

Minutes of the 17th Meeting of Nepal-India Joint Team of Experts (JTE) on Sapta Kosi High Dam Multipurpose Project (SKHDMP) and Sun Kosi Storage cum Diversion Scheme (SSDS) held on 9-11 October 2023 at Biratnagar, Nepal

The 17th meeting of the Nepal-India Joint Team of Experts on Sapta-Kosi High Dam Multipurpose Project and Sun-Kosi Storage-cum-Diversion Scheme was held on 9-11 October 2023 at Biratnagar, Nepal. The Nepali side was led by Mr. Chiranjeevee Chataut, Director General, Department of Electricity Development, Government of Nepal (GoN) and the Indian side was led by Mr. P.M. Scott, Member (RM), Central Water Commission (CWC) and Ex-officio Additional Secretary, Government of India (GoI).

The meeting started with a joint field visit to the proposed Sapta-Kosi Dam site, Sisauli Barrage site, Chatra Barrage site and Old & New intakes of Sunsari-Morang Irrigation Project (Government of Nepal) on 9th October 2023 for assessment of the site conditions, followed by meetings on 10 -11 October 2023 at Biratnagar. The list of participants is at Annexure I.

Mr. Shahadev Thapa, on behalf of JPO, Sapta Kosi Sun Kosi Investigation (SKSKI), Nepal welcomed the delegates from both sides and requested Team Leaders for their opening remarks.

In the opening remarks, Mr. Chiranjeevee Chataut, Team Leader, Nepal welcomed Mr. P. M. Scott, Team Leader, India, and all delegates from both the countries. He stated that field investigation works have not progressed as anticipated due to certain issues and therefore, Detailed Project Report (DPR) of the project is yet to be completed. He emphasized that, formulation of Resettlement & Rehabilitation plan for the project parallel to other activities is instrumental for trust building process among the project affected people. This would enable a conducive environment for the project. He expressed that 17th JTE Meeting is being conducted after redesigning the modalities of the project as directed by the 9th Joint Committee on Water Resources (JCWR) meeting. He was optimistic that JTE would be able to conclude the meeting with important decisions, which would yield mutually beneficial results in the long run.

In the opening remarks, Mr. P. M. Scott, Member, RM, CWC & Team Leader, JTE (India) thanked Government of Nepal for the warm welcome and hospitality extended to the Indian



delegation. He also thanked Govt of Nepal for hosting the 17th Meeting of Joint Team of Experts. He appreciated the JPO-SKSKI for making all arrangements for the meeting.

He further expressed his gratitude to the Govt. of Nepal for supporting the efforts of Joint Project Office of Sapta Kosi Sun Kosi Investigation (SKSKI), Biratnagar, Nepal in continuing the investigation works of the project, which will culminate in the preparation of the DPR. The Sapta Kosi High Dam Multipurpose Project (SKHDMP) and Sun Kosi Storage Cum Diversion Scheme (SSDS) will be immensely beneficial to the people of both the countries in terms of economic development as well as saving lives and property in the region from floods of the Kosi River every year.

He pointed out that the progress in essential field investigation/studies for DPR preparation like Drilling/ Drifting; Environment Impact Assessment etc. have not been satisfactory. Various factors have hampered the progress of these activities. However, clear decisions taken during the 9th meeting of JCWR held in September 2022 in Kathmandu have provided renewed momentum to the project. He recalled that the JCWR has directed the JPO to review the project parameters, considering resettlement in the submergence area, planned upstream projects, social, environmental, technical aspects etc. He further emphasized that Joint Team of Experts from both sides expeditiously resolve the pending issues and challenges, so that the DPR could be jointly finalized at the earliest.

Thereafter, the agenda of the 17th meeting of JTE was proposed and adopted (**Annexure II**). Subsequently, the agenda items were taken up for detailed discussion.

17.1 Follow up action on decisions taken during 16th meeting of JTE held on 25 - 26 July 2019 at New Delhi

JPO-SKSKI presented the report on action taken on the decisions made during 16th meeting of JTE. It is observed that prerequisite works like preparation of Tender Document along with Estimates for the Balance Drilling and Drifting for SKHDMP as well as SSDS Projects, EIA and R&R Studies have been prepared by JPO. Further, an interaction programme with stakeholders of SKHDMP area was conducted by JPO on 19.03.2023 to build and enhance public trust amongst stakeholders. As per directions of JCWR in its 9th meeting held in September 2022, the parameters of SKHDMP were to be revised considering settlement in



the submergence area, planned upstream projects, social, environmental and technical aspects.

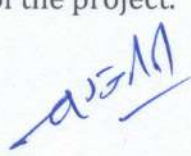
17.2 Review of progress of field works and various studies related to Sapta Kosi High Dam Multipurpose Project (SKHDMP) and Sun Kosi Storage cum Diversion Scheme (SSDS)

Updated progress report and status of various works/studies was presented by JPO. JTE noted that substantial physical progress has not been achieved since 16th JTE Meeting. In this regard, JTE instructed JPO to conduct interaction programs with stakeholders for enhancement of trust amongst the people to bring about a conducive environment at site. Concerted efforts should be made for completing the balance works as per the revised parameters of SKHDMP.

17.3 Review of Parameters of SKHDMP on account of planned/under construction upstream projects in Kosi basin

As directed by JCWR during its 9th meeting held on 23rd September 2022 at Kathmandu, salient features/data of proposed upstream projects in Kosi Basin have been shared by GoN to JPO, who then prepared a Draft report for revised parameters of SKHDMP. The draft report was presented to JTE. After detailed deliberations on the proposed revised parameters, JTE decided that governing water level of SKHDMP reservoir may be taken as 304.80 m for further studies including assessment of EIA & RR studies and FRL as 299.00 m for power potential studies. However, the governing level and FRL of SKHDMP may be reaffirmed once the parameters and other features of upstream projects including Dudh Kosi Storage, Lower Arun and Sun Kosi-I are finalised. Thereafter, if needed, the EIA & R&R studies shall be updated accordingly. In this regard, JPO was directed to coordinate with concerned Project Authorities to obtain required parameters of those projects.

In view of substantial reduction in the Dam height and in consideration of the proposal from the local inhabitants, the JTE agreed to rename the Sapta Kosi High Dam Multipurpose Project as Sapta Kosi Multipurpose Project (SKMP) and Sun Kosi Storage Cum Diversion Scheme (SSDS) as Sun Kosi Kamala Diversion Multipurpose Project (SKDMP) to reflect the nature of the project.



17.4 Review of Re-regulating Barrage at Chatra/Sisauli including Water Transfer Mechanism to Nepal and India from Sapta Kosi High Dam on account of revision in parameters of SKHDMP

As per original planning, a re-regulating barrage was proposed at Chatra ~ 8 km D/S of SKHDMP having pond level 113.40 m and accordingly investigation was started after establishment of JPO in 2004. In 2006, the proposed re-regulating barrage at Chatra was decided to be shifted to Sisauli, further ~ 4 km D/S from Chatra having pond level 120.0 m due to insufficient regulating storage at Chatra Barrage. During field visit on 9th October 2023, JTE observed that proposed Sisauli re-regulating barrage site is not a suitable location for siting the barrage as river is wide, braided and required high embankments on both sides to maintain pond level. This may also cause drainage problem in countryside. Further, the alignment of proposed main canals from Sisauli re-regulating barrage passes through the area where filling of about 15m to 20 m is required in initial reaches of 25Km to 30 Km. In view of the above, along with concerns of Nepali side regarding acquisition of fertile land, JTE agreed to consider alternative location of re-regulating Barrage.

JTE further deliberated that JPO may study the feasibility of SSDS as well as re-regulating barrage around Chatra for meeting irrigation demand in Nepali territory as well as command area in Indian territory in consultation with Department of Water Resources and Irrigation (DWRI), GoN.

17.5 Completion of Irrigation Studies and Command Area Survey in Nepali Territory

JTE reviewed the ongoing work for Irrigation Studies and Command Area Survey in Nepali Territory from re-regulating barrage at Sisauli. Now, as Sisauli re-regulating barrage is being ruled out for further investigation, therefore, JTE instructed JPO to settle the ongoing consulting contracts for irrigation studies. Further, this study shall be re-initiated by JPO in consultation with DWRI, GoN considering new re-regulating barrage location and also utilizing the relevant base line data from previous studies.



17.6 Work Plan for completion of balance field investigation work and preparation of DPR and need for extension of JPO-SKSKI tenure accordingly

JTE agreed with the work plan presented by JPO (**Annexure III**) for completing the balance investigation works and preparation of DPR of SKHDMP and SSDS projects. Accordingly, JTE agreed to extend the tenure of JPO-SKSKI beyond 22nd September 2024 till 31st March 2026. JTE further underscored the need to fill key vacant technical posts from both sides at the earliest.

17.7 Award of Pending Works/Studies

JTE observed that critical field activities for DPR preparation are drilling, drifting, EIA and R&R as well as Flood Benefit Studies. JTE instructed JPO to prioritize the work accordingly. Further, parallel action for other activities like GLOF, Power Potential and Evacuation Studies etc. shall be taken up as per the revised parameters of SKHDMP. As agreed in 16th JTE meeting, JPO shall carry out Flood Benefit Studies of Nepal and India in coordination with the line agencies of the respective countries.

Technical sanction to following works accorded by JTE:-

Name of Work	Quantity	Estimated Cost (In Lakh IRs)
Sapta Kosi High Dam Multipurpose Project		
Drilling at SKHDMP Dam Site	1100m	193.70
Drilling at SKHDMP Power House Complex	1875m	375.90
Drifting at Power House of SKHDMP	600m	333.54
Sub Total (SKHDMP)		903.14
Sun Kosi Storage Cum Diversion Scheme		
Drilling at Kurlleghat Dam Site, Diversion Tunnel and Power House Complex of SSDS	1183m	241.50
Drifting at Kurlleghat Dam Axis of SSDS	170m	78.98
Sub Total (SSDS)		320.48
Total (SKHDMP & SSDS)		1223.62

It was further instructed that JPO may prepare the estimates for other studies including EIA and R&R, Flood Benefits and Irrigation Studies etc. at the earliest and submit the same to both Team Leaders (JTE) for approval.

17.8 Issues related to rent for JPO-SKSKI office at Biratnagar, Nepal

a) *Ex-Post Facto approval for enhanced rent of hired building for JPO-SKSKI office at Biratnagar, Nepal with effect from 01.04.2021*

JTE endorsed the expenditure from 01.04.2021 to 11.10.2023 and approved the enhanced rent of hired building for JPO-SKSKI office at Biratnagar, Nepal with effect from 12.10.2023 to 30.09.2024 @ NRs 79860/- per month.

b) *Increase in Rent of hired building for JPO-SKSKI office at Biratnagar, Nepal with effect from 01.10.2024*

- JTE approved the enhancement of monthly rent of office building at JPO-SKSKI, Biratnagar @ NRs 95000/- with effect from 01.10.2024 and instructed JPO to negotiate with the owner to sign the lease agreement for three years or till end of tenure of JPO whichever is earlier.

17.9 Any other item with permission of the Chair;

No other items were discussed.

The meeting was held in a cordial atmosphere. It was agreed that the next meeting of the JTE will be held in India on a mutually agreed date.



(Shri Chiranjeewee Chataut)

Team Leader of JTE Nepal



(Shri Pyndemlang Manroi Scott)

Team Leader of JTE India

**17TH MEETING OF JTE ON SKSKI PROJECTS
09 - 11 OCTOBER 2023 AT BIRATNAGAR, NEPAL**

NEPALI SIDE

S. No.	Name	Designation	Position
1	Shri Chiranjewee Chataut	Director General, Department of Electricity Development and Team Leader (Nepal), Kathmandu, Nepal	Team Leader
2	Shri Sanjay Dhungel	Deputy Director General, Department of Electricity Development, Kathmandu, Nepal	Member
3	Shri Sanjeeb Baral	Deputy Director General, Department of Water Resources & Irrigation, Kathmandu, Nepal	Member
4	Shri Dr. Rajan Bhattarai	Deputy Director General, Department of Hydrology & Meteorology, Kathmandu, Nepal	Member
5	Shri Vijay Kumar Raut	Under Secretary, Ministry of Foreign Affairs, Government of Nepal, Kathmandu	Member
6	Ms. Laxmi Jha	Senior Divisional Engineer, Ministry of Energy, Water Resources & Irrigation, Kathmandu, Nepal	Member
7	Shri Surya Dev Gupta	Senior Divisional Engineer, Water and Energy Commission Secretariat Kathmandu, Nepal	Member
8	Shri Shankar Bahadur Shaud	Engineer, Department of Electricity Development, Kathmandu, Nepal	Member
9	Shri Shahadev Thapa	Project Manager (N), JPO-SKSKI & Member Secretary, JTE (Nepal), Biratnagar, Nepal	Member Secretary
10	Shri Narayan Kumar Prasai	Director System Planning Division, Electricity Authority, Kathmandu, Nepal.	Special Invitee
11	Shri Birendra Pandit	Engineer, JPO-SKSKI, Biratnagar, Nepal	Invitee



**17TH MEETING OF JTE ON SKSKI PROJECTS
09 - 11 OCTOBER 2023 AT BIRATNAGAR, NEPAL**

INDIAN SIDE

S. No.	Name	Designation	Position
1	Shri Pyndemlang Manroi Scott	Member (RM), CWC & Ex-Officio Additional Secretary to the Government of India, New Delhi	Team Leader
2	Shri Gulshan Raj	Chairman, Ganga Flood Control Commission, Patna	Member
3	Shri Atul Jain	Commissioner (FM), DoWR, RD&GR, MoJS, New Delhi	Member
4	Shri Pradeep Kumar Shukla	Chief Engineer, HPP&I Division, CEA, Ministry of Power, New Delhi	Member
5	Shri Ambarish Nayak	Chief Engineer (LGB0), CWC, Patna	Member
6	Shri Girish Kumar Agarwal	Chief Engineer (YBO), CWC, New Delhi	Member Secretary
7	Shri Vivek Tripathi	Chief Engineer Designs (N&W), CWC, New Delhi	Member
8	Shri Amit Audumbarayan Shukla	Director (North Block), Ministry of External Affairs, New Delhi	Member
9	Shri Akshaya Kumar Sahoo	Deputy Secretary, Finance, DoWR, RD&GR, New Delhi	Member
10	Er. Shailendra	Engineer-in-Chief, Flood Control & Drainage, WRD, Govt. of Bihar, Patna.	Special Invitee
11	Shri Ayodhya Prasad Thapliyal	Director, GSI, North Region, Lucknow	Special Invitee
12	Shri Ram Jeet Verma	Project Manager(I), JPO-SKSKI, Biratnagar, Nepal	Invitee
13	Shri Rajesh Kumar	Senior Joint Commissioner, FM Wing, DoWR, RD&GR, New Delhi	Invitee
14	Shri Asit Chaturvedi	Director, N&B Coordination, CWC, New Delhi	Special Invitee
15	Shri Tenzing P Bhutia	Attaché (Commerce), Embassy of India, Kathmandu, Nepal	Invitee
16	Shri Anjani Kumar Mishra	Senior Engineer	JPO-SKSKI
17	Shri Brij Bhushan Kardam	Assistant Engineer	JPO-SKSKI
18	Shri Vishal Gupta	Junior Engineer	JPO-SKSKI

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**AGENDA FOR 17th NEPAL-INDIA JTE MEETING ON SAPTA KOSI SUN KOSI INVESTIGATION
PROJECTS HELD ON 09 -11 OCTOBER 2023 AT BIRATNAGAR, NEPAL**

- 17.1 Follow up action on decisions taken during 16th meeting of JTE held on 25 – 26 July, 2019 at New Delhi
- 17.2 Review of progress of field works and various studies related to Sapta Kosi High Dam Multipurpose Project (SKHDMP) and Sun Kosi Storage cum Diversion Scheme (SSDS)
- 17.3 Review of Parameters of SKHDMP on account of planned/under construction upstream projects in Kosi basin
- 17.4 Review of Re-regulating Barrage at Chatra/Sisauli including Water Transfer Mechanism to Nepal and India from Sapta Kosi High Dam on account of revision in parameters of SKHDMP
- 17.5 Completion of Irrigation Studies and Command Area Survey in Nepali Territory
- 17.6 Work Plan for completion of balance field investigation work and preparation of DPR and need for extension of JPO-SKSKI tenure accordingly
- 17.7 Award of Pending Works/Studies
- a. Balance Drilling / Drifting works
 - b. EIA and R&R Studies
 - c. Flood Benefit Studies
 - d. Power Potential, Power System and Evacuation Studies
 - e. GLOF Studies
- 17.8 **Issues related to rent for JPO-SKSKI office at Biratnagar, Nepal**
- a) Ex-Post Facto approval for enhanced rent of hired building for JPO-SKSKI office at Biratnagar, Nepal w.e.f. 01.04.2021
 - b) Increase in Rent of hired building for JPO-SKSKI office at Biratnagar, Nepal w.e.f. 01.10.2024
- 17.9 Any other item with permission of the Chair

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Work Plan for Balance Works of SKHDMP and SSDS

S. No.	Description of Work	Time required for balance work	Timeline
1	Topographical Survey		
	A. Preparation of Large-Scale Maps	Completed	----
	B. Preparation of Small-Scale Maps	Completed	----
2	Geological & Geotechnical Investigation		
	2A Drilling (incl logging)		
	a. Sapta Kosi High Dam Multipurpose Project		
	i Exploratory drilling in the Dam axis of SKHDMP (1100m, 11 holes) (2 mc, 4m/d)	12	Jan-24 to Dec-24
	ii Drilling on Spillway (254m 3 holes), and Powerhouse (1875m, 8 holes) SKHDMP. Total 2129m (3 mc, 4m/d/mc)	12	Jan-24 to Dec-24
	b. Sun Kosi Storage cum Diversion Scheme		
	i Exploratory Drilling in the Kuruleghat Dam including Intake (60m, 1 Holes) Diversion tunnel with Audits (722m, 3 Holes) and Surge shaft, Power house area of SSDS (401m, 8 Holes). Total 1183m (2 mc, 4m/d/mc)	08	Jan-24 to Aug-24
	ii Kamala Dam and Uttarayani Barrage site	Completed	----
	2B Drifting		
	i Sapta Kosi High Dam Multipurpose Project (600m, 1 Drift) (Underground Power house) (2.0 m wide by 2.50 m high)	18	Jan-24 to Jun-25
	ii Sun Kosi Storage cum Diversion Scheme (170m, 4 Drift) (4-2x45,2x40) (2.00 m wide by 2.50 m high)	08	Jan-24 to Aug-24
	2C Preparation of Report on Geological & Geotechnical Investigation by GSI	06	Mar-25 to Aug-25
3	Construction Material Survey and Geophysical Investigation		
	a) Identification of quarries & tests on Coarse & fine aggregate and clay core material for Kuruleghat Dam.	04	Jan-24 to April-24

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S. No.	Description of Work	Time required for balance work	Timeline
	b) In-Situ Rock Mechanics Tests in drifts and drill holes at Dam and Power House of SKHDMP and SSDS by CSMRS	04	Feb-25 to May-25
	c) Preparation of geophysical investigation report for SKHDMP and SSDS by CSMRS	04	May-25 to Aug-25
4	Communication Survey	Completed	----
5	Irrigation Studies of Command Area		
	i Indian Territory	Completed, (need revision)	Jan-24 to April-24
	ii Nepali Territory	12	Nov-23 to Oct-24
6	i Seismological Studies ii Seismic Data collection	Completed Continued work	----
7	Navigational Studies	Completed	----
8	i Hydro-meteorological Data Collection ii Design Flood Studies	Continued work 06	---- Oct-23 to March-24
9	GLOF Studies	06	April-24 to Sep-24
10	Flood Benefits Studies		
	i Flood Benefits Studies in Indian side	12	Jan-24 to Dec-24
	ii Flood Benefits Studies in Nepali side	12	Jan-24 to Dec-24
11	Power Potential Studies	06	Jan-24 to Jun-24
12	Power System and Evacuation Studies	12	Jan-24 to Dec-24
13	EIA including R&R Study		
	i Nepali Territory	30	Oct-23 to Mar-26
	ii Indian Territory	24	Oct-23 to Sep-25
14	Design & Optimization		
	i Hydel Civil Design	08	Jan-25 to Aug-25
	ii Design of electro-mechanical components	05	May-25 to Sep-25
	iii Optimization	02	Sep-25 to Oct-25
15	Equipment & construction planning	02	Oct-25 to Nov-25
16	Estimation & Costing	02	Oct-25 to Nov-25
17	Project Evaluation	02	Nov-25 to Dec-25
18	Writing of different chapters of DPR	15	Oct-24 to Dec-25
19	Finalization of Joint DPR and Printing	02	Jan-26 to Feb-26
20	Submission of DPR	March 2026	

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