized equipment under EM-01 contract supplied by the Contractor was submitted to WAPDA on 11 September 2022 for sharing with NHA.

11.2.2 Participation in Dasu - District Monitoring Committee meeting

The Environment team participated in the district monitoring committee meeting of upper Kohistan at Dasu on 28th July 2022 regarding Seo and Uchaar crusher plants NOC. All stakeholders were invited to the meeting which included representatives from KP EPA, Industries department, Mines and Mineral and Forest Department. A presentation was delivered by Col(ret'd) Abdul Ghaffar (Advisor to DHC management) regarding the crusher plants and informed that Seo crusher plant would be state of the art and modern plant which is unique to Pakistan and is fully covered to contain dust and noise. All the stakeholders put their queries before the committee which was replied by DHPP to their satisfaction.

Deputy Commissioner Upper Kohistan granted conditional NOC and requested the stakeholders to represent the case in their respective departments to grant their NOC. Minutes of meeting were shared with the stakeholders. Later a site visit was also conducted.

11.3 Meeting with World Bank (WB) Implementation Support Mission (ISM)

The World Bank Mission came to Dasu Hydropower Project in Aug from 10th – 13th of Aug 2022. The environment team of DHC prepared three presentations for the World Bank Team which are given as follows:

- (i) Presentation on DHPP Traffic management Plan; Aug 2022
- (ii) Presentation on EMAP for WB Mission; August 2022

11.3.1 WB Mission Details

There was a project brief progress review by the ISM on 10th of the Aug 2022. On 11th of August 2022, The World Bank team visited DHPP sites especially the underground work areas of MW-01, MW-02, Colony Area and Contractor Camps (affected by the affected by the Uchar Nullah Floods which came in the month of July 2022 and August 2022). Unfortunately, the environment team of “The World Bank” didn’t came to the site and there visit was postponed till Oct 2022. There was only one presentation held for the World Bank’s Transportation Specialist Mr. Bilal Paracha and Coordinator for Dasu Project Mr. Masood on 12th of Aug 2022 from DHC Environment Team.



WB Team Visit to Uchar Nullah Baily Bridge on 11th of Aug 2022



WB Team Visit to MW-02; Underground Power House on 11th of Aug 2022



Traffic Management Presentation to World Bank Team on 12th of Aug 2022 in DHC Office

11.3.2 Participation in Virtual Meeting with World Bank

DHC Environment Team attended virtual meetings with World Bank’s Environment Team during the quarter. The main agenda discussed in the meeting was about the recent flooding of Uchar Nullah and Bridge Damaged/ Washed away by Uchar Nullah Mud/ Debris Flow. Probable causes were also discussed in the meeting that how such type of event occurred. DHC Environment Team discussed about the different possibilities that might be the root cause of the flooding in Uchar, i.e., Excessive Deforestation by local community lead to Soil Erosion and increase in Temperature caused a glacial lake in Uchar Valley to burst and drain causing havoc in the downstream area i.e., the existing KKH. The OHS matters (discussed by the OHS team) and post flood conditions and de watering of Diversion tunnels and access to DHPP Sites were discussed afterwards.

11.4 Flood Incidence at Uchar Nullah, Indus River and Zaid Khwar Nullah

A severe flood carrying huge boulders and slush occurred at Uchar nullah on 24th and 27th July 2022 which badly damaged the Uchar Bridge but the bridge endured the push of the flood. Three out of six beams were damaged. Light traffic was allowed to pass through the bridge.

Some Scouring has occurred at the edge of Zhongmei camp and along the CR-02 of main works while the Uchar crushing plant was submerged during the flooding. Fortunately no casualties occurred. The cause of the flood might be cloud burst and heavy rainfall in the upper catchments of Uchar nullah.

Another episode of severe debris flow occurred on 1st of August 2022 which washed away the Uchar Bridge. FWO responded the next day and constructed a temporary access road in the Uchar Nullah which was also washed away in the evening. The material for truss bridge arrived from FWO arrived the site and the baily bridge was operationalized on 7th August 2022. The truss bridge washed away with another spill of the debris flow on 12th August 2022 and huge debris accumulated in the Nullah. This debris temporarily choked the flow of Indus River resulting in damming effect and submerged the Uchar camp after water level remained high for couple of minutes. Uchar camp of CCECC was completely damaged but luckily no fatality occurred as it was evacuated beforehand. Zhongmei camp was also totally scoured by the Uchar nullah debris flow while the MW-02 camp near the Zhongmei was partly damaged. The water when released after the barrier lake effect, toppled over the dike in front of DT A&B and water was accumulated inside the tunnels up to almost 10m deep. Dewatering was started from the tunnels and it was on going till the last week of September 2022.

Huge flooding occurred in river Indus on 26th of August 2022, which submerged part of KKH near Uchar and badly scoured the sides of the river. Zaid Khawar Nullah (Komila- Pattan segment of KKH) also flooded and damaged part of KKH completely. Traffic on both sides were blocked till 3rd September 2022. DHPP utilized their resources to make the access road.

This continuous & severe rainfall which brought havoc to the Districts of Upper and Lower Kohistan led to number of landslides on the existing KKH as well as hundreds of animals been drowned and some human casualties (4 persons drowned at Dubair Nullah, Lower Kohistan) have also been seen in Lower Kohistan. No causality were reported in Upper Kohistan but loss of precious property, timber, Machinery and vehicles of DHPP were reported.

The pictorial view of the flood incidence is presented in figure 11.2





Submerged CCECC Water sprinkler at Uchaar



Scouring along the KKH-01, Zhongmei and CGGC camps-Uchaar

Flood dated 24th July 2022



Debris flow at overtopples uchaar nullah bridge



Scoured MW-02 camp at Uchaar



Flooded KKH-01 camp Uchaar



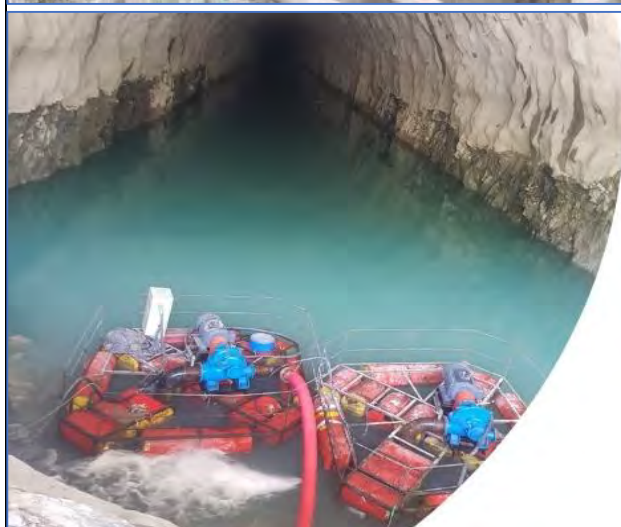
Damaged Zhongmei camp Uchaar



Scoured CR-02 area-Flood of 27th July 2022



Submerged KKH and Uchaar Crushing plant



DTA overflow and Standing water in DT-B outlet





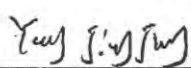
KKH at Zaid Khwar nullah

Annexures

Annexure A: Minutes of Monthly Environmental Progress Meetings

(MW-01 & 2, KKH-01 & 02, RAR01 & 02, TL-01, PCI-01R & LBRV-11&12

MW-01 & 2

DASU HYDROPOWER PROJECT MINUTES OF MEETING (MW-01& MW-02) Aug & Sep 2022		29 th Sep 2022
Employer: WAPDA (DHPP)		
Engineer: Dasu Hydropower Consultants (DHC)		
Contractor: China Gezhouba Group Co., LTD (CGGC)		
Subject: Monthly Environment Progress Review Meeting for MW-01&02. Date: 29 th Sep 2022 Time: 10:30 am-11:30 am Place: DHC meeting Hall Exhibit: Attendance Sheet	Agenda: Monthly Environmental Progress Review Meeting of MW-01&02.	
Attendees See the attached attendance sheet		
Distributed (Softcopy) to: 1. Employer - DHP WAPDA GM/PD, Dasu - DHP WAPDA Director (Environment), Dasu 2. Engineer - DHC RE MW-01&02, Dasu	3. Contractor, CGGC 4. Office File / Circulation	
Agreed by:		
<u>Employer</u> Date:	<u>Engineer</u> Date: 12-10-2022	<u>Contractor</u> Date: 13-10-2022
 12/10/22		
Representative of Employer- WAPDA (DHPP)	Representative of Engineer (DHC)	Representative of Contractor(CGGC)

Minutes of the Monthly Environmental Progress Review Meeting (MW-01& MW-02) Aug & Sep 2022



Project	MW-01& MW-02		Location	DHC Office			
Employer	WAPDA		Date of Meeting	29 th Sep 2022			
Engineer	DHC		Place of meeting	DHC Meeting Hall			
Contractor	CGGC		Time	10:30 am-11:30 am			
Sr. #	Checked Items and Actions Planned	Action By			Target Date for Action	Action Confirm Date	Status Closed, Open, Partially Closed
		Emp.	Eng.	Con.			
23	Status of 3 rd party Quarterly environmental monitoring as per contract specifications			√	20/05/2021	02/06/2021 02/07/2021 26/10/2021 30/11/2021 30/12/2021 07/02/2022 01/03/2022	<p>In process. In process. The contractor informed that the contract with the laboratory is in process by CGGC commercial department.</p> <p>Not done.</p> <p>Not done. The contractor was instructed to immediately arrange 3rd party quarterly environmental monitoring.</p> <p>Partially done. The Contractor mobilized <i>Bureau Veritas</i> environmental monitoring laboratory to site but their equipment were not as per the monitoring specifications. The Laboratory was demobilized and were asked to come up with all the calibrated analyzers and instruments. The contractor informed that the laboratory will be remobilized to site by 10th January 2021.</p> <p>The Contractor informed that they are considering new environmental laboratory for the environmental monitoring which may be mobilized by 20th February 2022. Employer and Engineer instructed the Contractor to share profile before mobilization of the environmental laboratory.</p> <p>The Contractor informed that they are considering new environmental laboratory for the environmental monitoring which may be mobilized by 20th February 2022. Employer and Engineer instructed the Contractor to share</p>



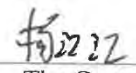
						<p>profile before mobilization of the environmental laboratory</p> <p>05/04/2022 “The Engineer” will write a letter to contractor for updated status about the Third-Party Monitoring Laboratory Hiring Status.</p> <p>28/05/2022 Not Done: Contractor shared its decision that SGS Laboratory is finalized by the CGGC but number of parameters is still under discussion.</p> <p>30/06/2022 Not done. The Contractor informed that their contract section wants clarification regarding the number of parameters to be tested. A meeting in this regard will be scheduled by the Engineer.</p> <p>29/09/2022 The contractor has decided to take SGS on board for the third party monitoring purpose but there is a meeting scheduled in 13th October 2022 in order to discuss and finalize the Parameters to be performed.</p>
24	Proper adaptive/mitigation measures for the closure of two NCRs issued in November 2020		√	20/05/2021	<p>02/06/2021 Not done.</p> <p>02/07/2021 Not done. The Contractor informed that the rectification will be done immediately and the NCR closure will be requested within a week.</p> <p>26/10/2021 Not done</p> <p>30/11/2021 Partially done. The contractor has closed one NCR regarding dust suppression measures at KKH near Uchar crushing plant. Other two NCRs regarding sedimentation tanks are yet to closed.</p> <p>30/12/2021 The Contractor informed that by 5th January AFI will be sent to the Engineer to check the rectification.</p> <p>07/02/2022 The Contractor informed that due to labor strike the mitigation measures could not be implemented for closure of NCRs and further told that negotiation with labor were fruitful and the work may resume tomorrow. After</p>	

						<p>resumption of work an AFI will be submitted by 12th February 2022 to verify the mitigation measures done for closure of NCR.</p> <p>Not Done. The Contractor informed that an AFI will be submitted by 11th March 2022 to verify the mitigation measures done for closure of NCR.</p> <p>Partially Done: NCR cannot be closed now till “The Engineer” receives AFI for Inspection from the contractor.</p> <p>Partially done. NCR regarding the sedimentation tank of Uchaar was inspected on 23rd May 2022 as per AFI submitted by Contractor. The cleaning of sedimentation tank and housekeeping improved a lot. The NCR will be closed accordingly.</p> <p>AFI will be submitted by the contractor to close the NCR in October 2022.</p>
25	Status of TOR's for Air dispersion modelling			√	Next PRM meeting	<p>02/06/2021 Not done. The contractor informed that the TORs will be finalized within June 2021.</p> <p>02/07/2021 The Contractor informed that the location of the crusher plant is in the process of shifting to Kass area. So IEE and Proposal for conducting Air dispersion modelling will also be changed.</p> <p>26/10/2021 Same status</p> <p>30/11/2021 Same status. The contractor was instructed to mobilize the laboratory for the air dispersion modelling.</p> <p>30/12/2021 The Contractor informed that the by 10th January 2022 M/s Hagler Bailly will arrive at site for a meeting regarding the monitoring.</p> <p>07/02/2022 The Contractor informed that to strike and COVID-19 cases the meeting will now be conducted in the 3rd week of February 2022.</p>

			√		01/03/2022	The contractor informed that Site for Seo Crushing Plant is still not finalized and therefore Air Dispersal Modeling (ADM) is also delayed accordingly.
					28/05/2022	Not Done: The location of the proposed Seo crushing plant has been shifted to 200m up stream. The contractor informed that EPA official has visited the site and contractor would submit the IEE for NOC from EPA KPK. During this course of time Haigler & Bailey will be engaged to conduct the Air Dispersal Modelling.
					30/06/2022	Not done. Contractor informed that IEE has been revised and resubmitted to EPA for grant of NOC which is expected on 15th July 2022. After getting NOC Haigler Bailey will be engaged.
					29/09/2022	Haigler Bailey will be coming on 23 rd Oct 2022.
36	Appointment of Environment Director		√	16 th January 2021	07/02/2022	Not done. The Contractor informed that search for the candidate is in progress and CV will be shared with the Engineer for approval most probably by 25 th February 2022.
					01/03/2022	Not done. Contractor informed that search for suitable candidate is still in progress.
					28/05/2022	Not Done: The matter is still pending; Contractor has assured to share CV of suitable candidate who has some practical experience.
					30/06/2022	Not done. Contractor verbally discussed about a potential candidate Mr. Afzal who was engaged in Neelum Jehlum. The Engineer instructed the contractor to submit the CV officially to proceed further in this matter.
					29/09/2022	Note Done: The contractor will submit the resume of the nominated person 14 th Oct 2022

42	Ensure Water sprinkling on existing KKH (From Tailrace to Barseen Camp except the CCECC Uchaar Camp area) Schedule and allocated areas in this regard has already been shared with the CGGC. Continuous process, at least three times a day during summer season. If requirement increases then the contractor is instructed to increase the frequency of water sprinkling.		√	Immediate	30/06/2022 29/09/2022	Partially done. The Contractor was instructed to also extend water sprinkling to the construction work at the tailrace outlet.
46	Orientation session on waste management		√	06/07/2022	29/09/2022	Done
47	Control of dust at Uchaar crushing plant		√	immediate	29/09/2022	Done
48	Periodic cleaning of sedimentation tanks should be ensured		√	immediate	29/09/2022	Done
49	Pet animals kept near the CR-9 batching plant should immediately be removed from site		√	immediate	29/09/2022	Done
50	Current Waste management practices should be reflected in the MPR		√	Next MPR	29/09/2022	
51	Disposal of sludge from diversion tunnels as sludge was accumulated during the recent floods of July 2022 and Aug 2022		√	29/09/2022	29/09/2022	All sludge should be disposed of at designated spoil disposal sites.
52	Details of used batteries, tires lubricants to be included in MPR		√	immediate	29/09/2022	The contractor should include in the next MPR

Confirmed by:

			
	The Employer	The Engineer/Consultant	The Contractor
Name:	<u>Fahad Ali</u>	<u>Aziz H. Khan</u>	<u>Yunus Khan</u>
Position:	<u>DD (ENV)</u>	<u>Sr. Environment Specialist</u>	<u>Environment Officer</u>
Date:	<u>12-10-2022</u>	<u>DHC</u>	<u>CUL</u>

Annexure-01: Attendance Sheet

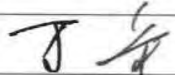
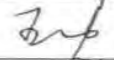


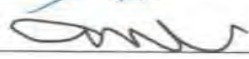

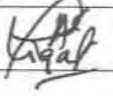
Dasu Hydropower Project

Dasu Hydropower Consultants










Meeting attendance sheet

Monthly Progress review meeting: KKH-01/RAR-01/TL-01/MW-01&2/LBRV-11&12/PCI-01R/RAR-02/KKH-02

Date: 29/09/2022

Sr. No	Name of Participant	Dept./Organisation	Designation	Contact No.	Signature
1	Fang Qid	CAGC	HSED Director	MW-01.02	
2	Wang Zhong	CAGC	GD Intercept	MW-01.02	
3	Zhang Kun	CAGC	HSED	MW-01.02	
4	Luo Shilei	CGGC		RAR-02	
5	Saeed ul Hassan	CGGC	HSED	MW-01-02	
6	Sardar Alam				
7	Faisal Ali	WAPDA	DD. (Env)	0344 9596431	
8	Cricket Ali	WAPDA	AD - (ENV)	0345-9610588	

KKH-01 & 2

<p>DASU HYDROPOWER PROJECT MINUTES OF MEETING (KKH-01) August & September 2022</p>		<p>29th Sep 2022</p>						
<p>Employer: WAPDA (DHPP)</p>								
<p>Engineer: Dasu Hydropower Consultants (DHC)</p>								
<p>Contractor: China Civil Engineering Construction Co., LTD (CCECC)</p>								
<p>Subject: Monthly Environment Progress Review Online Meeting for KKH-01. Date: 29th of Sep 2022 Time: 09:00am-09:30am Place: DHC Meeting Hall Pages: 02 Exhibit: Attendance Sheet</p>	<p>Agenda: Monthly Environmental Progress Review Meeting of KKH-01.</p>							
<p>Attendees See the attached attendance sheet</p>								
<p>Distributed (Softcopy) to:</p> <ol style="list-style-type: none">Employer - DHP WAPDA GM/PD, Dasu - DHP WAPDA Director (Environment), DasuEngineer - DHC RE Roads, Dasu	<ol style="list-style-type: none">Contractor, KKH-01Office File / Circulation							
<p>Agreed by:</p> <table><tr><td style="text-align: center;"><p><u>Employer</u> Date:</p><p>12/11/22</p></td><td style="text-align: center;"><p><u>Engineer</u> Date: 12-10-22</p></td><td style="text-align: center;"><p><u>Contractor</u> Date:</p></td></tr><tr><td style="text-align: center;"><p>Representative of Employer- WAPDA (DHPP)</p></td><td style="text-align: center;"><p>Representative of Engineer (DHC)</p></td><td style="text-align: center;"><p>Representative of Contractor(CCECC)</p></td></tr></table>			<p><u>Employer</u> Date:</p>  <p>12/11/22</p>	<p><u>Engineer</u> Date: 12-10-22</p> 	<p><u>Contractor</u> Date:</p> 	<p>Representative of Employer- WAPDA (DHPP)</p>	<p>Representative of Engineer (DHC)</p>	<p>Representative of Contractor(CCECC)</p>
<p><u>Employer</u> Date:</p>  <p>12/11/22</p>	<p><u>Engineer</u> Date: 12-10-22</p> 	<p><u>Contractor</u> Date:</p> 						
<p>Representative of Employer- WAPDA (DHPP)</p>	<p>Representative of Engineer (DHC)</p>	<p>Representative of Contractor(CCECC)</p>						

MINUTES OF THE MONTHLY ENVIRONMENTAL PROGRESS REVIEW MEETING (KKH-01) Aug & September 2022



Project		KKH-01			Location		DHC Dasu Office	
Employer		WAPDA			Date of Meeting		29/09/2022 (09:00am-09:30 am)	
Engineer		DHC			Place of Meeting		DHC Meeting Hall	
Contractor		CCECC			Attendance		Attendance Sheet Attached	
Sr.#	Checked Items and Actions Planned	Action By			Target Date for Action	Date to Confirm Action	Status Done/Closed, Not Done/Open, In Progress/Partially closed	
		Emp.	Eng.	Con.				
44	Ensure permanent water sprinkler for Khohse access road and KKH portion as summer has arrived therefore increase the frequency of sprinkling.			√	Immediate	04/04/2022	The contractor is instructed to continue the water sprinkling with enhanced frequency.	
						28/05/2022	The Contractor CCECC is instructed to allocate separate Water Bowsers for different locations at KKH-01 allocated portions due to long haulage of water i.e. Uchar Camp.	
						30/06/2022	Partially done	
						29/09/2022	Partially done	
45	Ensure solid waste management (SWM) as per ECP-01 by segregating the waste as recyclable, organic and non-recyclable.			√	Immediate	04/04/2022	The contractor is instructed to undertake segregation of Solid Waste (SW) as per ECP-01. All Hazardous waste to be collected, Type identified and quantified and documented and shared via Monthly Progress Report (MPR), e.g., all used vehicular engine oil should be collected in a 200 liter drum and further handed over to the scarp vendor which CCECC has hired for discarded materials and hazardous waste. Details to be added in the MPR from CCECC.	
						28/05/2022	The Engineer's will conduct Environment Inspection on Dated: 07/06/2022.	
						30/06/2022	Inspection done. The observation was that Solid waste management practice should be properly done as per Waste Management ECP's guidance	

					29/09/2022	Uchaar Camp of CCECC is inundated due to recent floods. Therefore, new camp observations will be provided after inspection of camp.
47	Proper Disposal of Used Engine/ Equipment Oils and other chemicals		√	Immediate	28/05/2022 30/06/2022 29/09/2022	Please add details of this activity in the MPR of May 2022 with photographic records as well for before spillage and after spillage. Note Done; Photographic record should be maintained by the contractor and proper write up should be added to the next month's MPR. Not Done;
48	Current Waste management practices at camp should be highlighted in the MPR with pictorial evidence		√	Next MPR	30/06/2022 20/08/2022 29/09/2022	Partially Done; Some details of waste management in the camp are given in MPR for July 2022 without pictorial evidence. Done; The CCECC Uchaar Camp is completely damaged and major portion is washed away by recent floods in July 2022 and August 2022. New camp is established at K3 by CCECC and it will be inspected soon.
49	Housekeeping at Uchaar workshop area to be ensured		√	Immediate	30/06/2022 29/09/2022	Not Done. Done; The CCECC Uchaar Camp is completely damaged and major portion is washed away by recent floods in July 2022 and August 2022.
50	Installation of Waste Bins and Segregation of Waste inside the K3 Camp Area			Immediate	29/09/2022	All SOP's provided in EMAP and ECP's should be followed in true letter and spirit.
51	Details of recyclable wastes to be added in MPR of September 2022			MPR of Sep 2022	29/09/2022	All SOP's provided in EMAP and ECP's should be followed in true letter and spirit.
52	Newly Established K3 CCECC Camp's Kitchen, Dinning, toiletry and washing facility with attached septic tanks along with residence facility details with pictorial evidence is required in MPR of September 2022.			MPR of Sep 2022	29/09/2022	All SOP's provided in EMAP and ECP's should be followed in true letter and spirit.

Confirmed by:



The Employer

Name: Farhat AG

Position: Dy- Director

Date: 12-10-2022

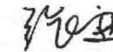


The Engineer

Name: Awaiz H. Khan

SR-ENVIRONMENT SPECIALIST

DHC



The Contractor

Zhangjin




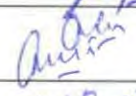
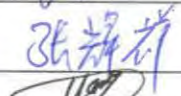
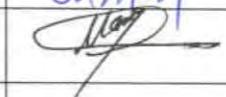
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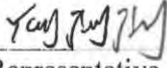
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Dasu Hydropower Project
Dasu Hydropower Consultants
Meeting attendance sheet

Monthly Progress review meeting: KKH-01/RAR-01/TL-01/MW-01&2/LBRV-11&12/PCI-01R/RAR-02/KKH-02

Date: 29/9/2022

Sr. No	Name of Participant	Dept./Organisation	Designation	Contact No.	Signature
01	Sardar Alam	DHC	Sr. Environmentalist		
02	Fahat AQ°	WAPDA	Dy. Director	03449596431	
03	Liakat Ali	4	AD	0345-9610885	
04	JUNAID Ahmed	CCECC	HSE Manager	0345-9601987	
05	Zhang Hui Xiang	CEU	HSE Director	03496475249	
06	MANZOOR HUSSAIN	CCECC	HSE Manager	0345-5687751	

DASU HYDROPOWER PROJECT MINUTES OF MEETING (KKH-02) Aug & Sep, 2022		29 th Sep, 2022
Employer: WAPDA (DHPP)		
Engineer: Dasu Hydropower Consultants (DHC)		
Contractor: China Gezouba Group Co., LTD (CGGCC)		
Subject: Monthly Environmental Progress Review Meeting for KKH-02. Date: 29 th Sep 2022 Time: (10:00am-10:30am) Place: DHC Meeting Hall Pages: 01 Exhibit: Attendance Sheet	Agenda: Monthly Environmental Progress Review Meeting of KKH-02.	
Attendees See the attached attendance sheet		
Distributed (Softcopy) to: 1. Employer - DHP WAPDA GM/PD, Dasu - DHP WAPDA Director (Environment), Dasu 2. Engineer - DHC RE Roads, Dasu	3. Contractor, CGGC 4. Office File / Circulation	
Agreed by:		
<u>Employer</u> Date:	<u>Engineer</u> Date: 12-10-2022	<u>Contractor</u> Date: 13-10-2022
 12/10/22		
Representative of Employer- WAPDA (DHPP)	Representative of Engineer (DHC)	Representative of Contractor(CGGC)

MINUTES OF THE MONTHLY ENVIRONMENTAL PROGRESS REVIEW MEETING (KKH-02) Aug & Sep 2022



Project	RAR-02	Location		DHC Office			
Employer	WAPDA	Date of Meeting		29/09/2022 (10:00am-10:30am)			
Engineer	DHC	Place of meeting		DHC Meeting Hall			
Contractor	CGGCC	Attendance		Attendance Sheet Attached*			
Sr.#	Checked Items and Actions Planned	Action by			Target Date for Action	Action Confirm Date	Status Done/Closed, Not Done/open, In Progress/Partially closed
		Emp.	Eng.	Con.			
01	Hiring of Dedicated Environmental Manager for RAR-02 Component			√	20/07/2022	29/-09/2022	Not Done
02	Submission of monthly environmental progress report			√	Immediate	29/-09/2022	Not Done
03	Submission of revised CEAP as per the Engineer's comments			√	07/07/2022	29/09/2022	Not Done
04	Fugitive Dust Suppression measures to be taken at site on regular basis with at least 3 time a day and additional if required because summer season has already started.			√	Immediate	29/-09/2022	Not Done
05	Rolling of Debris/ over burden or any loose material after blasting/ slope cutting activity to be hauled away at the designated disposal site only			√	Immediate	29/-09/2022	The contractor informed that the passage to the site is very narrow and the dumper cannot reach in that very location resulting in some of the material being rolled over the slope. In future as the path is widened enough that the dumper can reach at the very location of where work is under progress haulage activity will start immediately.
06	Ensure environmental topics to be covered in TBT				Immediate	29/-09/2022	
07	Solid Waste Management procedures especially segregation should be ensured at site with proper reporting in the next MPR.				Next MPR of Sep 2022	29/-09/2022	
08	Tree record should be maintained and reported in the MPR's on regular basis				Next MPR of Sep 2022	29/-09/2022	

Confirmed by:



The Employer

Name:

Fahat Ali

Position:

DD (EM)

Date:

12-10-2022



The Engineer/Consultant

Awas H. Khan

Sr. Environment Specialist

DHC



The Contractor

Yang Tinglin






environment officer

Call

Dasu Hydropower Project
Dasu Hydropower Consultants
Meeting attendance sheet

Monthly Progress review meeting: KKH-01/RAR-01/TL-01/MW-01&2/LBRV-11&12/PCI-01R/RAR-02/KKH-02

Date: 29/9/2022

Sr. No	Name of Participant	Dept./Organisation	Designation	Contact No.	Signature
01	Fahat Ali	WAPDA	Dy. Director	03449896431	
02	Liakat Ali	WAPDA	AD-	0345-9610585	
03	Sardar Alam	DHC	Sr. Environmental		
04	Zhang jun	KKH-02		0348-7779359	
05	Defazal ur Rehman	KKH-02	Acting Envifotts Supporting officer	03474846528	
06	Luo Shilei	RAR-02			

RAR-01 & 2

DASU HYDROPOWER PROJECT
MINUTES OF MEETING (RAR-01) July 2022

1st Aug 2022

Employer:
WAPDA (DHPP)

Engineer:
Dasu Hydropower Consultants (DHC)

Contractor:
China Civil Engineering Construction Co., LTD (CCECC)

Subject: Monthly Environmental Progress
Review Meeting for RAR-01.

Date: 1st Aug 2022

Time: (11:06am-11:42am)

Place: DHC Meeting Hall

Pages: 01

Exhibit: Attendance Sheet

Attendees

See the attached attendance sheet

Distributed (Softcopy) to:

1. Employer
 - DIIP WAPDA GM/PD, Dasu
 - DIIP WAPDA Director (Environment), Dasu
2. Engineer
 - DIIC RE Roads, Dasu

Agenda:

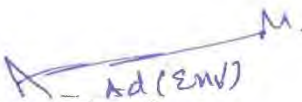
Monthly Environmental Progress Review
Meeting of RAR-01.

3. Contractor, CCECC
4. Office File / Circulation

Agreed by:

Employer

Date: 10/8/2022


Representative of
Employer- WAPDA (DHPP)

Engineer

Date: 10/8/2022


Representative of
Engineer (DHC)

Contractor

Date: 10/8/2022


Representative of
Contractor(CCECC)

MINUTES OF THE MONTHLY ENVIRONMENTAL PROGRESS REVIEW MEETING (RAR-01) July 2022



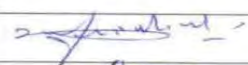

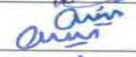



Project		RAR-01			Location		DHC Office	
Employer		WAPDA			Date of Meeting		01/08/2022 (11:06 am-11:42 am)	
Engineer		DHC			Place of meeting		DHC Meeting Hall	
Contractor		CCECC			Attendance		Attendance Sheet Attached*	
Sr. #	Checked items and Actions Planned	Action by			Target Date for Action	Action Confirm Date	Status	
		Emp.	Eng.	Con.			Done/Closed, Not Done/open, In Progress/Partially closed	
23	Implement demobilization of ECP at K4			√	Immediate	01/04/2022 28/05/2022 30/06/2022 01/08/2022	<p>Not Done. This issue is linked to the issue 21. Contractor has agreed to clear the issue by 20th of April 2022.</p> <p>Not Done. Still pending and no date for resolving this issue is provided by RAR-01 Team of CCECC</p> <p>Partially Done: The contractor informed that the site has been handed over to WAPDA</p> <p>Partially Done: The contractor is instructed to provide proof of handing over of K4 site</p>	
27	Proper disposal of spoil at designated spoil disposal site only			√	immediate	01/08/2022	Contractor informed that 62% excavated material has already been dumped and agreed for the proper disposal of the Spoil at designated site.	
28	Removal of Oil spillage at Zaal camp			√	immediate	01/08/2022	Done	
29	Removal of wildlife (Monkey) seen in the vicinity of Zaal camp. Engineer should be invited to witness the release			√	immediate	01/08/2022	Contractor was informed that a meeting was held on among Asst. Director Environment WAPDA, Environment Specialist of DHC and S DFO Wild Life Department in which wild life department agreed to take over the responsibility of the monkey but a required a formal discussion and agreement on handing over procedures first and then the wild life department will take over the <i>Rhesus macaque</i> in another meeting in which the DFO wild life will be present himself.	
30	Removal of oil spill at Komila By-Pass Contractor is instructed to remove the contaminated soil and replace it with clean and fresh soil. Dispose of the soil as per			√	immediate			

Annexure: Attendance Sheet of the Participants

Dasu Hydropower Project
Dasu Hydropower Consultants
Meeting attendance sheet

Monthly Progress review meeting: KKH-01/RAR-01/TL-01/MW-01&2/LBRV-11&12/PCI-01R/RAR-02/KKH-02

Date: 01/08/2022

Sr. No	Name of Participant	Dept./Organisation	Designation	Contact No.	Signature
01	Zafar Iqbal Chaudry	DHC/Environment	Chief Environment	0300-9460132	
02	Sardar Alam	DHC	Sr. Environmentalist	0333-9290609	
03	JUNAID Ahmed	CCCE	HSEM-RAR-01	0345-9601987	
04	AWAIS.H.KHAN	ENVIRONMENT/DHC	Sr. ENVIRONMENT SPECIALIST	03336563675	
05	Muhammad Atam	Environment/WAPDA	A.c. Env	03486834305	
06	M Arslan Asghar	WAPDA	Sub-Engineer	0311-4632251	

DASU HYDROPOWER PROJECT
MINUTES OF MEETING (RAR-01) Aug & Sep 2022

29th Sep 2022

Employer:
WAPDA (DHPP)

Engineer:
Dasu Hydropower Consultants (DHC)

Contractor:
China Civil Engineering Construction Co., LTD (CCECC)

Subject: Monthly Environmental Progress
Review Meeting for RAR-01.
Date: 29th Sep 2022
Time: (11:30 am-12:00 am)
Place: DHC Meeting Hall
Pages: 01
Exhibit: Attendance Sheet

Agenda:
Monthly Environmental Progress Review
Meeting of RAR-01.

Attendees
See the attached attendance sheet

Distributed (Softcopy) to:
1. Employer
- DHP WAPDA GM/PD, Dasu
- DHP WAPDA Director (Environment), Dasu
2. Engineer
- DHC RE Roads, Dasu

3. Contractor, CCECC
4. Office File / Circulation

Agreed by:

Employer
Date:

Engineer
Date: 12-10-2022

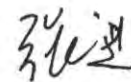
Contractor
Date: 2022.10.12



Representative of
Employer- WAPDA (DHPP)



Representative of
Engineer (DHC)



Representative of
Contractor(CCECC)

MINUTES OF THE MONTHLY ENVIRONMENTAL PROGRESS REVIEW MEETING (RAR-01) July 2022



Project		RAR-01			Location		DHC Office	
Employer		WAPDA			Date of Meeting		29/09/2022 (11:30 am-12:00 am)	
Engineer		DHC			Place of meeting		DHC Meeting Hall	
Contractor		CCECC			Attendance		Attendance Sheet Attached*	
Sr.#	Checked Items and Actions Planned	Action by			Target Date for Action	Action Confirm Date	Status	
		Emp.	Eng.	Con.			Done/Closed, Not Done/open, In Progress/Partially closed	
23	Implement demobilization of ECP at K4			√	Immediate	01/04/2022 28/05/2022 30/06/2022 01/08/2022 29/09/2022	<p>Not Done. This issue is linked to the issue 21. Contractor has agreed to clear the issue by 20th of April 2022.</p> <p>Not Done. Still pending and no date for resolving this issue is provided by RAR-01 Team of CCECC</p> <p>Partially Done: The contractor informed that the site has been handed over to WAPDA</p> <p>Partially Done: The contractor is instructed to provide proof of handing over of K4 site</p> <p>Submit documents of handing over 12th of Oct 2022.</p>	
27	Proper disposal of spoil at designated spoil disposal site only			√	immediate	01/08/2022 29/09/2022	<p>Contractor informed that 62% excavated material has already been dumped and agreed for the proper disposal of the Spoil at designated site.</p> <p>Contractor informed that 80 % excavation completed. Despite some excavated material is used by the E&M contractor.</p>	
28	Removal of Oil spillage at Zaal camp			√	immediate	01/08/2022	Done	
29	Removal of wildlife (Monkey) seen in the vicinity of Zaal camp. Engineer should be invited to witness the release			√	immediate	01/08/2022	<p>Contractor was informed that a meeting was held on among Asst. Director Environment WAPDA, Environment Specialist of DHC and SDFO Wild Life Department in which wild life department agreed to take over the responsibility of the monkey but a required a formal discussion and agreement on handing over procedures first and then the wild life department will take over the</p>	

					29/09/2022	<i>Rhesus macaque</i> in another meeting in which the DFO wild life will be present himself. The Monkey has left the camp and is currently not residing in Zaal Camp.
30	Removal of oil spill at Komila By-Pass Contractor is instructed to remove the contaminated soil and replace it with clean and fresh soil. Dispose of the soil as per procedures prescribed in ECP: Waste Management		√	immediate		Done
32	Arrangement for an awareness session on oil spill and solid waste management by 15 Aug 2022.		√	immediate	01/08/2022 29/09/2022	As per contractors provided information one session was held on 12/08/2022 and second session was conducted on 10/09/2022.
33	Waste Segregation at camp and temporary storage facility site Contractor is instructed to undertake waste segregation at their camp by putting separate bins for organic, recyclable and hazardous waste as well as prepare a temporary storage facility at site for waste.		√	immediate	29/09/2022	Done
34	MPR Should reflect Waste/ discarded materials section describing used batteries and tires and used oil with their quantities and disposal method /vendor details.			√	29/09/2022	Not Done;
35	An awareness session to be arranged by the contractor regarding protection of Flora and Fauna to its staff/ labor working at RAR-01			√	29/09/2022	Not Done; The session may be arranged on 15 th of Oct 2022

Confirmed by:



The Employer

Name: Farhat Ali

Position: DD (EAV)

Date: 12-10-2022



The Engineer/Consultant

Awaiz H. Khan

Sr. Environment Specialist

DHC



The Contractor

Zhongjin




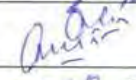
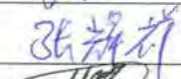

DPM

CECC 2022.10.12

Dasu Hydropower Project
Dasu Hydropower Consultants
Meeting attendance sheet

Monthly Progress review meeting: KKH-01/RAR-01/TL-01/MW-01&2/LBRV-11&12/PCI-01R/RAR-02/KKH-02

Date: 29/9/2022

Sr. No	Name of Participant	Dept./Organisation	Designation	Contact No.	Signature
01	Sardar Alam	DHC	Sr. Environmentalist		
02	Fahat Ali	WAPDA	Dy. Director	03449596431	
03	Liaqat Ali	"	AD	0345-9610585	
04	TUNAJD Ahmed	CCECC	HSE Manager	0345-9601987	
05	Zhang Hui Xing	CCECC	HSE Director	03496475249	
06	MANZOOR HUSSAIN	CCECC	HSE Manager	0345-5687751	

DASU HYDROPOWER PROJECT
MINUTES OF MEETING (RAR-02) Aug & Sep 2022

29th Sep 2022

Employer:
WAPDA (DHPP)

Engineer:
Dasu Hydropower Consultants (DHC)

Contractor:
China Gezouba Group Co., LTD (CGGCC)

Subject: Monthly Environmental Progress
Review Meeting for RAR-02.
Date: 29th Sep 2022
Time: (12:10pm-12:35pm)
Place: DHC Meeting Hall
Pages: 01
Exhibit: Attendance Sheet

Agenda:
Monthly Environmental Progress Review
Meeting of RAR-02.

Attendees
See the attached attendance sheet

Distributed (Softcopy) to:
1. Employer
- DIIP WAPDA GM/PD, Dasu
- DHP WAPDA Director (Environment), Dasu
2. Engineer
- DHC RE Roads, Dasu

3. Contractor, CGGC
4. Office File / Circulation

Agreed by:

Employer
Date:



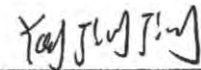
Representative of
Employer- WAPDA (DHPP)

Engineer
Date: 12-10-2022



Representative of
Engineer (DHC)

Contractor
Date: 13-10-2022



Representative of
Contractor (CGGC)

MINUTES OF THE MONTHLY ENVIRONMENTAL PROGRESS REVIEW MEETING (RAR-02) Aug & Sep 2022



Project	RAR-02		Location	DHC Office			
Employer	WAPDA		Date of Meeting	29/09/2022 (12:10pm-12:35pm)			
Engineer	DHC		Place of meeting	DHC Meeting Hall			
Contractor	CGGCC		Attendance	Attendance Sheet Attached*			
Sr.#	Checked Items and Actions Planned	Action by			Target Date for Action	Action Confirm Date	Status Done/Closed, Not Done/open, In Progress/Partially closed
		Emp.	Eng.	Con.			
01	Hiring of Dedicated Environmental Manager for RAR-02 Component			√	5 th of June 2022	30/06/2022	Not done. The Contractor informed that they will share CV of a relevant candidate to be considered for the post. Not Done; contractor is instructed to submit the resume by 17 th of Oct 2022.
02	1 st Monthly Progress Report is due and is to be submitted by 07 th of June 2022			√	Immediate	30/06/2022 29/09/2022	Not Done. The Contractor asked to share report template Not Done; Contractor agreed to submit MPR up till 15 th of Oct 2022.
03	Fugitive Dust Suppression measures to be taken at site on regular basis with at least 3 time a day and additional if required because summer season has already started.			√	Immediate	30/06/2022 29/09/2022	Partially done. The contractor informed that a dedicated water sprinkler is deputed at site which not only sprinkle along the access road but also at the excavated material before disposal.
04	Rolling of Debris/ over burden or any loose material after blasting/ slope cutting activity to be hauled away at the designated site of Kass disposal site on RAR-01.			√	Immediate	30/06/2022 29/09/2022	Not done. The Contractor is strictly instructed to ensure haulage of the spoil to designated spoil disposal area Not Done; The contractor informed that at the moment the spring which was nearby is dried up and the path to the working face is narrow, due to which the dumper cannot reach the exact working face. As soon as the dumper can reach the working face the haulage of excavated material will be started.
05	Oil spill should be removed			√		29/09/2022	

06	Tree record should be maintained and submitted in every MPR.				√	29/09/2022	
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Confirmed by:



The Employer

Name:

Farhat Ali

Position:

DD (ENV)

Date:

12-10-2022



The Engineer/Consultant

Awaiz H. Khan

Sr. Environment Specialist

DHC



The Contractor

Fayyaz Hussain






Environment Officer

CUU

Dasu Hydropower Project
Dasu Hydropower Consultants
Meeting attendance sheet

Monthly Progress review meeting: KKH-01/RAR-01/TL-01/MW-01&2/LBRV-11&12/PCI-01R/RAR-02/KKH-02

Date: 29/9/2022

Sr. No	Name of Participant	Dept./Organisation	Designation	Contact No.	Signature
01	Fazhat Ali	WAPDA	Dy. Director	03449596431	
02	Uzgat Ali	WAPDA	AD-	0345-9600525	
03	Sardar Alam	DHC	Sr. Environmentalist		
04	Zhang jun	KKH-02		0348-7779359	
05	Dr. Fazal ur Rehman	KKH-02	Acting Envifotts Supporting officer	03474846528	
06	Lw Shilei	RAR-02			

TL-01

DASU HYDROPOWER PROJECT
MINUTES OF MEETING (TL-01) July 2022

1st Aug 2022

Employer:
WAPDA (DHPP)

Engineer:
Dasu Hydropower Consultants (DHIC)

Contractor:
Power China Construction Co., LTD (PCCC)

Subject: Monthly Environmental Progress
Review Meeting for TL-01.
Date: 1st Aug 2022
Time: (03:30 pm-04:00 pm)
Place: DHC Meeting Hall
Exhibit: Attendance Sheet

Agenda:
Monthly Environmental Progress Review
Meeting of TL-01.

Attendees

See the attached attendance sheet

Distributed (Softcopy) to:

1. Employer
 - DIIP WAPDA GM/PD, Dasu
 - DIIP WAPDA Director (Environment), Dasu
2. Engineer
 - DHC RE TL-01, Dasu

3. Contractor, PCCC
4. Office File / Circulation

Agreed by:

Employer

Date: 10/8/2022

Engineer

Date: 10/8/2022

Contractor

Date: 11/8/2022


Ad (env)

Representative of
Employer- WAPDA (DHPP)



Representative of
Engineer (DHIC)



Representative of
Contractor(PCCC)

MINUTES OF THE MONTHLY ENVIRONMENTAL PROGRESS REVIEW MEETING (TL-01) July 2022



Project	132 KV TL-01	Location	DHC Office
Employer	WAPDA	Date of Meeting	01/08/2022 (03:30 pm-04:00 pm)
Engineer	DHC	Place of meeting	DHC Meeting Hall
Contractor	PCCC	Attendance	Attendance Sheet Attached

Sr.#	Checked Items and Actions Planned	Action by			Target Date for Action	Date to Confirm Action	Status Done/Closed, Not Done/Open, In Progress/Partially Closed
		Emp.	PM	Con			
36	Plan for oversized vehicle movement. The plan has to be submitted by 20 th of June 2022.				20 th June 2022	30/06/2022	Not done. The Contractor informed that the plan is not yet prepared but shared the transformer dimensions.
						01/08/2022	Not done. The Contractor informed that the plan is not yet prepared but it will be submitted up till 17 th of Aug 2022.
37	Establishment of Newly hired camp building as per EMAP and ECPs. The Engineer will inspect the newly hired camp building on 3 rd June 2022.				Immediate	30/06/2022	The contractor informed that full shifting to the camp has not yet started.
38	Ensure water sprinkling with in the TL -01 Sites as well as all allocated and access roads.				Immediate		
39	Awareness Session for Protection of Flora and Fauna				Immediate		

Confirmed by:

The Employer

Name: Nushamudh Sim

Position: AO (SIV)

Date: 10-8-2022

The Project Manager




Sardar Alam
Sr. Environmentalist

10-8-2022

The Contractor

Wang Tim
C / Eng

11-08-2022

DASU HYDROPOWER PROJECT		
MINUTES OF MEETING (TL-01) Aug & Sep 2022		
29 th Sep 2022		
Employer: WAPDA (DHPP)		
Engineer: Dasu Hydropower Consultants (DHC)		
Contractor: Power China Construction Co., LTD (PCCC)		
Subject: Monthly Environmental Progress Review Meeting for TL-01. Date: 29 th Sep 2022 Time: (03:00 pm-03:30 pm) Place: DHC Meeting Hall Exhibit: Attendance Sheet	Agenda: Monthly Environmental Progress Review Meeting of TL-01.	
Attendees See the attached attendance sheet		
Distributed (Softcopy) to: 1. Employer - DHP WAPDA GM/PD, Dasu - DHP WAPDA Director (Environment), Dasu 2. Engineer - DHC RE TL-01, Dasu	3. Contractor, PCCC 4. Office File / Circulation	
Agreed by:		
<u>Employer</u> Date:  12/11/22	<u>Engineer</u> Date: 12/14/2022 	<u>Contractor</u> Date: 13/10/2022 
Representative of Employer- WAPDA (DHPP)	Representative of Engineer (DHC)	Representative of Contractor(PCCC)

MINUTES OF THE MONTHLY ENVIRONMENTAL PROGRESS REVIEW MEETING (TL-01) Aug & Sep 2022



Project	132 KV TL-01	Location	DHC Office				
Employer	WAPDA	Date of Meeting	29/09/2022 (03:00 pm-03:30 pm)				
Engineer	DHC	Place of meeting	DHC Meeting Hall				
Contractor	PCCC	Attendance	Attendance Sheet Attached				
Sr.#	Checked Items and Actions Planned	Action by			Target Date for Action	Date to Confirm Action	Status Done/Closed, Not Done/Open, In Progress/Partially Closed
		Emp.	PM	Con			
36	Plan for oversized vehicle movement. The plan has to be submitted by 20 th of June 2022.				20 th June 2022	30/06/2022 01/08/2022 29/09/2022	Not done. The Contractor informed that the plan is not yet prepared but shared the transformer dimensions. Not done. The Contractor informed that the plan is not yet prepared but it will be submitted up till 17 th of Aug 2022. Done; The contractor has already shared the information on 18 th of August 2022.
37	Establishment of Newly hired camp building as per EMAP and ECPs. The Engineer will inspect the newly hired camp building on 3 rd June 2022.				Immediate	30/06/2022 29/09/2022	The contractor informed that full shifting to the camp has not yet started. Inspection done but the camp is still under construction therefore will require a new inspection.
38	Ensure water sprinkling with in the TL-01 Sites as well as all allocated and access roads.				Immediate	29/09/2022	Partially Done
39	Awareness Session for Protection of Flora and Fauna.				Immediate	29/09/2022	Done; Contractor has conducted the session on 29 th of August 2022
40	Awareness session regarding ECP's on TL-01 implementation at Site				Immediate	29/09/2022	To be conducted by the contractor PCC but 1 day prior information will be shared with the Engineer so that the session can be witnessed by The Engineer's staff.

41	Waste Management Practices to be reflected in MPR.	Immediate	29/09/2022
Confirmed by:			
The Employer	Name: <u>Farkhad Ali</u>	The Project Manager - THE ENGINEER	The Contractor
Position:	<u>DD (ENV)</u>	Name: <u>Aziz H. Khan</u> Position: <u>Sr. Env. Specialist, D&C</u>	
Date:	<u>12-10-2022</u>		

PCI-01R

DASU HYDROPOWER PROJECT
MINUTES OF MEETING (PCI-01R) July 2022

1st Aug 2022

Employer:
WAPDA (DHPP)

Engineer:
Dasu Hydropower Consultants (DHIC)

Contractor:
China Gansu Co., LTD (CGICOP)

Subject: Monthly Environmental Progress
Review Meeting for PCI_01R.
Date: 1st Aug 2022
Time: (11:50 am- 12:19 pm)
Place: DHC Meeting Hall
Pages: 02
Exhibit: Attendance Sheet

Agenda:
Monthly Environmental Progress Review
Meeting of PCI-01R.

Attendees
See the attached attendance sheet

Distributed (Softcopy) to:

1. Employer
- DIIP WAPDA GM/PD, Dasu
- DHP WAPDA Addl Chief Engineer (Environment)
Dasu
2. Engineer
- DHC RE Infrastructure, Dasu

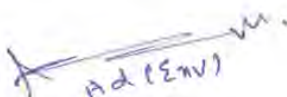
3. Contractor, CGICOP
4. Office File / Circulation

Agreed by:

Employer
Date: 10/18/2022

Engineer
Date: 10/18/2022

Contractor
Date: 12/08/2022


Ad (Env)
Representative of
Employer- WAPDA (DHPP)


Representative of
Engineer (DHIC)


Representative of
Contractor(CGICOP)

MINUTES OF THE MONTHLY ENVIRONMENTAL PROGRESS REVIEW MEETING (PCI-01) July 2022



Project		PCI-01			Location		DHC Office	
Employer		WAPDA			Date of Meeting		01/08/2022 (11:50 am- 12:19 pm)	
Engineer		DHC			Place of meeting		DHC Meeting Hall	
Contractor		CGICOP			Attendance		Attendance Sheet Attached	
Sr.#	Checked Items and Actions Planned	Action By			Target Date for Action	Date to Confirm Action	Status Closed, Open, Partially Closed	
		Emp.	Eng.	Con				
19	Submission of NOC and License for fuel storage at site.			√	15/08/2021	02/06/2021 03/07/2021 29/09/2021 26/10/2021 30/11/2021 30/12/2021 07/02/2022 01/03/2022 01/04/2022 27/05/2022	<p>Not done. The Contractor was instructed to quickly initiate the process.</p> <p>In process</p> <p>Engineer requested WAPDA through letter dated 12th July 2021 to issue a recommendation letter to district administration for CGICOP to grant them an NOC for fuel storage which is a prerequisite for license apply to Chief inspector of explosives. The Employer is requested to pursue the matter please.</p> <p>Not done</p> <p>Not done. The Employer was again requested to send a letter to the district administration for NOC.</p> <p>Not done. The Employer is again requested to send a letter to district administration.</p> <p>Employer sent letter to DC to provide NOC to contractor. Contractor was asked to pursue the matter to get the NOC for onward apply for license.</p> <p>Not Done. Still pending but contractor has promised to submit it by 07th February 2022</p> <p>Not Done. Still pending contractor has agreed to share the NOC by 20th of April 2022</p> <p>Partially Done. NOC from Deputy Commissioner Office has been granted but License is still not granted</p>	

					30/06/2022	Partially done. The Engineer instructed the contractor to proceed further in the matter and send application to KP Inspector of Explosives for grant of license. 01/08/2022 Not Done: The Engineer will issue a reminder letter to the contractor regarding NOC from Inspector of Explosives.
44	Housekeeping of the site should be ensured		√	immediate	Done.	
45	Ensure dust control at the crusher plant		√	immediate		Partially Done; The crusher Plant is not operational at the moment because no concrete pouring is required at PCI-01R Contract
46	Solid Waste: Contractor is instructed to arrange more waste bins at site and awareness session for the Labor and staff especially upon littering over the construction site.		√	immediate		
47	Water Sprinkling Issue. Contractor is instructed to ensure adequate water sprinkling inside the colony area as well as the allocated portion of Khoshe access road.		√	immediate		

Confirmed by:


The Employer


The Engineer


The Contractor

Name: Muhammad Aym

Sardar Alam
Sr. Environmentalist

Position: AO (Env)

Date: 10/8/2022.

10-8-2022.




Annexure: Attendance Sheet of Participants

Dasu Hydropower Project
Dasu Hydropower Consultants
Meeting attendance sheet

Monthly Progress review meeting: KKH-01/RAR-01/TL-01/MW-01&2/LBRV-11&12/PCI-01R/RAR-02/KKH-02

Date: 1/8/2022

Sr. No	Name of Participant	Dept./Organisation	Designation	Contact No.	Signature
1.	Zafar Iqbal Chaudry	DHC/Environment	Chief Environment	0300-9460132	
2	Muhammad Arif	WAPDA/Env	Ad Env	03486834305	
3	M Anis Anshad	WAPDA	Sub Engineer - env	0311-4632251	
(4)	Fazal Mabood	CGIOP	Jr Environmentalist	03441190431	
5	Aweis H. Khan	ENVIRONMENT/DHC	SR-ENVIRONMENTALIST	03336563675	
6	Sardar Alam	DHC	"	0333-9290609	

<p>DASU HYDROPOWER PROJECT MINUTES OF MEETING (PCI-01R) Aug & Sep2022</p>		<p>29th Sep, 2022</p>
<p>Employer: WAPDA (DHPP)</p>		
<p>Engineer: Dasu Hydropower Consultants (DHC)</p>		
<p>Contractor: China Gansu Co., LTD (CGICOP)</p>		
<p>Subject: Monthly Environmental Progress Review Meeting for PCI_01R. Date: 29th Sep 2022 Time: (03:40pm- 04:21pm) Place: DHC Meeting Hall Pages: 02 Exhibit: Attendance Sheet</p>	<p>Agenda: Monthly Environmental Progress Review Meeting of PCI-01R.</p>	
<p>Attendees See the attached attendance sheet</p>		
<p>Distributed (Softcopy) to:</p> <p>1. Employer - DHP WAPDA GM/PD, Dasu - DIIP WAPDA Addl Chief Engineer (Environment Dasu</p> <p>2. Engineer - DHC RE Infrastructure, Dasu</p>	<p>3. Contractor, CGICOP 4. Office File / Circulation</p>	
<p>Agreed by:</p>		
<p><u>Employer</u> Date:</p>	<p><u>Engineer</u> Date: 12-10-2022</p>	<p><u>Contractor</u> Date: 13/10/2022</p>
<p> Representative of Employer- WAPDA (DHPP)</p>	<p> Representative of Engineer (DIIC)</p>	<p> Representative of Contractor(CGICOP)</p>

MINUTES OF THE MONTHLY ENVIRONMENTAL PROGRESS REVIEW MEETING (PCI-01) Aug & Sep 2022

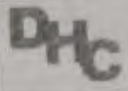
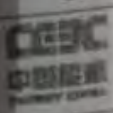



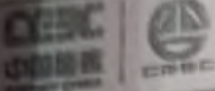
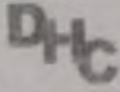
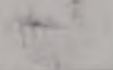
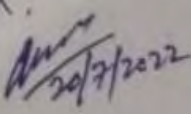
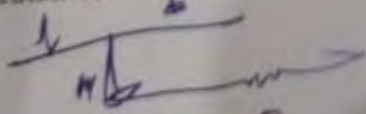
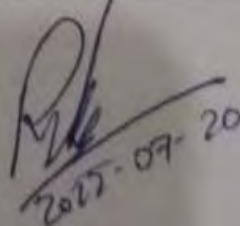
Project	PCI-01		Location		DHC Office		
Employer	WAPDA		Date of Meeting		01/08/2022 (03:30 pm- 04:21 pm)		
Engineer	DHC		Place of meeting		DHC Meeting Hall		
Contractor	CGICOP		Attendance		Attendance Sheet Attached		
Sr.#	Checked Items and Actions Planned	Action By			Target Date for Action	Date to Confirm Action	Status Closed, Open, Partially Closed
		Emp.	Eng.	Con			
19	Submission of NOC and License for fuel storage at site.			√	15/08/2021	02/06/2021 03/07/2021 29/09/2021 26/10/2021 30/11/2021 30/12/2021 07/02/2022 01/03/2022 01/04/2022 27/05/2022	<p>Not done. The Contractor was instructed to quickly initiate the process.</p> <p>In process</p> <p>Engineer requested WAPDA through letter dated 12th July 2021 to issue a recommendation letter to district administration for CGICOP to grant them an NOC for fuel storage which is a prerequisite for license apply to Chief inspector of explosives. The Employer is requested to pursue the matter please.</p> <p>Not done</p> <p>Not done. The Employer was again requested to send a letter to the district administration for NOC.</p> <p>Not done. The Employer is again requested to send a letter to district administration.</p> <p>Employer sent letter to DC to provide NOC to contractor. Contractor was asked to pursue the matter to get the NOC for onward apply for license.</p> <p>Not Done. Still pending but contractor has promised to submit it by 07th February 2022</p> <p>Not Done. Still pending contractor has agreed to share the NOC by 20th of April 2022</p> <p>Partially Done. NOC from Deputy Commissioner Office has been granted but License is still not granted</p>

					30/06/2022	Partially done. The Engineer instructed the contractor to proceed further in the matter and send application to KP Inspector of Explosives for grant of license. Not Done: The Engineer will issue a reminder letter to the contractor regarding NOC from Inspector of Explosives.
					01/08/2022	
					29/09/2022	
44	Housekeeping of the site should be ensured		√	Immediate	01/08/2022	Done.
					29/09/2022	
45	Ensure dust control at the crusher plant		√	Immediate	01/08/2022	Partially Done; The crusher Plant is not operational at the moment because no concrete pouring is required at PCI-01R Contract.
					29/09/2022	Partially Done; Ensure Water sprinkling at least 3 times a day or install water sprinklers/ wet scrubbers on the conveyor belt.
46	Solid Waste: Contractor is instructed to arrange more waste bins at site and awareness session for the Labor and staff especially upon littering over the construction site.		√	Immediate	29/09/2022	Done;
47	Water Sprinkling Issue. Contractor is instructed to ensure adequate water sprinkling inside the colony area as well as the allocated portion of Khoshe access road.		√	Immediate	29/09/2022	Not Done;
48	MPR Should reflect Waste/ discarded materials section describing used batteries and tires and used oil with their quantities and disposal method /vendor details.		√	Immediate	29/09/2022	Not Done;



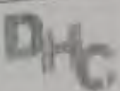

Confirmed by:		
 The Employer	 The Engineer	 The Contractor
Name: <u>Farhat Ali</u>	<u>Anwar H. Khan</u>	<u>Likh Rai</u>
Position: <u>DD (ENV)</u>	<u>Sr. Environment Specialist</u>	<u>CGICOP (PM)</u>
Date: <u>12-10-2022</u>	<u>DHC</u>	<u>2022.10.13.</u>



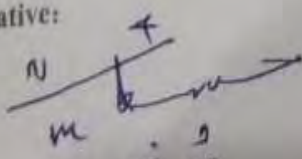
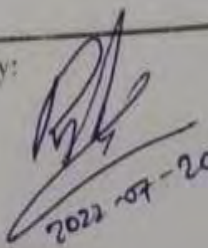
**Annexure B: Results of Monthly Spot Wastewater and Surface Water
Quality Monitoring
(MW-01 & MW-02)**

Dasu Hydropower Project		Engineer	Employer
Contractor	DASU HYDROPOWER PROJECT DASU-MW-01		
			
Surface water quality spot measurements Report			
Surface water quality		River Water <input checked="" type="checkbox"/>	Waste Water <input type="checkbox"/>
Location	V/S (Indus River) Grinding Plant @ Uchar		
Date Of Inspection	20-07-2022	Time Of Inspection	10:13 am
Sample points	01	Report No.	MW-01 / SW-104
Item	Unit	Portable Meter	Result
Turbidity	NTU	WZB-175	< 1000+ ✓
Conductivity	µs/cm	DZB-718L	150.8 ✓
PH	/	DZB-718L	8.6 ✓
DO	mg/L	DZB-718L	4.8 ✓
Temperature	°C	DZB-718L	19.5 ✓
Visual Petroleum Product		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Remarks: Due to Rain Turbidity Level is High. Beyond 1000 NTU <i>[Signature]</i> 20/7/2022			
Contractor Representative:		Witness by:	
<i>[Signature]</i> 2022-07-20		<i>[Signature]</i> 20/07/2022 A.D WAPDA	

Dasu Hydropower Project		Engineer	Employer
Contractor 		DASU HYDROPOWER PROJECT DASU-MW-01	
			
Surface water quality spot measurements Report			
Surface water quality		River Water <input type="checkbox"/>	Waste Water <input checked="" type="checkbox"/>
Location	Crushing Plant @ Vchoor		
Date Of Inspection	20/07/2022	Time Of Inspection	10:37 am
Sample points	02	Report No.	MW-01/SW-105
Item	Unit	Portable Meter	Result
Turbidity	NTU	WZB-175	< 1000 ✓
Conductivity	µs/cm	DZB-718L	94.2 ✓
PH		DZB-718L	8.8 ✓
DO	mg/L	DZB-718L	5.012 ✓
Temperature	°C	DZB-718L	25.5 ✓
Visual Petroleum Product		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Remarks: Turbidity is very High beyond 1000 NTU.  20/7/2022			
Contractor Representative:  2022-07-20		Witness by:  2022-07-20	



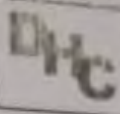

Dasu Hydropower Project		Engineer	Employer
Contractor	DASU HYDROPOWER PROJECT DASU-MW-01		
Surface water quality spot measurements Report			
Surface water quality		River Water <input type="checkbox"/>	Waste Water <input checked="" type="checkbox"/>
Location	CR-02		
Date Of Inspection	20-07-2022	Time Of Inspection	11:14 am
Sample points	Sample B @ CR-2	Report No.	/
Item	Unit	Portable Meter	Result
Turbidity	NTU	WZB-175	73.8
Conductivity	µs/cm	DZB-718L	367
PH	/	DZB-718L	10.7
DO	mg/L	DZB-718L	3.5
Temperature	°C	DZB-718L	25.6
Visual Petroleum Product		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Remarks: PH is beyond NEQS. Please add fresh water & increase retention time. <i>[Signature]</i> 20/7/2022</p>			
Contractor Representative:		Witness by:	
 2022-07-20		 2022-07-20	

Dasu Hydropower Project		DASU HYDROPOWER PROJECT DASU-MW-01		Engineer	Employer
 					
Surface water quality spot measurements Report					
Surface water quality			River Water <input type="checkbox"/>	Waste Water <input checked="" type="checkbox"/>	
Location	Sedimentation Pond @ Adit - 01		Time Of Inspection	11:30	
Date Of Inspection	20-07-2022		Report No.	/	
Sample points	No Sample Taken				
Item	Unit	Portable Meter	Result		
Turbidity	NTU	WZB-175	/		
Conductivity	µs/cm	DZB-718L			
PH	/	DZB-718L			
DO	mg/L	DZB-718L			
Temperature	°C	DZB-718L			
Visual Petroleum Product		Yes <input type="checkbox"/>	No <input type="checkbox"/>		
<p>Remarks: Pond is full of Algae. First Clean the Pond then Sample will be taken. <i>[Signature]</i> 20/7/2022</p>					
Contractor Representative: <i>[Signature]</i> 2022-07-20			Witness by: <i>[Signature]</i> 20-07-2022		

Dasu Hydropower Project		Engineer	Employer
Contractor  		DASU HYDROPOWER PROJECT DASU-MW-01	
Surface water quality spot measurements Report			
Surface water quality		River Water <input type="checkbox"/>	Waste Water <input checked="" type="checkbox"/>
Location	CR-02 (Bathing plant)	Time Of Inspection	11:08 am
Date Of Inspection	20-07-2022	Report No.	MW-01 / SW-106
Sample points	Sample-A @ CR-02		
Item	Unit	Portable Meter	Result
Turbidity	NTU	WZB-175	79.0
Conductivity	µs/cm	DZB-718L	1528
PH	/	DZB-718L	11.5
DO	mg/L	DZB-718L	6.1
Temperature	°C	DZB-718L	25.9
Visual Petroleum Product		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Remarks: PH is beyond NEQS Limits which 6-9. Add Fresh Water to the Pond A on the road side.			
Contractor Representative:  2022-07-20		Witness by:  2022-07-20	

* Sample A is 1st Retaining Ponds & Sample-B is 2nd Retaining Pond in front of Masjid.

Dasu Hydropower Project

Contractor		DASU HYDROPOWER PROJECT DASU-MW-01		Engineer	Employer
 					

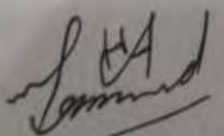
Surface water quality spot measurements Report


Surface water quality		River Water <input type="checkbox"/>	Waste Water <input checked="" type="checkbox"/>
Location	CR-02 Batching Plant ucheer		
Date Of Inspection	20-09-2022	Time Of Inspection	11:05 am
Sample points	03	Report No.	MW-01/SW-109

Item	Unit	Portable Meter	Result
Turbidity	NTU	WZB-175	78.2
Conductivity	µs/cm	DZB-718L	1257
PH		DZB-718L	11.2 ↑ ✓
DO	mg/L	DZB-718L	6.5 ✓
Temperature	°C	DZB-718L	21.1

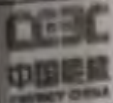

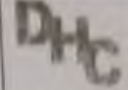

Visual Petroleum Product	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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Remarks: - PH value is very high. Fresh water should be added to lower the PH.

Contractor Representative: 
2022-09-20

Witness by: 
20/09/2022

Dasu Hydropower Project

Contractor		DASU HYDROPOWER PROJECT DASU-MW-01	Engineer	Employer
				

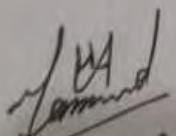

Surface water quality spot measurements Report



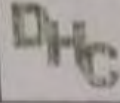
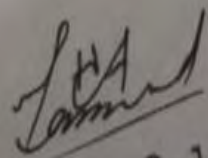

Surface water quality		River Water <input checked="" type="checkbox"/>	Waste Water <input type="checkbox"/>
Location	Upstream Uchaar Washing plant at River Indus		
Date Of Inspection	20-09-2022	Time Of Inspection	10:33 am
Sample points	01	Report No.	MW-01/SW-107

Item	Unit	Portable Meter	Result
Turbidity	NTU	WZB-175	486 ✓
Conductivity	µs/cm	DZB-718L	177.7 ✓
PH		DZB-718L	8.8 ✓
DO	mg/L	DZB-718L	7.9 ✓
Temperature	°C	DZB-713L	19.0 °C ✓


Visual Petroleum Product	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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Remarks:

Contractor Representative:  2022-09-20	Witness by:  20/09/2022
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Contractor		DASU HYDROPOWER PROJECT DASU-MW-01		Engineer	Employer
 					
Surface water quality/ spot measurements Report					
Surface water quality			River Water <input type="checkbox"/>	Waste Water <input checked="" type="checkbox"/>	
Location		Uchaar Crushing plant			
Date Of Inspection		20-09-2022		Time Of Inspection 10:43 am	
Sample points		02		Report No MW-01/SW-108	
Item	Unit	Portable Meter		Result	
Turbidity	NTU	WZB-175		219 ✓	
Conductivity	µs/cm	DZB-718L		234 ✓	
PH	/	DZB-718L		8.7 ✓	
DO	mg/L	DZB-718L		7.1 ✓	
Temperature	°C	DZB-718L		22.7°C ✓	
Visual Petroleum Product			Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
<u>Remarks:</u>					
Contractor Representative:			Witness by:		
 20-09-20			 20/09/2022		

Dasu Hydropower Project

Contractor		DASU HYDROPOWER PROJECT DASU-MW-01		Engineer	EMPLOYEE
				DHC	TT

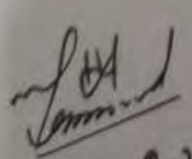
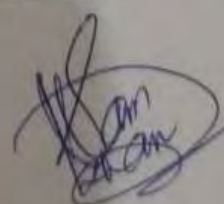
Surface water quality spot measurements Report

Surface water quality		River Water <input type="checkbox"/>	Waste Water <input checked="" type="checkbox"/>
Location	Adit-1 Sedimentation Pond		
Date Of Inspection	20-09-2022	Time Of Inspection	11:30 am
Sample points	04	Report No.	MW-d/SW-110


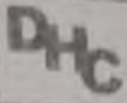

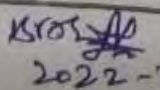
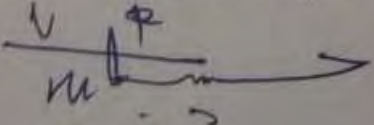
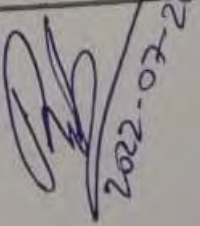
Item	Unit	Portable Meter	Result
Turbidity	NTU	WZE-175	>1000 ↑
Conductivity	µs/cm	DZB-718L	177.7
PH	/	DZB-718L	9.8 ↑
DO	mg/L	DZB-718L	6.0
Temperature	°C	DZB-718L	22.7


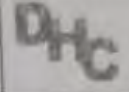
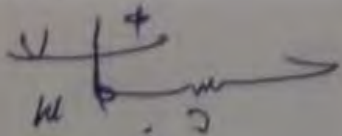
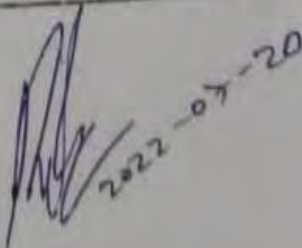
Visual Petroleum Product	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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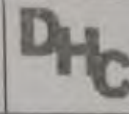

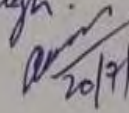
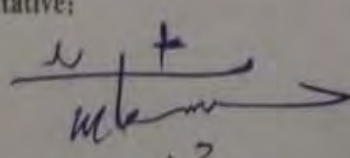
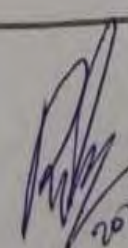
Remarks: The Sedimentation tank should properly be cleaned and fresh water addition should be ensured to lower both the turbidity & PH.

Contractor Representative:	Witness by:
 2022-09-20	 20/9/2022

Dasu Hydropower Project



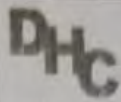
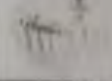
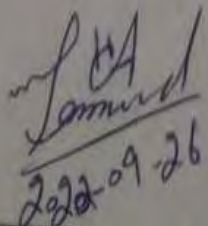
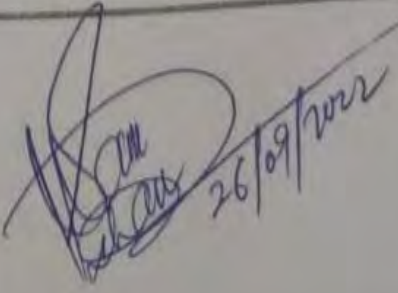
Contractor 		DASU HYDROPOWER PROJECT DASU-MW-02		Engineer 	Employer 
Surface water quality spot measurements Report					
Surface water quality			River Water <input type="checkbox"/>	Waste Water <input checked="" type="checkbox"/>	
Location	CR-09 (MAT) Sedimentation Tank				
Date Of Inspection	20/07/2022	Time Of Inspection	12:00 pm		
Sample points	/		Report No.	/	
Item	Unit	Portable Meter	Result		
Turbidity	NTU	WZB-175	/		
Conductivity	µs/cm	DZB-718L			
PH	/	DZB-718L			
DO	mg/L	DZB-718L			
Temperature	°C	DZB-718L			
Visual Petroleum Product	Yes <input type="checkbox"/>				
<p>Remarks: The Tank needs clearing with long Boom Excavator The water is overflowing from the sides</p>					
Contractor Representative:  2022-7-20  2022-07-20			Witness by:  2022-07-20		

Dasu Hydropower Project		Engineer	Employer
Contractor 		DASU HYDROPOWER PROJECT DASU-MW-02 	
Surface water quality spot measurements Report			
Surface water quality		River Water <input type="checkbox"/>	Waste Water <input checked="" type="checkbox"/>
Location	CR-09 (Batching Plant) (Sedimentation Tank)		
Date Of Inspection	20-07-2022	Time Of Inspection	12:10
Sample points	①	Report No.	MW-02/SW-68
Item	Unit	Portable Meter	Result
Turbidity	NTU	VZB-175	180.1 ✓
Conductivity	µs/cm	DZB-718L	472 ✓
PH	/	DZB-718L	10.8 ✓
DO	mg/L	DZB-718L	5.03 ✓
Temperature	°C	DZB-718L	28.9 ✓
Visual Petroleum Product		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Remarks: pH is very high. Fresh water addition should be increased and retention time should also be increased. 20/07/2022			
Contractor Representative:  2022-07-20		Witness by:  2022-07-20	

Dasu Hydropower Project		Engineer	
Contractor		DHC	
 		 	
DASU HYDROPOWER PROJECT DASU-MW-02			
Surface water quality spot measurements Report			
Surface water quality		River Water <input checked="" type="checkbox"/>	Waste Water <input type="checkbox"/>
Location	CK-09 (Batching Plant) (Down stream)		
Date Of Inspection	20/07/2022	Time Of Inspection	12:19
Sample points	02	Report No.	MW-02/SW-69
Item	Unit	Portable Meter	Result
Turbidity	NTU	WZB-175	<1000(+)
Conductivity	µs/cm	DZB-718L	142.1
PH		DZB-718L	8.1
DO	mg/L	DZB-718L	7.2
Temperature	°C	DZB-718L	19.8
Visual Petroleum Product		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Remarks: Turbidity level is very high.  20/7/2022			
Contractor Representative:  2022-07-20		Witness by:  2022-07-20	

Dasu Hydropower Project		Engineer	Employer
Contractor		DHC	
DASU HYDROPOWER PROJECT DASU-MW-02			
Surface water quality spot measurements Report			
Surface water quality		River Water <input type="checkbox"/>	Waste Water <input checked="" type="checkbox"/>
Location	Khashi (CR-9) Sedimentation tank		
Date Of Inspection	26-09-2022	Time Of Inspection	10:45 am
Sample points	02	Report No.	MW-02/SW-71
Item	Unit	Portable Meter	Result
Turbidity	NTU	WZB-175	116.2
Conductivity	µs/cm	DZB-718L	1094
PH	/	DZB-718L	11.5 ↑
DO	mg/L	DZB-718L	6.7
Temperature	°C	DZB-718L	22.5
Visual Petroleum Product		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<u>Remarks:</u> The Contractor is instructed to ensure fresh water addition to reduce the PH.			
Contractor Representative:		Witness by:	
 2022-09-26		 26/09/2022	

Dasu Hydropower Project		Engineer	Employer
Contractor		DHC	
 DASU HYDROPOWER PROJECT DASU-MW-02			
Surface water quality spot measurements Report			
Surface water quality		River Water <input checked="" type="checkbox"/>	Waste Water <input type="checkbox"/>
Location	Downstream River Khushi at Chuchang		
Date Of Inspection	26-9-22	Time Of Inspection	11:30 11:13 am
Sample points	03	Report No.	MW-02/SW-72
Item	Unit	Protobale Meter	Result
Turbidity	NTU	WZB-175	403 ✓
Conductivity	µs/cm	DZB-718L	295 ✓
PHI		DZB-718L	8.4 ✓
DO	mg/L	DZB-718L	7.8 ✓
Temperature	°C	DZB-718L	18.6
Visual Petroleum Product		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<u>Remarks:</u>			
Contractor Representative:		Witness by:	
 2022-09-26		 26/9/22	

Dasu Hydropower Project		Engineer	Employer
Contractor  			
DASU HYDROPOWER PROJECT DASU-MW-02			
Surface water quality spot measurements Report			
Surface water quality		River Water <input type="checkbox"/>	Waste Water <input checked="" type="checkbox"/>
Location: MAT Sedimentation tank			
Date Of Inspection	26-09-2022	Time Of Inspection	10:30 am
Sample points	01	Report No.	MW-02/SW-70
Item	Unit	Portable Meter	Result
Turbidity	NTU	WZB-175	104.8 ✓
Conductivity	us/cm	DZB-718L	949 ✓
PH	/	DZB-718L	11.3 ↑ ✓
DO	mg/L	DZB-718L	5.1 ✓
Temperature	°C	DZB-718L	22.9 ✓
Visual Petroleum Product		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Remarks: - The contractor is instructed to add fresh water to reduce the PH.			
Contractor Representative:  2022-09-26		Witness by:  26/09/2022	