भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन नदी विकास एवं गंगा संरक्षण विभाग
केंद्रीय जल आयोग
मुख्य अभियंता का कार्यालय
ऊपरी गंगा बेसिन संगठन

सत्यमेव जयते

Azadi Ka Amrit Mahotsav

Government of India
Ministry of Jal Shakti
Dept. of Water Resources, RD&GR
Central Water Commission
Office of Chief Engineer
Upper Ganga Basin Organization

सेवा में,

मुख्य अभियंता,
योजना एवं विकास संगठन,
केन्द्रीय जल आयोग,
सेवा भवन, नई दिल्ली ।

विषय: गंगा नदी में ई-फ़्लो की स्थिति पर वर्ष 2023 की दूसरी त्रैमासिक (अप्रैल –जून 2023) रिपोर्ट।

महोदय,

राजपत्र अधिसूचना REGD संख्या D.L.-33004/99 दिनांक 09.10.2018 के अनुसार, केंद्रीय जल आयोग को ऊपरी गंगा नदी बेसिन में हरिद्वार तक और गंगा नदी की मुख्य धारा में उन्नाव तक ई-फ़्लो की निगरानी की जिम्मेदारी सौंपी गई है | इस संबंध में, गंगा नदी में ई-फ़्लो की स्थिति पर 2023 की दूसरी त्रैमासिक रिपोर्ट सूचनार्थ एवं आवश्यक कार्यवाही हेतु संलग्न है।

यह मुख्य अभियंता, ऊपरी गंगा बेसिन संगठन, केन्द्रीय जल आयोग, लखनऊ के अनुमोदन से जारी किया गया है।

भवदीय

Digitally Signed by Shiv Sunder Singh
Date: 01-08-2023 14:08:10
Reason: Approved

(शिव सुन्दर सिंह)
अधीक्षण अभियंता (समन्वय)

प्रतिलिपि सूचनार्थ:

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4. अधिशाषी अभियंता , HGD, के० ज० आ०, देहरादून ।

No. CWC/UGBO/EF/SR 18

Ministry of Jal Shakti
Department of Water Resources, River Development & Ganga Rejuvenation
Central Water Commission
Upper Ganga Basin Organization

IMPLEMENTATION OF MINIMUM ENVIRONMENTAL FLOWS IN RIVER GANGA

(Up to Unnao)

STATUS REPORT

(April - June, 2023)

July, 2023

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EXECUTIVE SUMMARY

The Government of India vide Gazette Notification dated 9th October, 2018, has notified the minimum environmental flows for River Ganga that has to be maintained at various locations on the river. The order applies to the Upper Ganga River Basin starting from originating glaciers and through respective confluences of its head tributaries finally meeting at Devprayag up to Haridwar and the main stem of River Ganga up to Unnao district of Uttar Pradesh. CWC has been entrusted the responsibility of monitoring the compliance by project authorities on maintenance of desired e-flows. Monitoring of e-flows is being carried by UGBO, CWC since 1st January, 2019.

The current monitoring report covers the compliance status of e-flows during the **2nd quarter i.e., from April to June, 2023**. The releases made from the Projects and other relevant data is transmitted to CWC through e-mail. Most of the projects have installed real time data acquisition system and remaining project authorities are being requested for installation of SCADA/RTDAS and their integration with CWC Data server at the earliest for real time availability of hourly data.

Based on the data supplied by project authorities, all of the projects were in compliance with the e-flow norms during the period except for **Srinagar HEP** which is in non-compliance with the e-flow norms during the whole quarter.

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1.0 BACKGROUND

Ecological needs of the river have been recognized as one of the uses of water in the National Water Policy (2012). In the Preamble of the policy, it is mentioned that '*water is essential for sustenance of eco-system, and therefore, minimum ecological needs should be given due consideration'*. Clause 3.3 specifies that "*A portion of river flows should be kept aside to meet ecological needs ensuring that the low and high releases are proportional to the natural flow regime, including base flow contribution in the low flow season through regulated ground water uses*".

Government of India, vide Gazette Notification dated 9th October, 2018, the has notified the minimum environmental flows for River Ganga that has to be maintained at various locations on the river. Environmental flows are the acceptable flow regimes that are required to maintain a river in the desired environmental state or predetermined state. The maintenance of minimum e-flow in the river would not only ensure sustenance of aquatic life but also go a long way in ensuring its *Aviralta* or continuous flow in the river. It will ensure that the river has at least the minimum required environmental flow of water even after the river flow gets diverted by projects and structures for purposes like irrigation, hydropower, domestic and industrial use etc.

The above order will apply to the upper Ganga River Basin starting from originating glaciers and through respective confluences of its head tributaries finally meeting at Devprayag up to Haridwar and the main stem of River Ganga up to Unnao district of Uttar Pradesh. The compliance of minimum environmental flow is applicable to all existing, under-construction and future projects. The existing projects which did not met the norms had to ensure that the desired environmental flow norms were complied with w.e.f 15th December, 2019. The mini and micro projects which do not alter the flow characteristics of the river or stream significantly are exempted from these environmental flows.

The flow conditions in these river reaches shall be monitored at hourly intervals from time to time. The Central Water Commission has been entrusted the responsibility for supervision, monitoring, regulation of flows and reporting of necessary information to the appropriate authority as and when required and also take emergent decisions about the water storage norms in case of any emergency.

The concerned project developers or authorities will have to install automatic data acquisition and data transmission facilities at appropriate locations at project sites within six months. The Central Government through National Mission for Clean Ganga may direct release of additional water in the river Ganga to meet special demand as and when required.

2.0 GANGA PHYSIOGRAPHY

The Ganga River basin is the largest river basin in India in terms of catchment area, constituting 26% of the country's land mass (861,404 sq. km) and supporting about half a billion populations. The drainage area of the basin lies in 11 states covering Uttarakhand, Uttar Pradesh, Madhya Pradesh, Bihar, Jharkhand, Chhattisgarh, Rajasthan, West Bengal, Haryana, Himachal Pradesh and the Union Territory of Delhi. It traverses a course of 2525 km before flowing into the Bay of Bengal. It has a large number of tributaries joining it during this journey. The main physical sub-divisions are the Northern Mountains, the Gangetic Plains and the Central Highlands. Northern Mountains comprises the Himalayan ranges including their foot hills. The Gangetic plains, situated between the Himalayas and the Deccan plateau and covering most of the basin, are ideally suited for intensive cultivation. The culturable area of Ganga basin is about 57.96 M.ha which is about 29.5% of the total culturable area of the country.

In the monitoring reach of river Ganga up to Unnao, there are many manmade interventions utilizing the water for various developmental needs such as drinking water, irrigation, hydro power etc. These projects impact the natural flows in the river. In upper Ganga basin up to Haridwar, there are a number hydro-electric project. Most of these projects are run-of-the river (ROR) projects except Tehri which is a major storage project having gross storage of 3.54 BCM and live storage 2.615 BCM. At Haridwar, Ganga opens to the Gangetic Plains, where Bhimgoda barrage diverts a large quantity of its waters into the Upper Ganga Canal and Eastern Ganga Canal, to provide water for irrigation and other consumptive uses. Further, about 76 km downstream of Haridwar, in Bijnor district, another barrage diverts water into the Madhya Ganga Canal but only during monsoon months. At Narora, there is further diversion of water into the Lower Ganga Canal from Narora barrage, about 155 km downstream of Chaudhary Charan Singh Barrage. Further downstream from the barrage at Kanpur, Ganga water is being diverted to meet the drinking water requirements of Kanpur town.

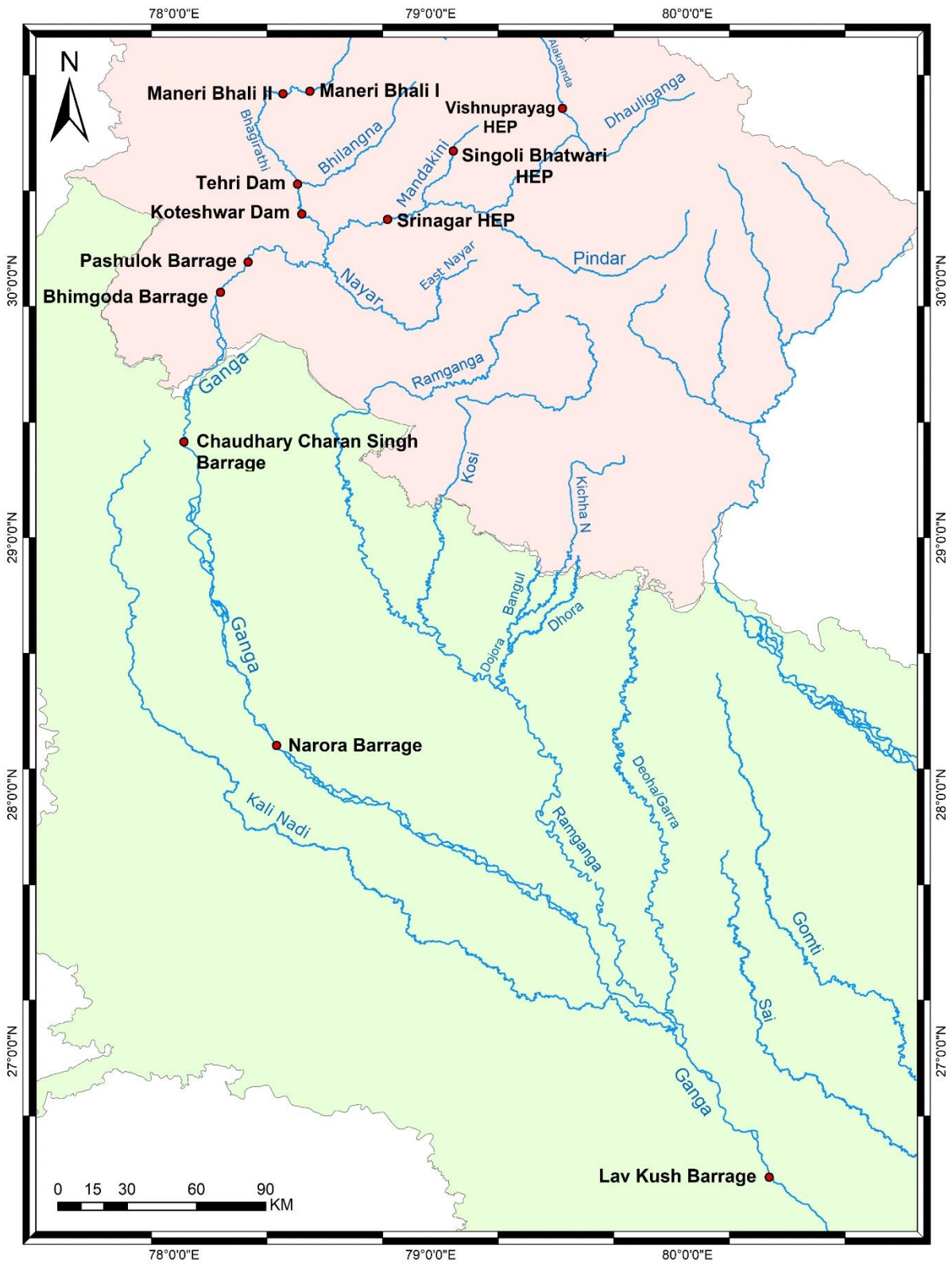


Figure 1. Map showing key Projects in Ganga Basin Up to Unnao

3.0 MINIMUM E-FLOWS NORMS

The e-flows notified by the Government of India Vide Gazette Notification dated 9th October, 2018 are as follows:

3.1 Upper Ganga River Basin Stretch starting from originating glaciers and through respective confluences finally meeting at Devprayag up to Haridwar:

Table 1- E-flow Norms for Projects in Upper Ganga Basin up to Haridwar

Sl No	**Season**	**Months**	**(%) Percentage of Monthly Average Flow observed during each of preceding 10-daily period**
1	Dry	November to March	20
2	Lean	October, April and May	25
3	High Flow	June to September	30*#

*# 30% of monthly flow of High flow season.

3.2 Stretch of main stem of River Ganga from Haridwar, Uttarakhand to Unnao, Uttar Pradesh

Table 2- E-flow Norms for Projects in Main Ganga Stem from Haridwar to Unnao

Sl. No.	Location of Barrage	Minimum flow releases Immediately downstream of Barrages ***(In Cumecs)*** **Non-Monsoon (October to May)**	Minimum flow releases immediately downstream of barrages ***(In Cumecs)*** **Monsoon (June to September)**
1	Bhimgoda (Haridwar)	36	57
2	Bijnor	24	48
3	Narora	24	48
4	Kanpur	24	48

The copy of the Gazette Notification dated 9th October, 2018 is enclosed at **Annex-I**

3.3 New Standard Operating Procedures for implementation/monitoring of minimum environmental flows in River Ganga

The new Standard Operating Procedures (SOP) for implementation/monitoring of minimum environmental flows in River Ganga was approved by National Mission for Clean Ganga (NMCG) vide letter F. No. 5/46/2017-Hyd (NE) dated 24.01.2020. Accordingly, the e-flow for monsoon season i.e., June to September has been calculated as per new SOP.

During June to September (Monsoon Period)

Looking the high variability in the flows during monsoon period, the mandated e-flows for this period shall comprise of two components:

(i) e-flows corresponding to Baseline Inflows

30 percent of the 10-daily average of baseline inflows is considered as baseline e-flows for corresponding 10 daily periods. The baseline inflows at a given project location may be assessed based on fitted trend line (10 per moving average) on lower envelope of past 10 years' inflow at the project location. As baseline inflows shall be available with degree of reliability, the e-flows corresponding to baseline inflows would be **Mandated e-flow** release as per target for each ten-daily period.

(ii) e-flows Corresponding to Flood Fluxes

As flood fluxes are stochastic in nature, e-flows corresponding to flood fluxes may be released any time during the month preferably at the time of high flood wave(s). The project authorities shall be at liberty to release the E-flows corresponding to flood fluxes at any time during the month. However, the quantum of e-flow component from flood fluxes should be adequate so as to meet overall target of e-flows (30 percent of gross inflows during the month including baseline e-flows).

To analyze the compliance/ non-compliance status during the month, the volume of water as outflow has to be more than 30% of gross volume of water received as inflow. The mandated base-flow is represented in green color and the **Desired e-flow** (30 percent of gross inflows) is represented in violet color in the graph under the '*Current status of e-flow monitorin*g'.

4.0 PROJECTS UNDER MONITORING

In upper Ganga River basin up to Haridwar, river valley projects are largely non-consumptive and are mainly used for hydro power generation. Few minor projects are also being used for irrigation and drinking water purposes. The list of existing, ongoing and contemplated projects is enclosed at **Annex-II.** From Haridwar onwards beginning with Bhimgoda Barrage, projects are being used for water diversion for irrigation, domestic and industrial uses.

The key projects in Ganga up to Unnao are listed below:

Table 3: Key projects on River Ganga up to Unnao

S. No	Name of Project	River/Tributary	District/State	Remarks
Projects on Alaknanda and its tributaries				
1.	Vishnuprayag HEP (400 MW)	Ganga/Alaknanda	Chamoli/ Uttarakhand	SCADA system installed & operational
2.	Vishnugad Peepal Koti HEP (444 MW)	Ganga/Alaknanda	Chamoli/ Uttarakhand	Under construction
3.	Srinagar HEP (330 MW)	Ganga/Alaknanda	Pauri Garhwal /Uttarakhand	
4.	Tapovan Vishnuprayag HEP (520 MW)	Ganga/Alaknanda/ Dhauliganga	Chamoli/ Uttarakhand	Under construction
5.	Singoli Bhatwari HEP (99 MW)	Ganga/Alaknanda/ Mandakini	Rudraprayag/ Uttarakhand	SCADA system installed & operational
Projects on Bhagirathi and its tributaries				
1.	Maneri Bhali Phase-I HEP (90 MW)	Ganga/Bhagirathi	Uttarkashi/ Uttarakhand	SCADA system installed and Operational
2.	Maneri Bhali Phase-II HEP (304 MW)	Ganga/Bhagirathi	Uttarkashi/ Uttarakhand	SCADA system installed & operational
3.	Tehri HEP (1000 MW)	Ganga/Bhagirathi	Tehri Garhwal/ Uttarakhand	SCADA system not installed
4.	Koteshwar HEP (400 MW)	Ganga/Bhagirathi	Tehri Garhwal/ Uttarakhand	SCADA system not installed
9.	Tehri Pump Storage Plant (1000 MW)	Ganga/Bhagirathi	Tehri Garhwal/ Uttarakhand	Under construction
Projects on Ganga Main Stream				
1.	Pashulok Barrage, Rishikesh (Chilla HEP, 143 MW)	Ganga	Rishikesh/Uttarakhand	SCADA system installed & operational
2.	Bhimgoda Barrage (Irrigation)	Ganga	Haridwar/Uttarakhand	SCADA system installed and operational.

S. No	Name of Project	River/Tributary	District/State	Remarks
3.	Chaudhary Charan Singh Barrage (Irrigation)	Ganga	Bijnor/Uttar Pradesh	
4.	Narora Barrage (Irrigation& Industrial)	Ganga	Narora/Uttar Pradesh	SCADA system installed and operational
5.	Lav Kush Barrage (Drinking Water)	Ganga	Kanpur/Uttar Pradesh	-

Considering the extent of modifications of flows by the projects, following projects are being monitored presently for implementation of E-flows w.e.f. 1st January, 2019:

Table 4: List of Projects being monitored presently

Sl. No.	Name of the Project	Agency
1.	Maneri Bhali Stage-I	UJVNL
2.	Maneri Bhali Stage –II	UJVNL
3.	Tehri – Koteshwar Dam	THDCIL
4.	Vishnuprayag HEP	JPVL
5.	Srinagar HEP	GVK
6.	Singoli Bhatwari HEP	ReNew Jal Urja Ltd
7.	Pashulok Barrage/ Chilla HEP	UJVNL
8.	Bhimgoda Barrage	UP Irrigation & WRD
9.	Chaudhary Charan Singh Barrage	UP Irrigation & WRD
10.	Narora Barrage	UP Irrigation & WRD
11.	Lav Kush Barrage	UP Irrigation & WRD

Salient features of the above projects are enclosed at **Annex-III.**

Table 5: Length of river stretch below the diversion at the project for which e-flow has been mandated

S No.	Name of project	River/ Tributary	Location of e-flow observation station	District/ State	Length of river stretch in km	Remarks
1	Vishnuprayag HEP	Ganga/ Alaknanda	U/s - Badrinath D/s- Lambagad	Chamoli/ Uttarakhand	18.5	River Dhauliganga joins Alaknanda at 14km d/s of Vishnuprayag barrage.
2	Singoli Bhatwari HEP	Ganga/ Alaknanda/ Mandakini	U/s- Vidyapeeth D/s- Kund	Rudraprayag/ Uttarakhand	13.8	Small nallas joins river Mandakini.
3	Srinagar HEP	Ganga/ Alaknanda	U/s- Rudraprayag D/s- Chauras	Pauri Garhwal/ Uttarakhand	6.8	No river joins river Alaknanda in this reach.
4	Maneri Bhali-I HEP	Ganga/ Bhagirathi	U/s- Maneri D/s- Hina Market	Uttarkashi/ Uttarakhand	13	River Asi Ganga joins river Bhagirathi at 9 Km d/s of Maneri Bhali Phase I Dam.
5	Maneri Bhali-II HEP	Ganga/ Bhagirathi	U/s-Uttarkashi D/s- Manera	Uttarkashi/ Uttarakhand	28	River Dusk joins River Bhagirathi at 26.5 Km d/s of Maneri Bhali Phase II dam.
6	Tehri+ Koteshwar HEP	Ganga/ Bhagirathi	U/s - WL Sensor at Tehri D/s- Koteshwar	Tehri Garhwal/ Uttarakhand	NA	Outflow from TRT of Tehri dam joins Koteshwar reservoir.
7	Pashulok Barrage	Ganga	U/s - Rishikesh D/s- WL Sensor in Chilla Canal	Dehradun/ Uttarakhand	15.3	River Satyanarayan joins river Ganga.
8	Bhimgoda Barrage	Ganga	U/s- Dhudiaban (G), Haridwar D/S- Chandi Bridge, Haridwar	Haridwar/ Uttarakhand	NA	River Solani joins river Ganga before Chaudhary Charan Singh Barrage.
9	Chaudhary Charan Singh Barrage	Ganga	U/s - Chandi Bridge, Haridwar D/s- Basantpur	Bijnor/Uttar Pradesh	NA	-
10	Narora Barrage	Ganga	U/s - Anupsahar D/s- Narora (G)	Aligarh/Uttar Pradesh	NA	-
11	Lav Kush Barrage	Ganga	U/s - Ankinghat D/s- Kanpur	Kanpur/Uttar Pradesh	NA	-

5.0 DATA COLLECTION NETWORK AND TRANSMISSION STATUS

Table 6: Status of data collection network and transmission system at projects

Sl. No.	Name of the Project	Agency	Data Collection Network	Data Transmission system
1.	Maneri Bhali Stage-I	UJVNL	Automatic sensors	Through email. Also, the data is viewable at http://maneri.alphaiot.in/Default.aspx
2.	Maneri Bhali Stage –II	UJVNL	Automatic sensors	Through email.
3.	Tehri- Koteshwar Dam	THDC	Automatic sensors	Through email.
4.	Vishnuprayag HEP	JPVL	Automatic sensors	Through email.
5.	Singoli Bhatwari HEP	ReNew Jal Urja Ltd	Automatic sensors	Through email. Also, the data can be seen at https://mtnmet.com/getData
6.	Pashulok Barrage/ Chilla HEP	UJVNL	Automatic sensors	Through email.
7.	Chaudhary Charan Singh Barrage	UP Irrigation	Manual	Through email.
8.	Srinagar HEP	GVK	Manual	Through email.
9.	Bhimgoda Barrage	UP Irrigation	Automatic sensors	Through email.
10.	Narora Barrage	UP Irrigation	Automatic sensors	Through email. Also, the data is viewable at http://www.upidautomation.in/bips/haridwar/Home.aspx
11.	Lav Kush Barrage	UP Irrigation	Manual	Through email

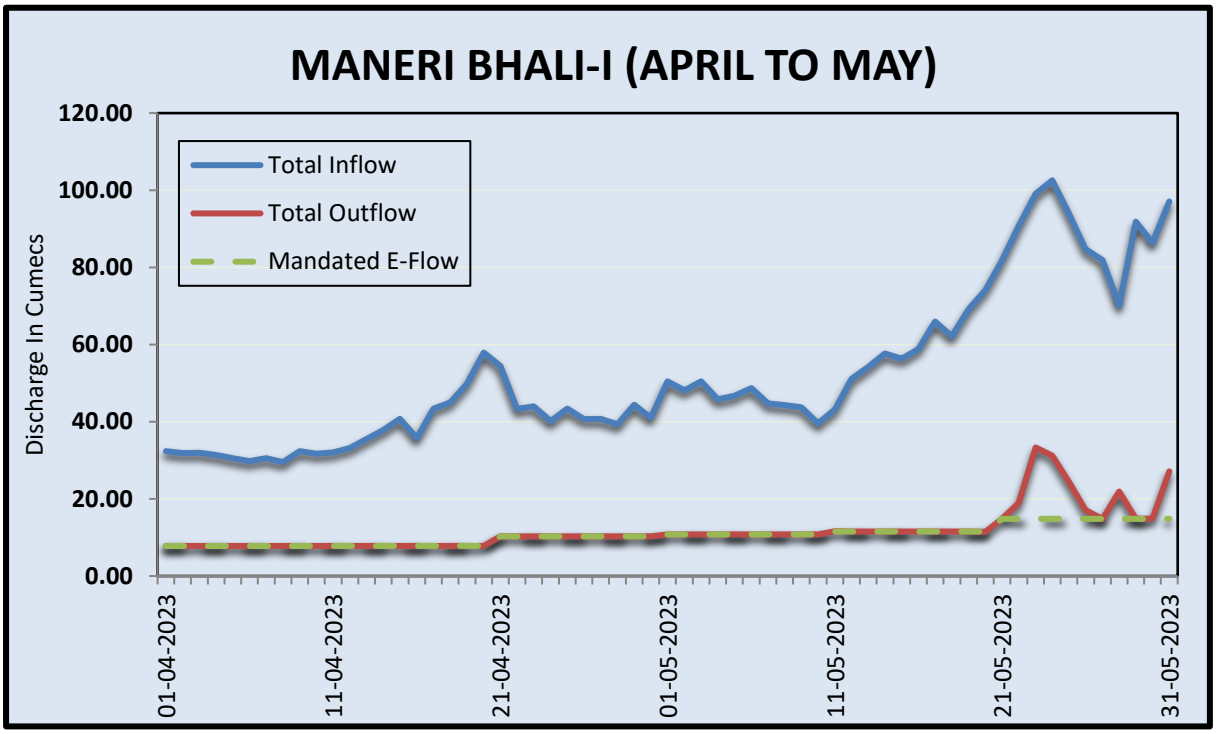
5.1 Data Transmission Status

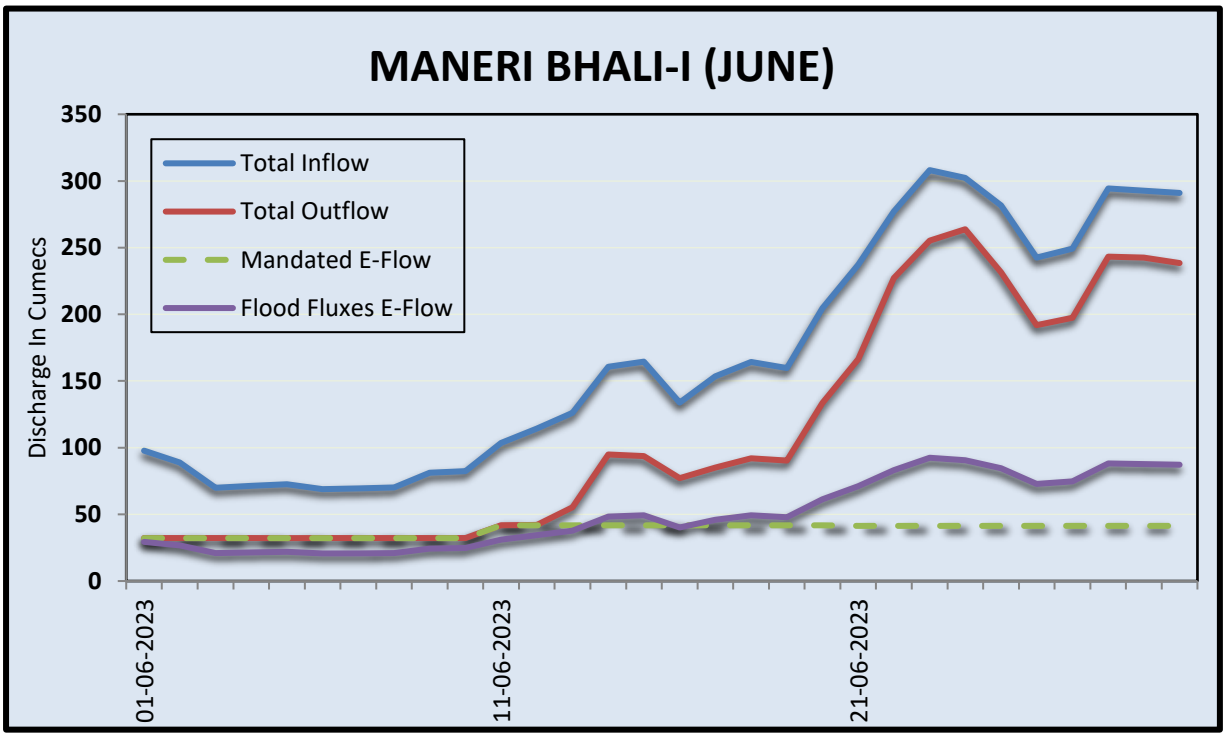
The flow data is being received from all the Projects being monitored. Few Projects are not sending the flow data on hourly basis. The matrix showing the status of data transmission from the Project Authorities to CWC for the first quarter of 2023 is attached as Annexure IV. Maneri Bhali I, Maneri Bhali II, Pashulok Barrage, Vishnuprayag, Singoli Bhatwari, Narora and Bhimgoda Barrage have installed SCADA system. Requests have been made with the project authorities for integration of the SCADA system with CWC server for real time monitoring/retrieval of data.

6.0 CURRENT STATUS OF IMPLEMENTATION OF MINIMUM E-FLOWS

Project wise status of Inflow Vs Outflow Vs Stipulated environmental flows is given below:

6.1 MANERI BHALI-I





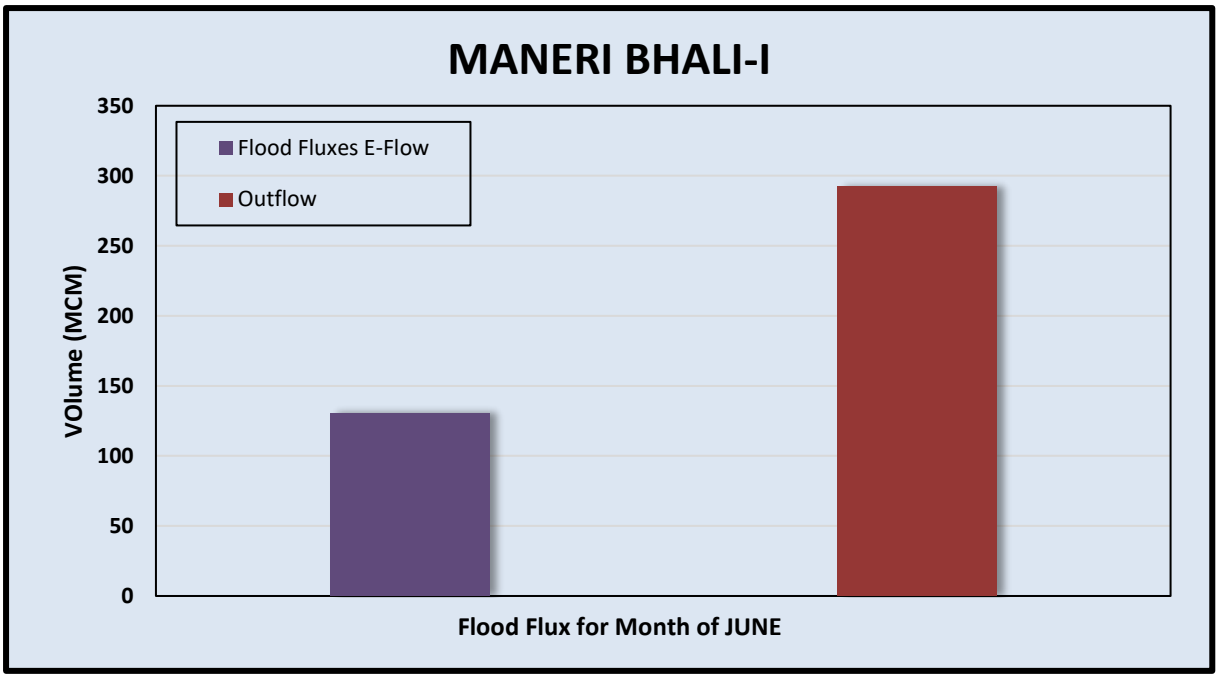
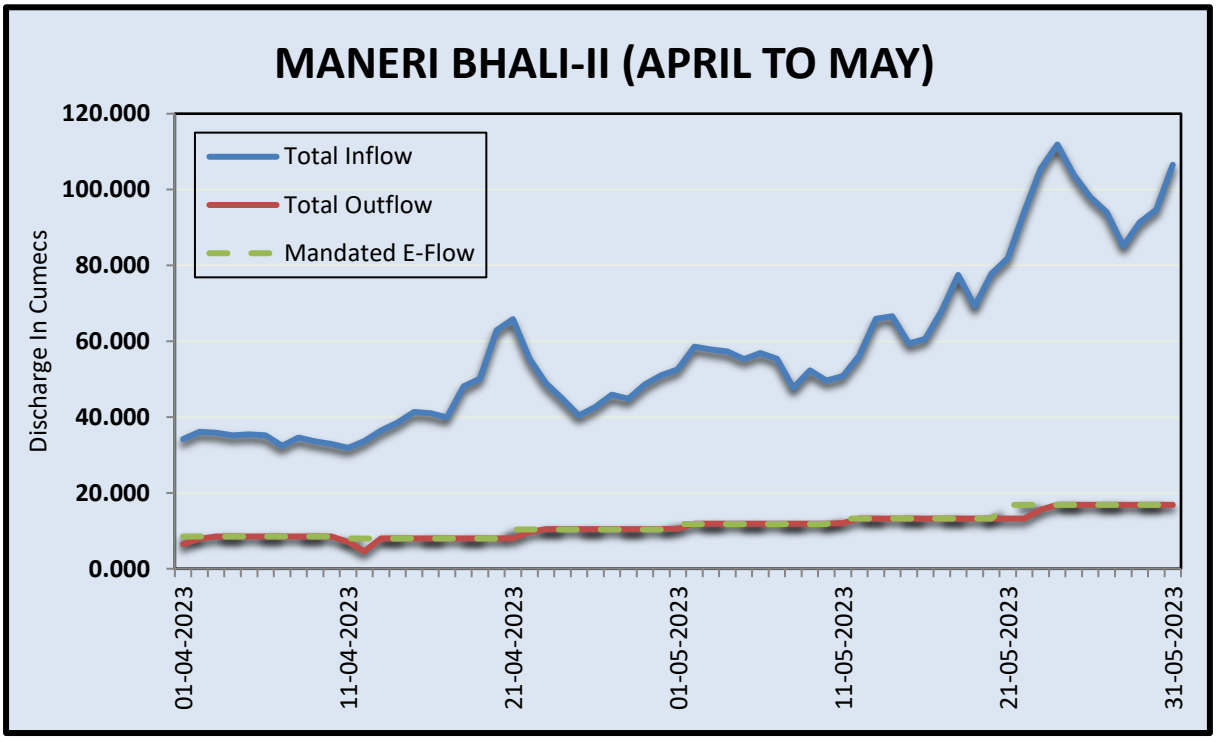
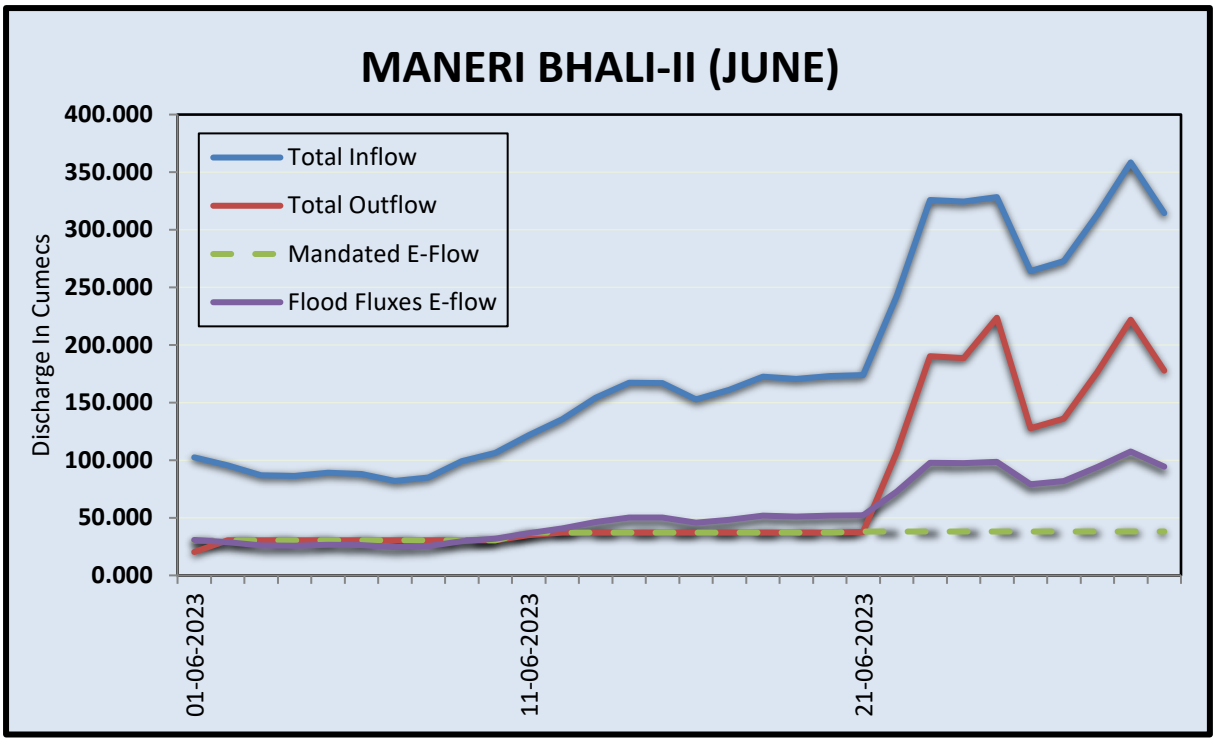


Figure 2: Graphs showing status of implementation of E-Flow at Maneri Bhali-I Project.

The project is broadly in compliance with the e-flow norms.

6.2 MANERI BHALI-II





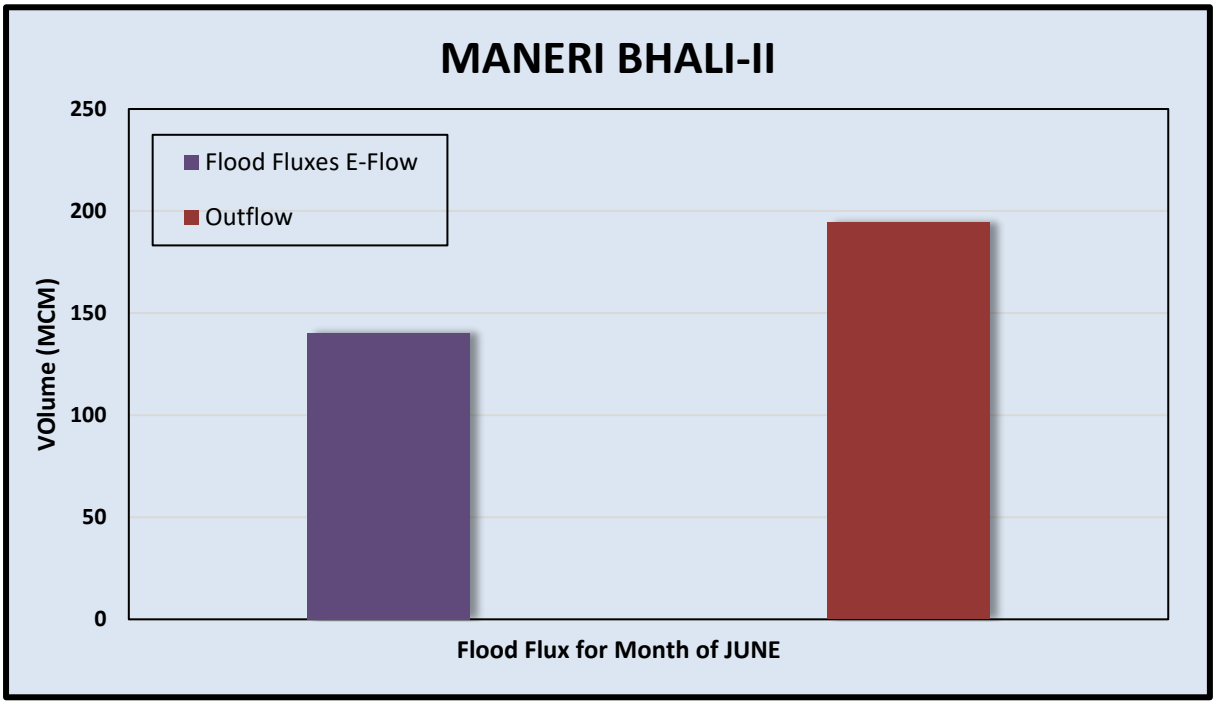
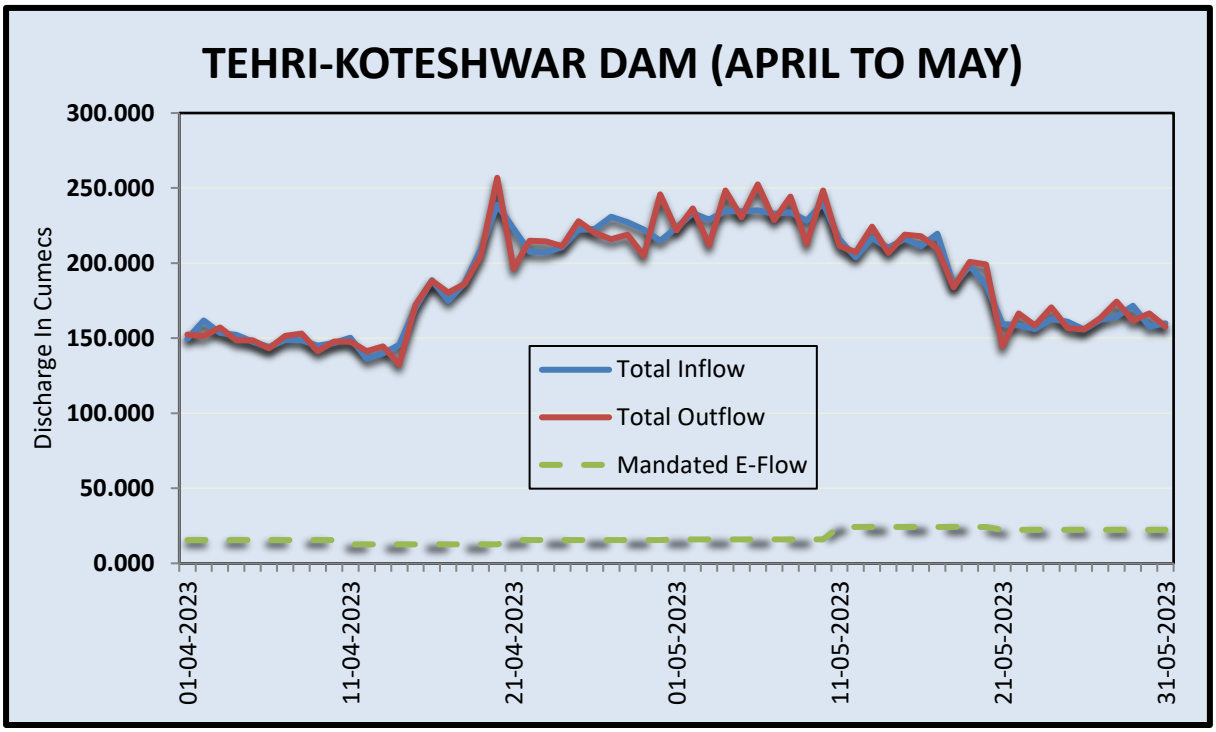
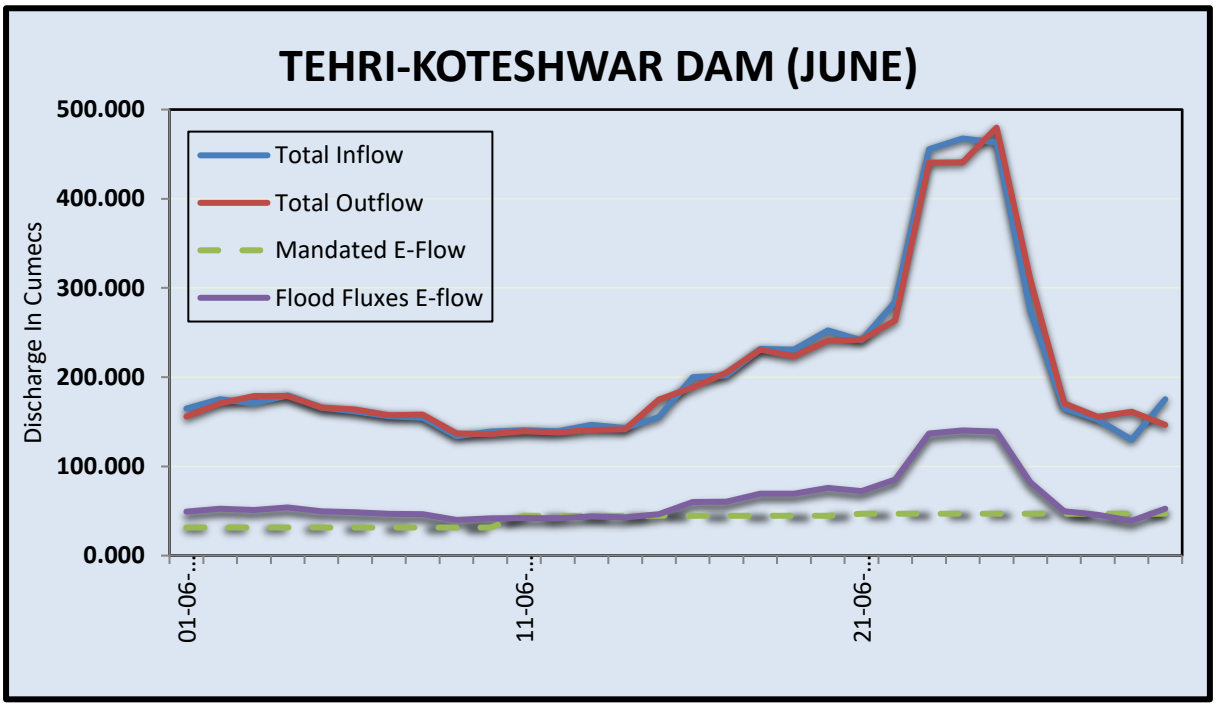


Figure 3: Graphs showing status of implementation of E-Flow at Maneri Bhali- II

The project is broadly in compliance with the e-flow norms except for few days only.

6.3 TEHRI - KOTESHWAR DAM





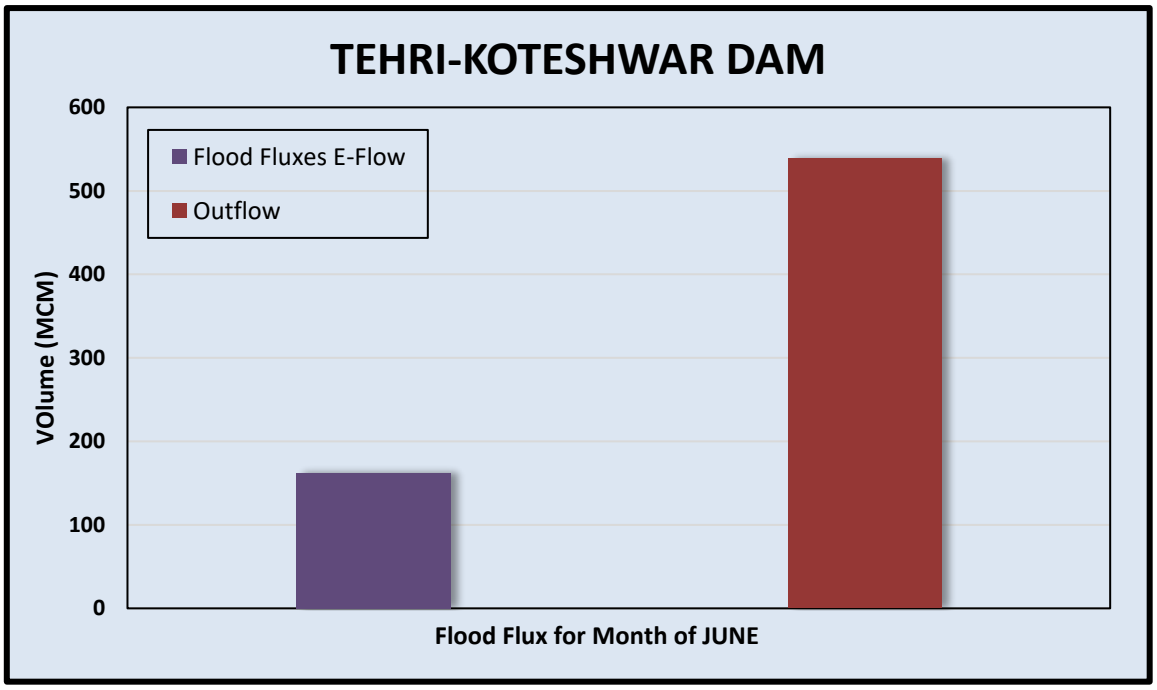
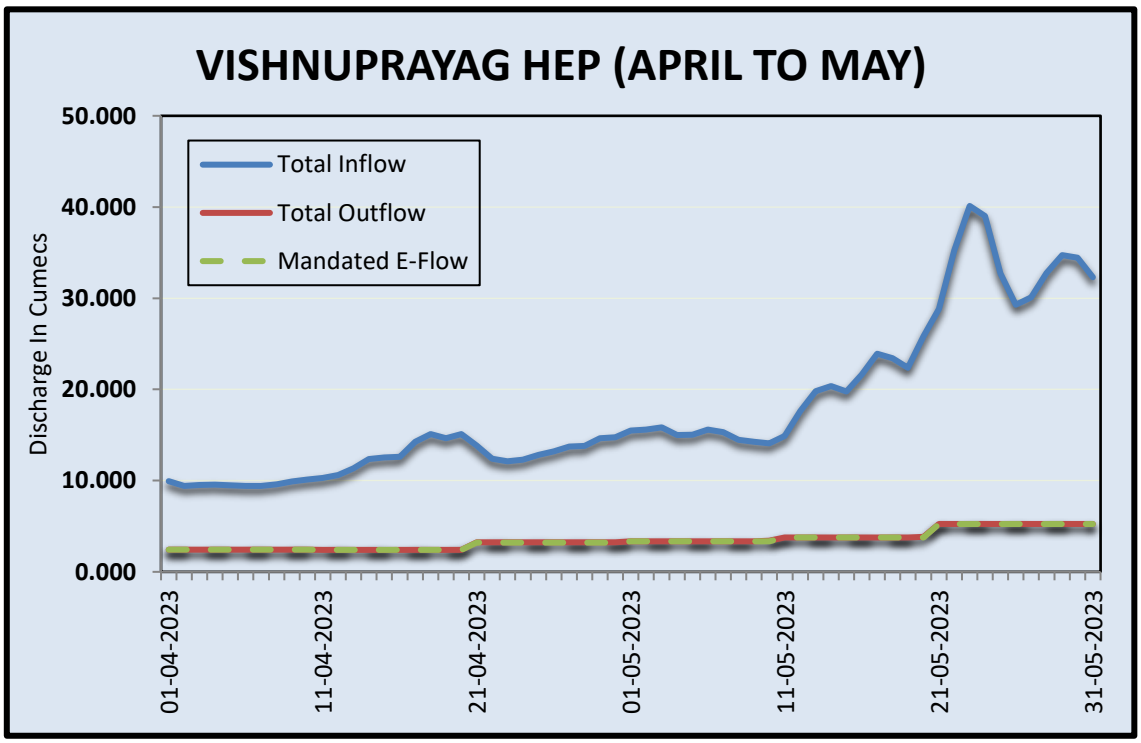
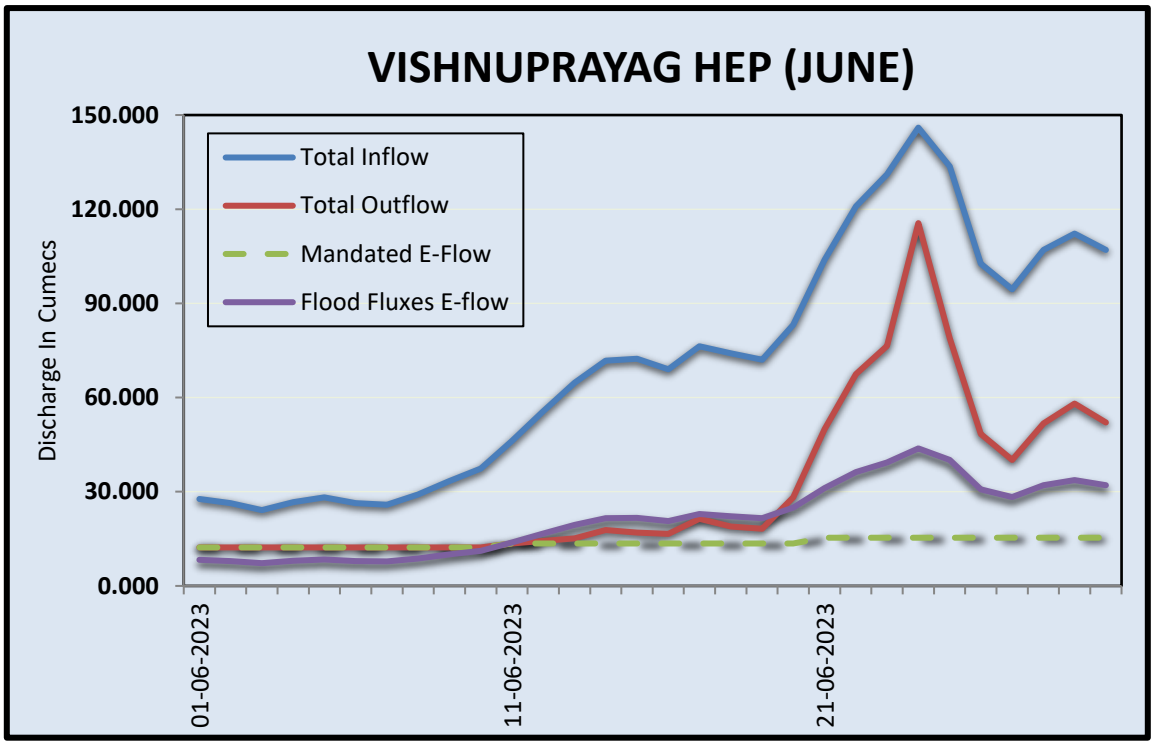


Figure 4: Graphs showing status of implementation of E-Flow at Tehri - Koteshwar

The project is in compliance with the e-flow norms for whole quarter.

6.4 VISHNUPRAYAG HEP





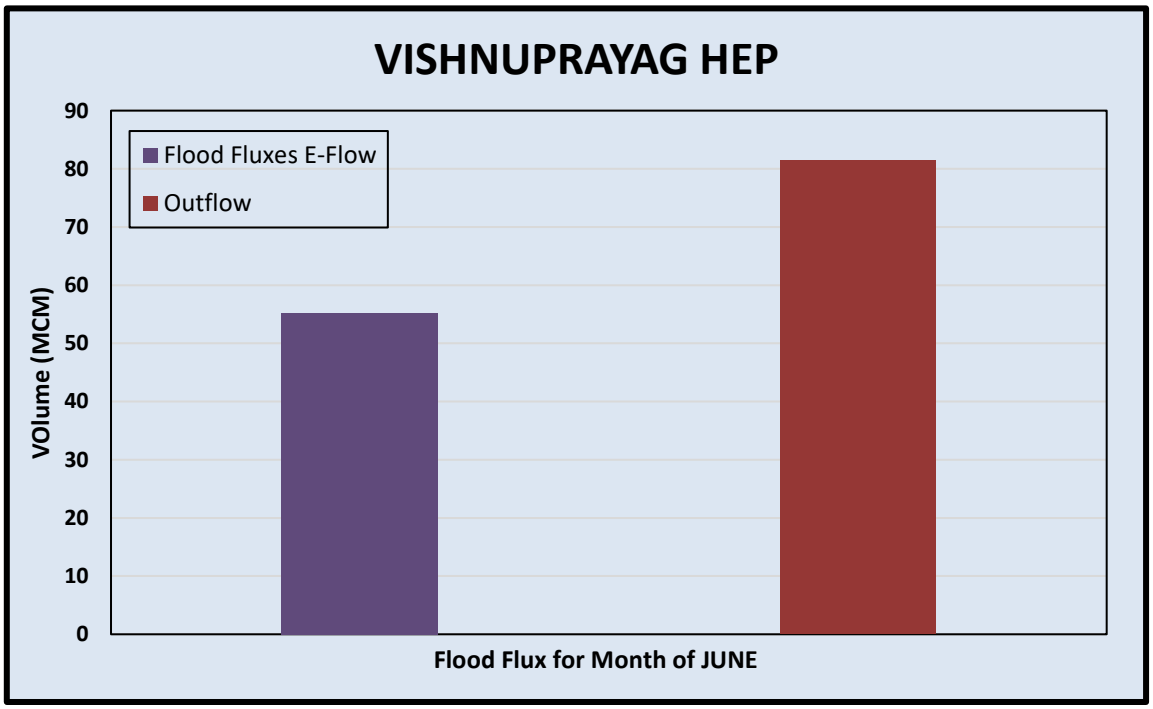
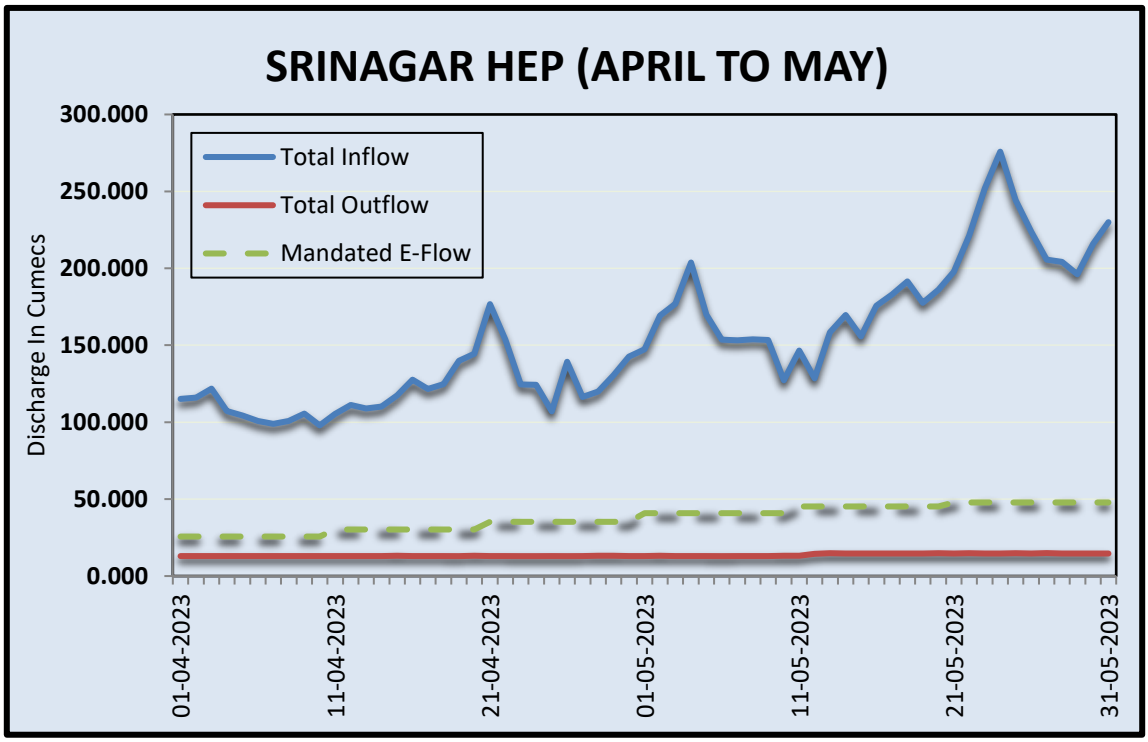
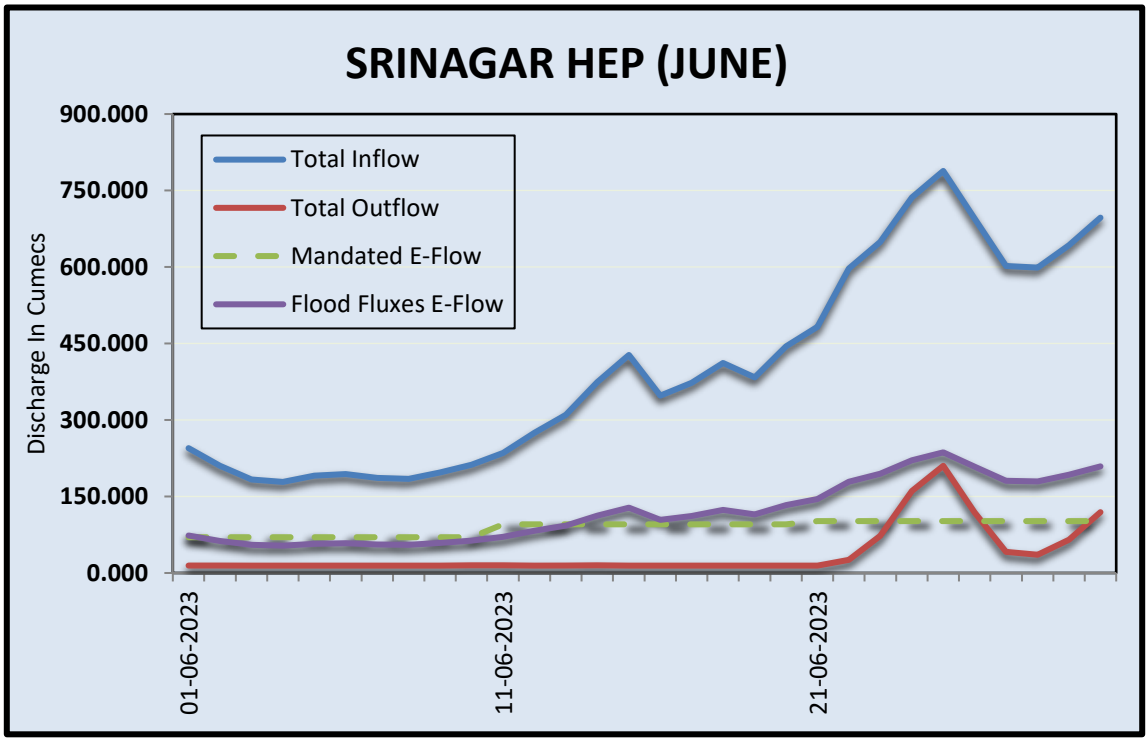


Figure 5: Graphs showing status of implementation of E-Flow at Vishnuprayag

The project is in compliance with the e-flow norms for the whole quarter.

6.5 SRINAGAR HEP





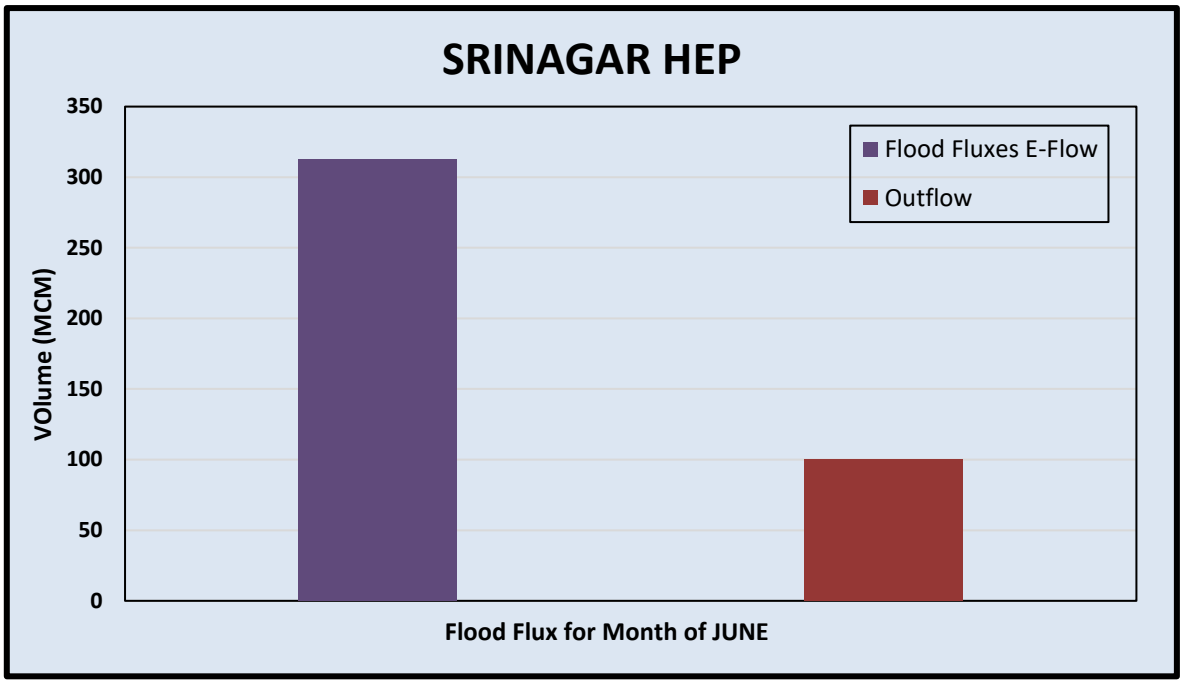
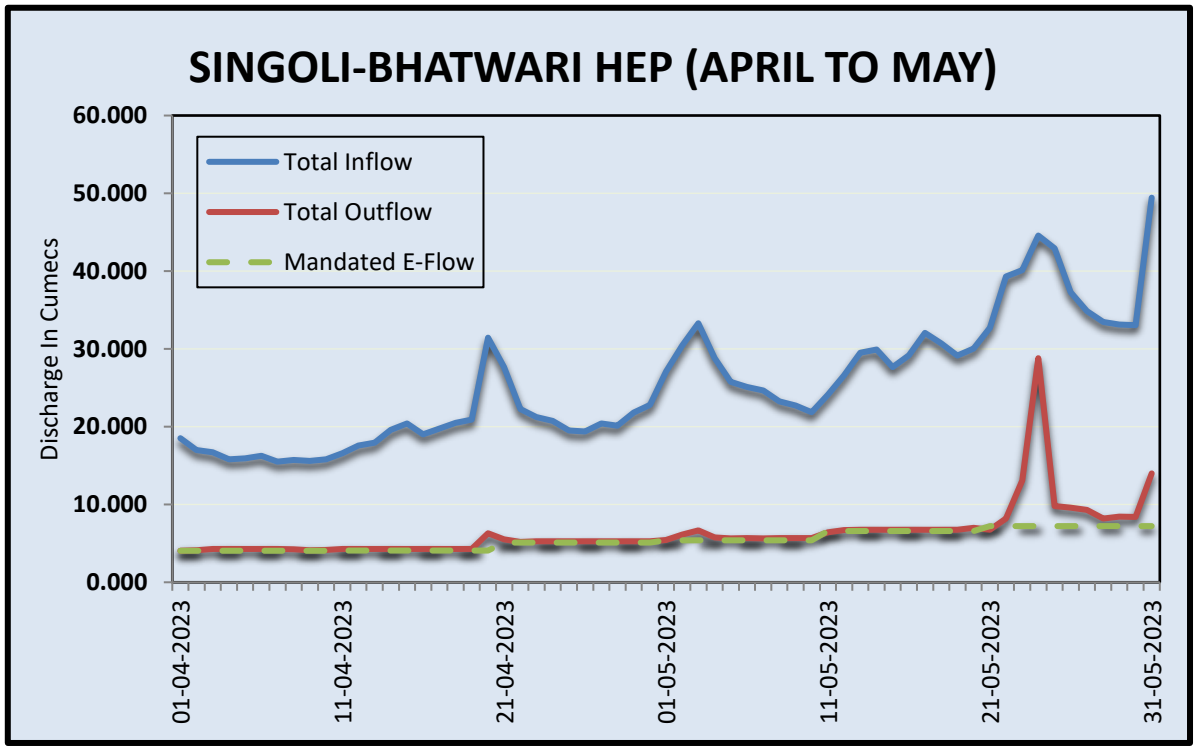
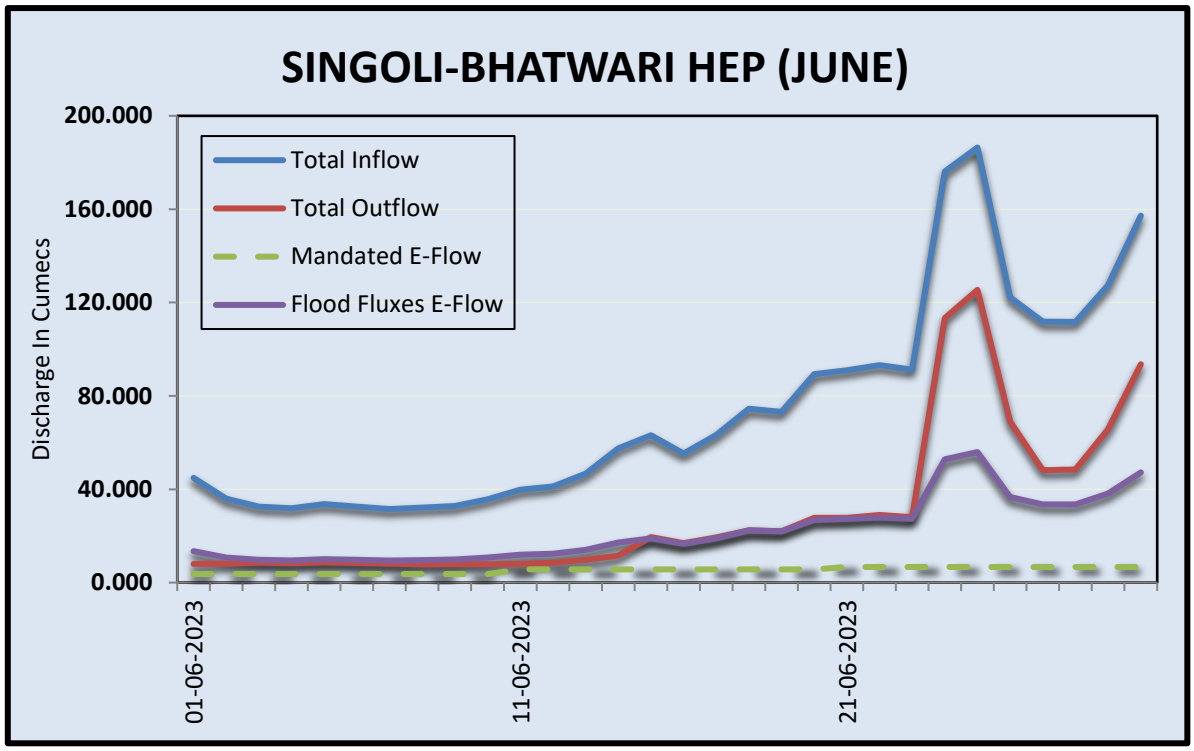


Figure 6: Graphs showing status of implementation of E-Flow at Srinagar

As seen from above graph, the project is in ***non-compliance*** ***with the e-flow norms during the whole quarter with average percentage variation of 65.85% and 68% variation in the quantum of flood fluxes e-flow component*** **(30 percent of gross inflows during the month including baseline e-flow)** ***to meet overall target of e-flow for month of June.***

6.6 SINGOLI BHATWARI





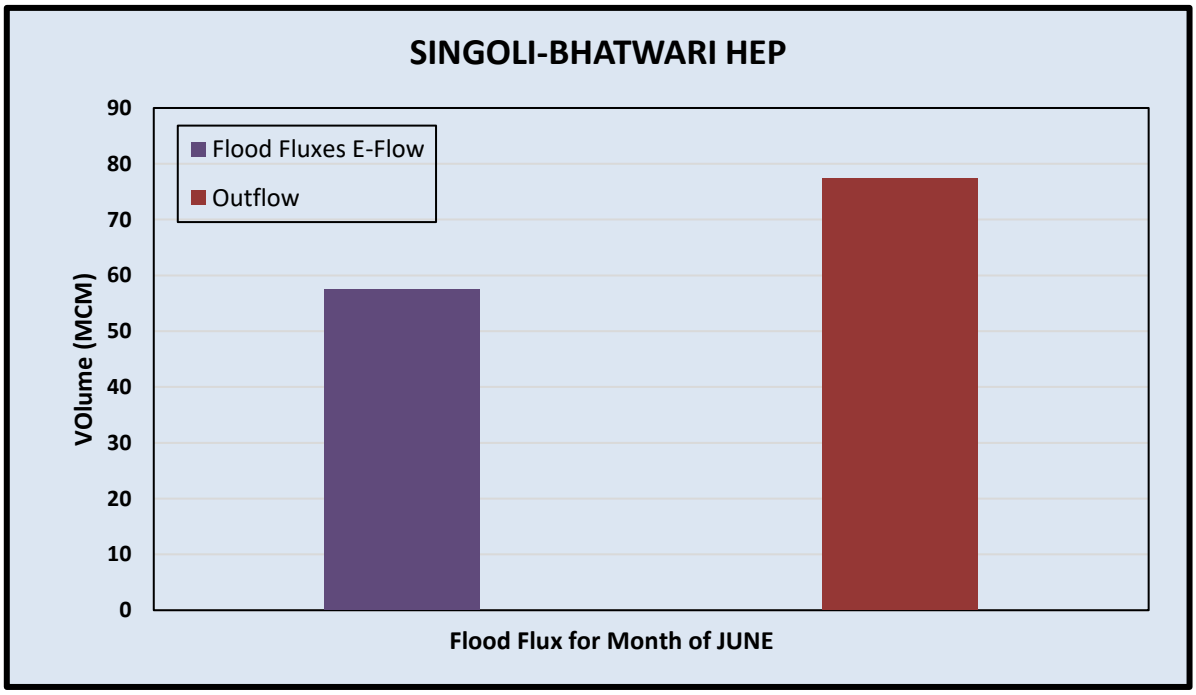
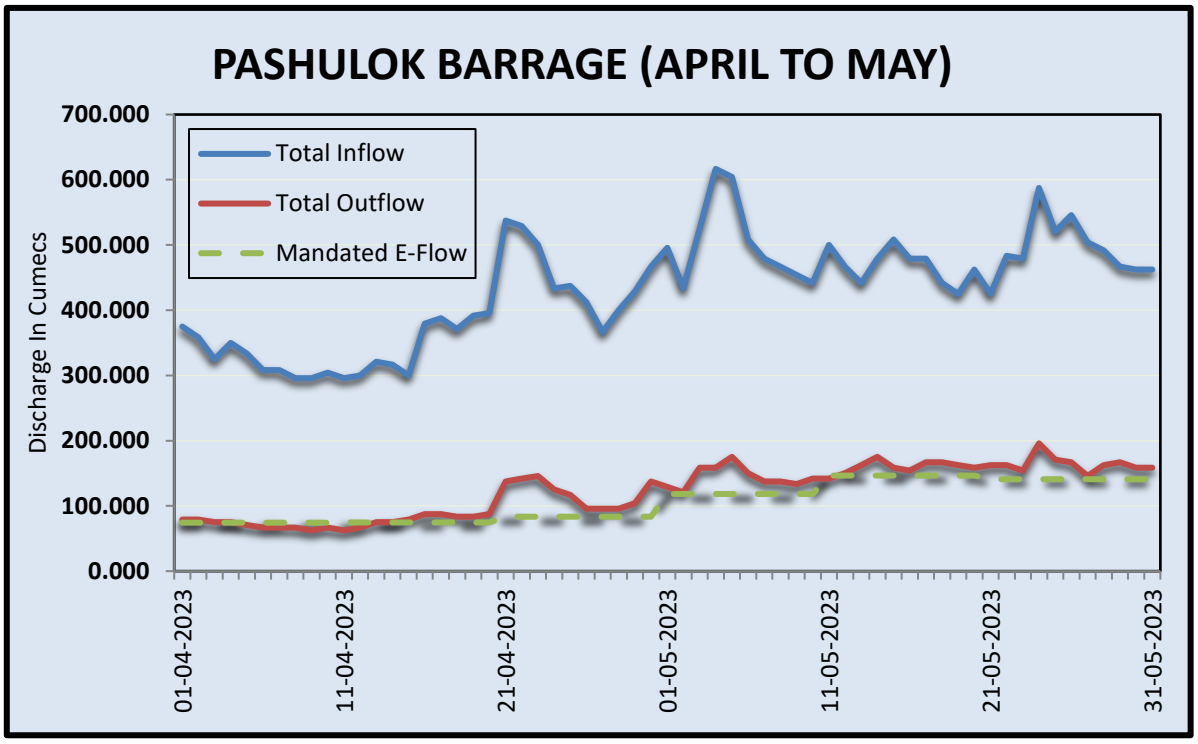
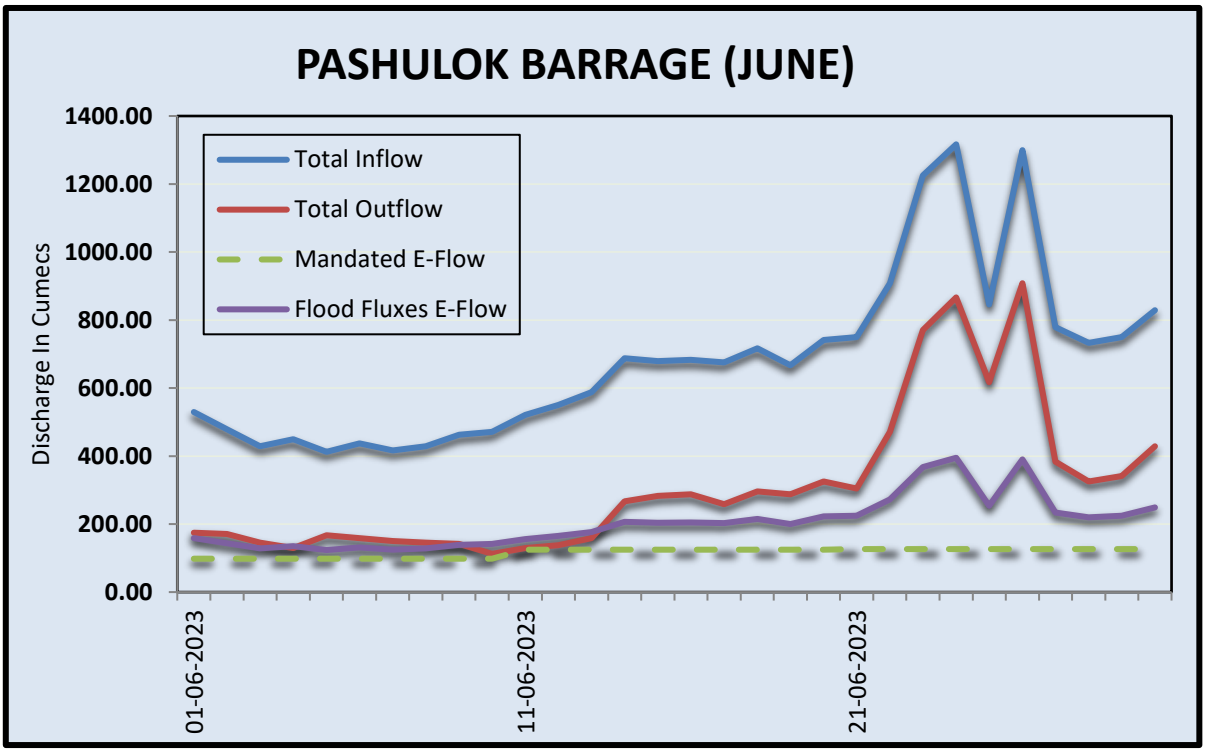


Figure 7: Graphs showing status of implementation of E-Flow at Singoli Bhatwari

As seen from above graph, the project is broadly in compliance with the e-flow norms.

6.7 PASHULOK BARRAGE





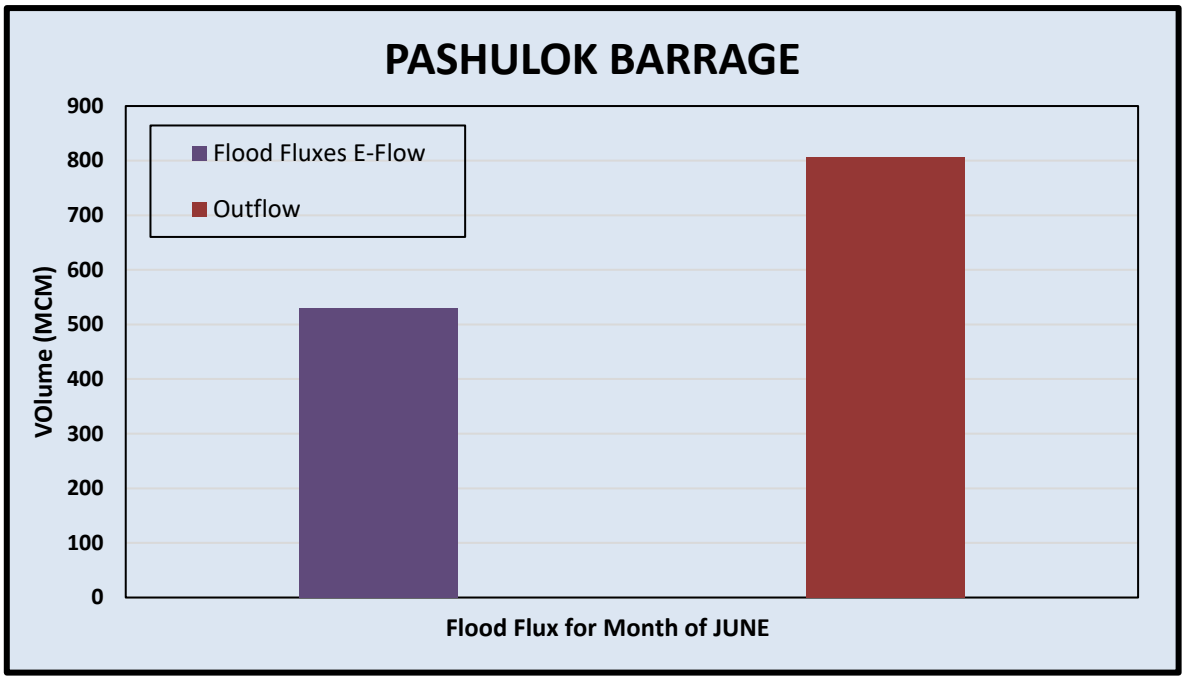


Figure 8: Graphs showing status of implementation of E-Flow at Pashulok Barrage

The project is broadly in compliance with the e-flow norms except for few days only.

6.8 BHIMGODA BARRAGE

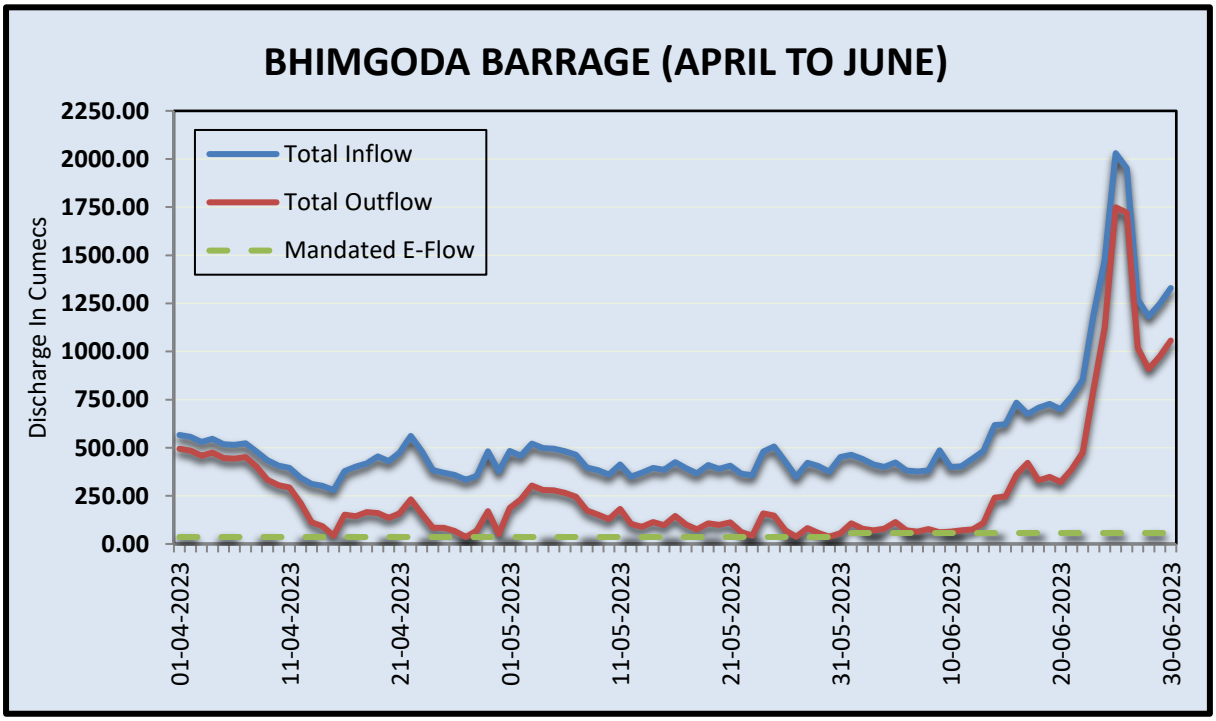


Figure 9: Graph showing status of implementation of E-Flow at Bhimgoda Barrage

The project is meeting the e-flow norms.

6.9 CHAUDHARY CHARAN SINGH BARRAGE

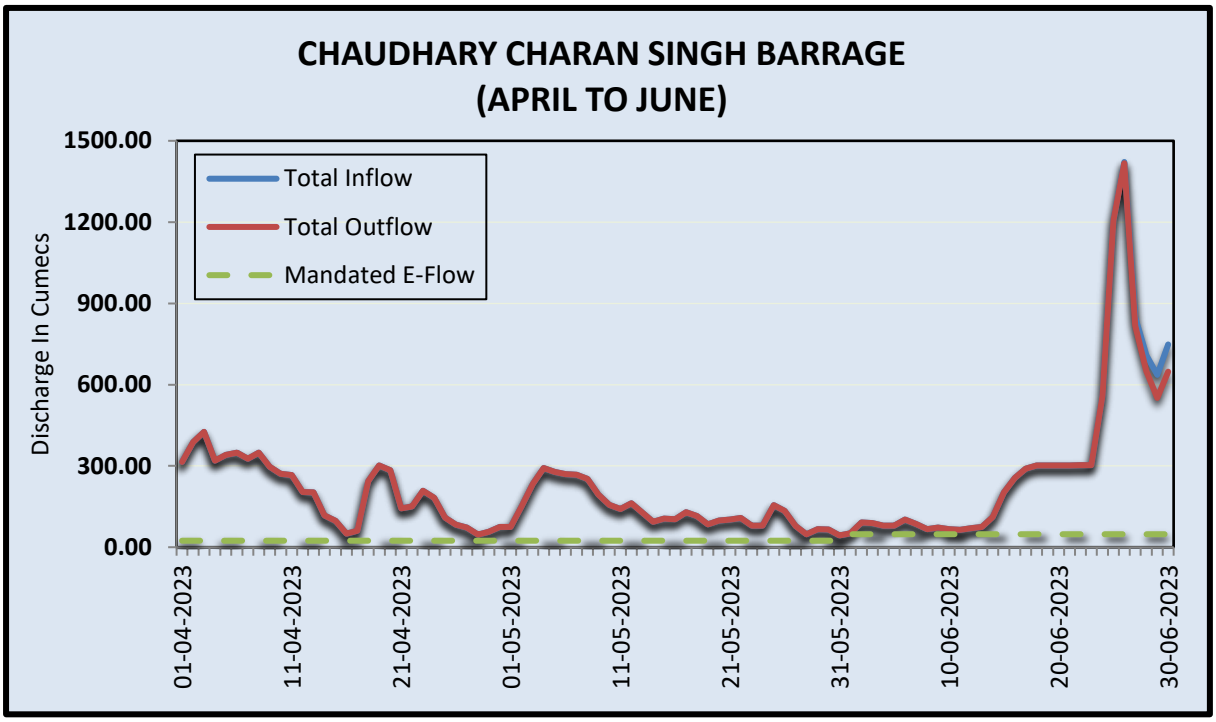


Figure 10: Graph showing status of implementation of E-Flow at Chaudhary Charan Singh Barrage

The project is following the e-flow norms.

6.10 NARORA BARRAGE

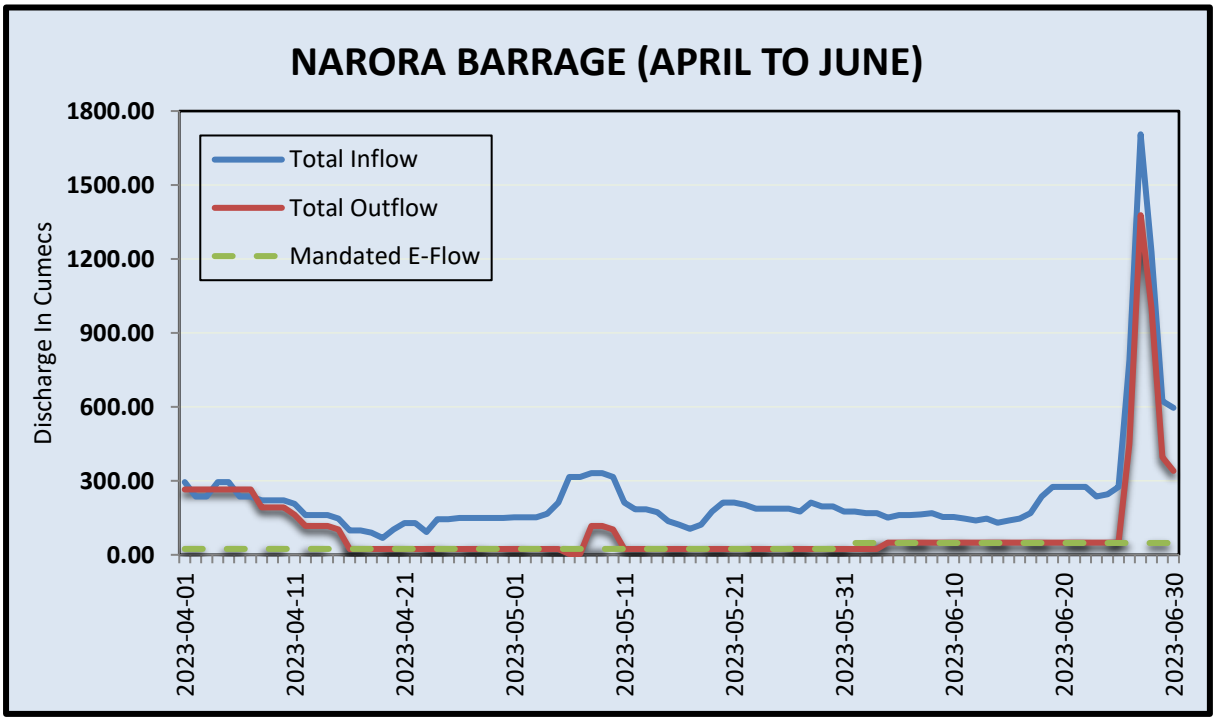


Figure 11: Graph showing status of implementation of E-Flow at Narora Barrage

The project is following the e-flow norms.

6.11 LAV KUSH BARRAGE

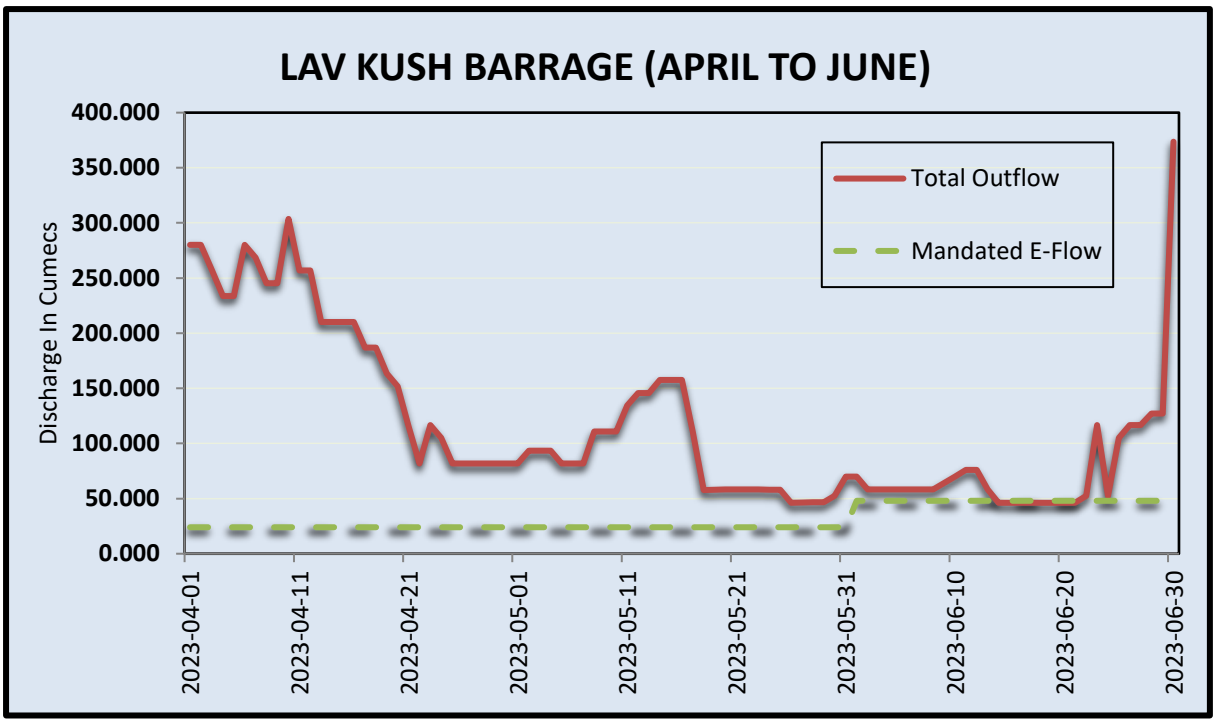


Figure 12: Graph showing status of implementation of E-Flow at Lav Kush Barrage Project.

The project does not provide inflow data. However, it is to mention that the barrage only utilizes small portion of the inflow for drinking water supply and remaining is released as outflow and has been following the e-flow norms till now. The project is in compliance with the e-flow norms.

7.0 CONCLUSIONS

7.1 Most of the projects have now installed real time data acquisition system and the current data can be viewed through the online link provided by the project authorities. However due to absence of the integration of the project SCADA/RTDAS with the CWC server/system the data cannot be saved/retrieved. Further the format of the data available through the online link is different for different projects. The project authorities are being pursued for installation of SCADA/RTDAS wherever not installed and its integration with CWC server.

7.2 Based on the data supplied by project authorities, all of the projects were in compliance with the e-flow norms for second quarter except for following projects:

1. ***Srinagar HEP:*** *The project* is in ***non-compliance*** ***with the e-flow norms during the whole quarter with average percentage variation of 65.85% and 68% variation***

in the quantum of flood fluxes e-flow component **(30 percent of gross inflows during the month including baseline e-flow)** ***to meet overall target of e-flow for month of June.***

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

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जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय

(राष्ट्रीय स्वच्छ गंगा मिशन)

आदेश

नई दिल्ली, 9 अक्तूबर, 2018

का.आ. 5195(अ).—गंगा नदी अत्यधिक पवित्र और इस देश के लोगों द्वारा अत्यंत पूज्यनीय है तथा गंगा नदी बेसिन जल ग्रहण क्षेत्र के निबंधनानुसार भारत में वृहत्तम नदी बेसिन है, जिसमें संपूर्ण देश की छब्बीस प्रतिशत भूमि सम्मिलित है तथा जो लगभग पचास करोड़ जनसंख्या के लिए पोषणीय है;

और गंगा नदी विशेष गुणों, विशिष्टताओं तथा महत्व के रूप में अद्वीतीय है जिसका महत्वपूर्ण लौकिक और स्थानिक प्रभाव भिन्नता के साथ जल-विज्ञान, भू-आकृतिविज्ञान, ऐतिहासिक, सामाजिक-सांस्कृतिक और आर्थिक कारण हैं;

और गंगा नदी को राष्ट्रीय नदी का दर्जा दिया गया है तथा नदी-प्रणाली में सिंचाई, घरेलू, औद्योगिक और अन्य प्रयोजनों के लिए बेसिन में सदैव पानी की बढ़ती मांग के साथ घरेलू अपशिष्ट और आद्योगिक अपशिष्ट सहित विभिन्न स्रोतों से प्रदूषण प्रवेश कर रहा है, जो नदी के स्वास्थ्य को लंबे समय से प्रभावित कर रहा है;

और भारत सरकार समुचित पर्यावरण प्रवाह तथा साथ ही नदी में प्रदूषण के प्रवेश के निवारण को सुनिश्चित करने के लिए नदियों की पौष्टिकता की बहाली करने और उसे बनाए रखने के लिए वचनबद्ध है;

और यह सुनिश्चित करना आवश्यक है कि गंगा नदी में हर समय पानी के निर्बाध प्रवाह को पूरी तरह से बनाए रखा जाए, जिससे मौसमी भिन्नताओं को बदले बिना नदी में प्रवाह की निरंतरता सुनिश्चित हो सके;

केंद्रीय सरकार ने पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) के अधीन अधिसूचना का.आ. 3187 (अ), तारीख 7 अक्तूबर, 2016 द्वारा गंगा नदी जलक्षेत्र के संरक्षण, संरक्षा और प्रबंध तथा निम्नलिखित प्रयोजनों के लिए एक प्राधिकरण अर्थात् राष्ट्रीय स्वच्छ गंगा मिशन का गठन किया था, अर्थात्:-

(क) गंगा नदी और उसकी सहायक नदियों के जल की गुणवत्ता और पर्यावरणीय वहनीय संरक्षण, संरक्षा और प्रबंध को सुनिश्चित करने के उद्देश्य से सतैव विभिन् क्षेत्रों में विभिन्न बिंदुओं पर बनाए रखने के लिए अपेक्षित गंगा नदी और उसकी सहायक नदियों में पारिस्थितिक

प्रवाह के परिमाण को अवधारित करवाने तथा उसे अधिसूचित करवाने और पर्याप्त पारिस्थितिक प्रवाह को बनाए रखने के लिए ऐसे सभी आवश्यक कदम उठाना या निदेशित करना;

(ख) गंगा नदी के जलीय प्रेक्षण स्टेशनों के माध्यम से विनिर्दिष्ट बिंदुओं पर पानी के औसत प्रवाह को विनिर्दिष्ट करना;

(ग) गंगा नदी तथा उसकी सहायक नदियों में जल के प्रवाह की निरंतर मानीटरी के लिए तंत्र विकसित करना;

और केंद्रीय सरकार ने गंगा नदी और उसकी सहायक नदियों में कतिपय प्रवाहों को निर्धारित करने का विनिश्चय किया है।

2. अतः केंद्रीय सरकार, गंगा नदी (संरक्षण, सुरक्षा एंव प्रबंधन) प्राधिकरण आदेश, 2016 के पैरा 39 के उपपैरा (3) और पैरा 41 के उपपैरा (2) की मद (ज) के साथ पठित पर्यावरण संरक्षण अधिनियम, 1986 की धारा 3 की उपधारा (3) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, सिंचाई, जल विद्युत्, घरेलू और औद्योगिक प्रयोजनों तथा अन्य अपेक्षाओं के लिए नदी प्रवाह को परिवर्तित करने के लिए संरचनाओं या परियोजनाओं के निम्न प्रवाह अवस्थानों पर न्यूनतम पर्यावरणीय प्रवाहों को बनाए रखने के लिए अधिसूचित करती है, अर्थात्:-

I. देवप्रयाग से हरिद्वार तक अंत में मिलने वाले क्रमवर्तीय सम्मिलनों के माध्यम से और उद्भव वाले ग्लेशियरों से आरंभ होने वाला **उपरी गंगा नदी बेसिन विस्तार**:

क्रम सं.	ऋतु	मास	*प्रत्येक पूर्ववर्ती 10 दैनिक अवधि के दौरान प्रेक्षित मासिक औसत प्रवाह का प्रतिशत(%)*
1.	शुष्क	नवंबर से मार्च	*20*
2.	क्षीण	अक्तूबर, अप्रैल और मई	*25*
3.	*उच्च प्रवाह ऋतु*	*जून से सितंबर*	*30*#*

*#उच्च प्रवाह ऋतु के मासिक प्रवाह का 30%

II. **हरिद्वार, उत्तराखंड से उन्नाव, उत्तर प्रदेश तक गंगा नदी के मुख्य मार्ग का विस्तार**:

क्रम सं.	बैराज की अवस्थिति	बैराजों के सन्निकट निम्न धारा को निर्मुक्त करने वाला न्यूनतम प्रवाह **(क्यूमैक्स में) (अक्तूबर से मई)**	*बैराजों के सन्निकट निम्न धारा को निर्मुक्त करने वाला न्यूनतम प्रवाह* ***(क्यूमैक में) (जून से सितंबर)***
(1)	भीमगौड़ा (हरिद्वार)	36	*57*
(2)	बिजनौर	24	*48*
(3)	*नरौरा*	24	*48*
(4)	*कानपुर*	*24*	*48*

क्यूमैक-घनमीटर प्रतिसेकंड।

III. उपरोक्त उक्त पारिस्थितिकी प्रवाह निम्न के अध्यधीन हैं, अर्थात्:-

(i) न्यूनतम पर्यावरणीय प्रवाह का अनुपालन सभी विद्यमान, निर्माणाधीन और भविष्य की परियोजनाओं को लागू होता है;

(ii) विद्यमान परियोजनाएं जो वर्तमान में इन पर्यावरणीय प्रवाहों के मानदंडों के अनुरूप नहीं हैं, इनका पालन करेंगी और यह सुनिश्चित करेंगी कि वांछित पर्यावरणीय प्रवाह मानदंडों का पालन इस अधिसूचना के जारी करने की तारीख से तीन वर्ष की अवधि के भीतर किया जाए;

(iii) परियोजना जो सन्निर्माण की विभिन्न प्रक्रम पर हैं, जहां जमीनी भौतिक प्रगति आरंभ हो चुकी है और समुचित प्राधिकारी को रिपोर्ट की गई है, परियोजना को आरंभ करने के पूर्व और उसके पश्चात् अनुबद्ध पर्यावरणीय प्रवाह को बनाए रखने के लिए भी आवश्यक उपबंध करेगी;

(iv) लघु और सूक्ष्म परियोजनाएं जो सारवान रूप से नदी या धारा की प्रवाही विशेषताओं को परिवर्तित नहीं करती हैं, इन परियावरणीय प्रवाहों से छूट प्राप्त हैं;

(v) परियावरणीय प्रवाहों को बनाए रखने के लिए जल की वांछनीय मात्राओं की निर्मुक्ति को सुनिश्चित करने के लिए, इन नदी आगमों में प्रवाह की दशाएं समय-समय पर कालिक अंतरालों पर मानीटर की जाएंगी;

(vi) केंद्रीय जल आयोग अभिहित प्राधिकारी तथा डाटा का संरक्षक होगा तथा प्रवाहों के पर्यवेक्षण, मानीटरिंग, विनियमन तथा जब कभी अपेक्षित हो, समुचित प्राधिकारी को आवश्यक जानकारी रिपोर्ट करने के लिए उत्तरदायी होगा । यह किसी आपात स्थिति की दशा में जल भंडारण मानदंडों के बारे में तत्काल निर्णय लेने के लिए भी प्राधिकृत है । केंद्रीय जल आयोग त्रैमासिक आधार पर राष्ट्रीय स्वच्छ गंगा मिशन को प्रवाह मानीटरी-सह-अनुपालन रिपोर्ट प्रस्तुत करेगा;

(vii) संबंधित परियोजना विकासकर्ता या प्राधिकारी इस अधिसूचना की तारीख से छह मास के भीतर केंद्रीय जल आयोग विनिर्दिष्ट उचित अवस्थानों पर परियोजना स्थलों पर स्वचालित डाटा अर्जन और डाटा प्रेषण प्रसुविधाएं या अपेक्षित आवश्यक अवसंरचना लगाएगा । प्रवाह मानीटरी प्रसुविधा को लगाने, अंशांकन करने, उसे बनाए रखने का उत्तरदायित्व परियोजना विकासकर्ताओं या प्राधिकारियों का होगा और वे समय-समय पर केंद्रीय जल आयोग को डाटा प्रस्तुत करेंगे;

(viii) केंद्रीय सरकार, राष्ट्रीय स्वच्छ गंगा मिशन के माध्यम से, जब कभी अपेक्षित हो, गंगा नदी में विशेष मांग को पूरा करने के लिए अतिरिक्त जल को निर्मुक्त करने का निदेश दे सकेगी ।

IV. संबंधित केंद्रीय और राज्य प्राधिकरण, सिंचाई का प्रभावी ढंग, जल का पुनः उपयोग और पुनः चक्रण, जिसके अंतर्गत विभिन्न प्रयोजनों के लिए भूजल निकालने की मानीटरिंग और विनियमन भी है, जैसे अच्छे और वैज्ञानिक व्यवहारों को अपना कर गंगा नदी के जल निकालने में कमी करने के लिए मांग पक्ष प्रबंध योजना कार्यान्वित करेंगे ।

3. यह आदेश इसके राजपत्र में प्रकाशन की तारीख से प्रवृत्त होगा ।

4. यह आदेश उद्भव वाले ग्लेशियरों से आरंभ होने वाले उपरी गंगा नदी बेसिन तथा देवप्रयाग से हरिद्वार तक और उत्तर प्रदेश के उन्नाव जिले तक गंगा नदी की मुख्य धारा को तथा अंत में मिलने वाली इसकी मुख्य सहायक नदियों के क्रमवर्ती सम्मिलनों पर लागू होगा ।

[फा. सं. - Estt.01/2016-17/111/NMCG (Vol III)]

राजीव किशोर, कार्यकारी निदेशक (प्रशा.)

MINISTRY OF WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION

(NATIONAL MISSION FOR CLEAN GANGA)

ORDER

New Delhi, the 9th October, 2018

S.O.5195(E).—Whereas, the River Ganga is the most sacred and deeply revered by the people of this country and the Ganga river basin is the largest river basin in India in terms of catchment area, constituting twenty six per cent of the country's land mass and supporting about half a billion population;

And whereas, River Ganga is unique as having special properties, features and importance, holding reasons that are hydrological, geomorphological, historical, socio-cultural and economical with significant temporal and spatial flow variation;

And whereas, River Ganga has been given status of a National river and the ever increasing demand for water in the basin for irrigation, domestic, industrial and other purposes coupled with pollution ingress from different sources including domestic waste, industrial waste, into river system is affecting the health of the said river for long;

And whereas, the Central Government is committed to restore and maintain the wholesomeness of the rivers ensuring appropriate environment flows and simultaneously preventing the pollution ingress into the said river;

And whereas, it is considered necessary to ensure that uninterrupted flows of water are maintained throughout its length at all times in River Ganga to ensure continuity of flows in the river without altering the seasonal variations;

And whereas the Central Government *vide* notification S.O. 3187(E), dated the 7th October, 2016 under the Environment (Protection) Act, 1986 (29 of 1986) has constituted an authority, namely, the National Mission for Clean Ganga for Rejuvenation, Protection and Management of River Ganga basin for the following purposes, namely:-

(a) to determine the magnitude of ecological flow in the River Ganga and its tributaries required to be maintained at different points in different areas at all times with the aim of ensuring water quality and environmentally

sustainable rejuvenation, protection and management of River Ganga and its tributaries and notifying the same and take or direct all such measures necessary to maintain adequate ecological flows;

(b) to specify the average flow of water at specified points through Hydrological Observation Stations of the River Ganga;

(c) to devise a system for continuous monitoring of flow of water in the River Ganga and its tributaries;

And whereas the Central Government has decided to determine certain flows in the River Ganga and its tributaries;

2. Now, therefore, in exercise of the powers conferred by sub-section (3) of section 3 of the Environment (Protection) Act 1986 and read with sub paragraph (3) of paragraph 39 and item(h) of sub-paragraph(2) of paragraph 41 of the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016, the Central Government hereby notifies the following minimum environmental flows to be maintained at locations downstream of structures or projects meant for diversion of river flows for purposes like irrigation, hydropower, domestic and industrial and other requirements, namely:-

I. **Upper Ganga River Basin Stretch** starting from originating glaciers and through respective confluences finally meeting at Devaprayag up to Haridwar:

Sl. No.	Season	Months	(%) Percentage of Monthly Average Flow observed during each of preceding 10-daily period
1	Dry	November to March	20
2	Lean	October, April and May	25
3	High Flow season	June to September	30*#

*# 30% of monthly flow of High flow season.

II. **Stretch of main stem of River Ganga from Haridwar, Uttrakhand to Unnao, Uttar Pradesh**

S. No.	Location of Barrage	Minimum flow releases immediately downstream of barrages ***(In Cumecs)*** **Non-Monsoon (October to May)**	Minimum flow releases immediately downstream of barrages ***(In Cumecs)*** **Monsoon (June to September)**
(1)	Bhimgoda (Haridwar)	36	57
(2)	Bijnor	24	48
(3)	Narora	24	48
(4)	Kanpur	24	48

Cumec – Cubic Meter per second.

III. The above said ecological flows are subject to the following, namely:-

(i) the compliance of minimum environmental flow is applicable to all existing, under-construction and future projects;

(ii) the existing projects, which currently do not meet the norms of these environmental flows, shall comply and ensure that the desired environmental flow norms are complied within a period of three years from the date of issue of this order;

(iii) the project which is at different stages of construction, where physical progress on ground has been initiated and made and reported to appropriate authority shall also make necessary provisions to maintain the stipulated environmental flow before and after commissioning of the project;

(iv) the mini and micro projects which do not alter the flow characteristics of the river or stream significantly are exempted from these environmental flows;

(v) to ensure the release of desired quantities of water to maintain environmental flows, flow conditions in these river reaches shall be monitored at hourly intervals from time to time;

(vi) the Central Water Commission shall be the designated authority and the custodian of the data and shall be responsible for supervision, monitoring, regulation of flows and reporting of necessary information to the appropriate authority as and when required and also authorised to take emergent decisions about the water storage norms in case of any emergency. The Central Water Commission shall submit flow monitoring-cum-compliance report on quarterly basis to National Mission for Clean Ganga;

(vii) the concerned project developers or authorities shall install automatic data acquisition and data transmission facilities or required necessary infrastructure at project sites at appropriate locations specified by the Central Water Commission within six months from the date of this order. The installation, calibration, maintenance of flow monitoring facility shall be the responsibility of the project developers or authorities and they shall submit the data to the Central Water Commission from time to time;

(viii) the Central Government through National Mission for Clean Ganga may direct release of additional water in the River Ganga to meet special demand as and when required.

IV. The concerned Central and State authorities shall implement demand side management plans to reduce water withdrawal from River Ganga by adopting good and scientific practices such as efficient method of irrigation, reuse and recycle of water including monitoring and regulation of ground water withdrawals for various purposes.

3. This Order shall come into force on the date of its publication in the Official Gazette.

4. This Order shall apply to the upper Ganga River Basin starting from originating glaciers and through respective confluences of its head tributaries finally meeting at Devaprayag up to Haridwar and the main stem of River Ganga up to Unnao district of Uttar Pradesh

[F. No.- Estt.01/2016-17/111/NMCG(Vol III)]

RAJIV KISHORE, Executive Director(Admn)

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जल शक्ति मंत्रालय

(जल संसाधन, नदी विकास और गंगा संरक्षण विभाग)

(राष्ट्रीय स्वच्छ गंगा मिशन)

आदेश

नई दिल्ली, 14 सितम्बर, 2019

का.आ. 3286(अ).—गंगा नदी अत्यधिक पवित्र और इस देश के लोगों द्वारा अंत्यन्त पूजनीय है तथा उसकी बेसिन जल ग्रहण क्षेत्र के निबंधनानुसार भारत में वृहत्तम नदी बेसिन है तथा नदी प्रणाली में सिंचाई, घरेलू, औद्योगिकी और अन्य प्रयोजनों के लिए बेसिन में सदैव पानी की बढ़ती मांग के साथ घरेलू अपशिष्ट और औद्योगिक अपशिष्ट सहित विभिन्न स्रोतों से प्रदूषण प्रवेश कर रहा है, जो नदी की स्वच्छता को लंबे समय से प्रभावित कर रहा है;

और, केंद्रीय सरकार को यह सुनिश्चित करना आवश्यक है कि गंगा नदी में हर समय पानी के निर्बाध प्रवाह को पूरी तरह से बनाए रखा जाए, जिससे मौसमी विभिन्नताओं के बदले बिना नदी में प्रवाह की निरंतरता सुनिश्चित हो सके;

और, भारत सरकार के तत्कालीन जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय ने भारत के राजपत्र में प्रकाशित अधिसूचना सं. का.आ. 3187(अ) तारीख 7 अक्तूबर 2016 के भाग II, खंड 3, उप-खंड (ii) द्वारा गंगा नदी (संरक्षण, सुरक्षा एवं प्रबंधन) प्राधिकरण आदेश, 2016 जारी करने के साथ-साथ एक प्राधिकरण अर्थात् उक्त अधिसूचना में विनिर्दिष्ट विभिन्न प्रयोजनों के लिए गंगा नदी बेसिन के संरक्षण, सुरक्षा एवं प्रबंधन के लिए राष्ट्रीय स्वच्छ गंगा मिशन गठित किया है;

और, केंद्रीय सरकार ने गंगा नदी में उसके चिन्हित हिस्सों को सुरक्षित रखने के लिए न्यूनतम पर्यावरणीय प्रवाह विनिर्दिष्ट करते हुए अधिसूचना सं. का. आ. 5195 (अ) तारीख 9 अक्तूबर, 2018 को एक आदेश (उक्त आदेश) जारी किया था;

और, केंद्रीय जल आयोग ने प्रवाह के पर्यवेक्षण, विनियम और तिमाही रिपोर्ट के आधार पर राष्ट्रीय स्वच्छ गंगा मिशन के लिए नामनिर्दिष्ट प्राधिकरण के रूप में अपनी क्षमता के आधार पर 11 जुलाई, 2019 को अपनी रिपोर्ट प्रस्तुत की थी, जिसमें सिफ़ारिश की गयी थी कि सभी विद्यमान परियोजनाओं में नियंत्रित गेट लगे स्पिलवे या जल मार्गों के माध्यम से निर्धारित ई-प्रवाह छोडने की व्यवस्था है और इसके लिए परियोजना के ढांचे में ढांचागत परिवर्तन की आवश्यकता नहीं है;

और केंद्रीय सरकार ने केंद्रीय जल आयोग की उक्त सिफ़ारिशों पर विचार कर लिया है;

और केंद्रीय सरकार का यह विचार है कि विद्यमान परियोजनाओं को उक्त आदेश में विनिर्दिष्ट अनिवार्य पर्यावरणीय प्रवाह का समुचित अनुपालन सुनिश्चित करने के लिए विद्यमान परियोजनाओं को तीन वर्ष की अवधि की अनुमति अत्यधिक है और आवश्यक नहीं है।

अतः अब, गंगा नदी (संरक्षण, सुरक्षा एवं प्रबंधन) प्राधिकरण आदेश, 2016 के पैरा 39 के उप-पैरा (3) और पैरा 41 के उप-पैरा (2) की मद (ज) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 3 की उपधारा (3) द्वारा शक्तियों का प्रयोग करते हुए केंद्रीय सरकार उक्त आदेश संख्या का. आ. 5195 (अ) तारीख 09 अक्तूबर 2018 में निम्नलिखित संशोधन करती है अर्थात –

उक्त आदेश के पैरा 2 में, उप-पैरा III में, मद (ii) में "तीन वर्ष की अवधि के भीतर" शब्दों के स्थान पर "15 दिसंबर 2019 से पहले" शब्द और अंक रखे जाएंगे।

[फा. सं. 05/46/2017-हाईड(एनई)]

राजीव किशोर, कार्यकारी निदेशक (प्रशासन)

टिप्पण: मूल आदेश, भारत के राजपत्र, असाधारण, भाग II, खंड 3, उप-खंड (ii), तारीख 10 अक्तूबर, 2018 में अधिसूचना सं. का.आ. 5195(अ), तारीख 9 अक्तूबर, 2018 द्वारा प्रकाशित किया गया था।

MINISTRY OF JAL SHAKTI

(Department of Water Resources, River Development and Ganga Rejuvenation)

(NATIONAL MISSION FOR CLEAN GANGA)

ORDER

New Delhi, the 14th September, 2019

S.O. 3286(E).—Whereas, the river Ganga is the most sacred and deeply revered by the people of this country and its river basin is the largest river basin in India in terms of catchment area and the ever increasing demand for water in the basin for irrigation, domestic, industrial and other purposes coupled with pollution ingress from different sources including domestic waste, industrial waste, into river system is affecting the health of the said river for long;

And whereas, the Central Government is considered necessary to ensure that uninterrupted flows of water are maintained throughout its length at all times in river Ganga to ensure continuity of flows in the river without altering the seasonal variations;

And whereas, *vide* notification number S.O. 3187(E), dated the 7th October, 2016 published in the Gazette of India, Part II, Section 3, Sub-section (ii), the Government of India in the erstwhile Ministry of Water Resources, River Development and Ganga Rejuvenation made the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016, *inter alia*, constituting an authority, namely, the National Mission for Clean Ganga for Rejuvenation, Protection and Management of River Ganga basin for various purposes specified therein in the said notification;

And whereas the Central Government issued an Order *vide* notification number S.O. 5195(E), dated the 9th October, 2018 (the said Order) specifying the minimum environmental flows to be maintained in river Ganga in the identified stretches;

And whereas, the Central Water Commission in its capacity as the designated Authority for supervision, regulation of flows and reporting on quarterly basis to the National Mission for Clean Ganga, submitted a report dated 11th July, 2019 recommending that all the existing projects have provision for releasing the mandated e-flow through controlled gated spillways or water ways, and structural modifications in the body of the project may not be required for the same;

And whereas, the said recommendations of the Central Water Commission have been considered by the Central Government;

And whereas, the Central Government is of the view that the time period of three years allowed to the existing projects to ensure proper compliance of the mandated environmental flows specified in the said Order, is excessive and not necessary;

Now, therefore, in exercise of the powers conferred by sub-section (3) of section 3 of the Environment (Protection) Act, 1986 read with sub-paragraph (3) of paragraph 39 and item (h) of sub-paragraph (2) of paragraph 41 of the River Ganga (Rejuvenation, Protection and Management)

Authorities Order, 2016, the Central Government hereby makes the following amendments in the said Order number S.O. 5195(E), dated the 9th October, 2018, namely:—

2. In the said Order, in paragraph 2, in sub-paragraph III, in item (ii), for the words "within a period of three years from the date of issue of this Order", the words, letters and figures "before 15th December, 2019" shall be substituted.

[F. No. 05/46/2017-Hyd (NE)]

RAJIV KISHORE, Executive Director (Admn.)

Note : The principal Order was published *vide* notification number S.O. 5195(E), dated the 9th October, 2018 in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii), dated 10th October, 2018.

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Annexure II

Hydro Projects Under Operation in Uttarakhand State

S. No.	Name of Project	Estimated Potential (MW)	District	River/Tributary	Agency
1	Maneri Bhali Stage -I	90	Uttarkashi	Bhagirathi	UJVNL
2	Maneri Bhali Stage-II	304	Uttarkashi	Bhagirathi	UJVNL
3	Chibro	240	Dehradun	Tons	UJVNL
4	Ramganga	198	Pauri	Ramganga	UJVNL
5	Chilla	144	Pauri	Ganga	UJVNL
6	Khodri	120	Dehradun	Tons	UJVNL
7	Tiloth	90	Uttarkashi	Bhagirathi	UJVNL
8	Dhalipur	51	Dehradun	Yamuna	UJVNL
9	Khatima	41.4	U.S. Nagar	Sarda	UJVNL
10	Dhakrani	33.75	Dehradun	Yamuna	UJVNL
11	Kulhal	30	Dehradun	Yamuna	UJVNL
12	Pathari	20.4	Hardwar	Upper ganga Canal	UJVNL
13	Mohmadpur	9.3	Hardwar	Upper ganga Canal	UJVNL
14	Galogi	3	Dehradun	Bhattafall	UJVNL
15	Urgam	3	Chamoli	Kalpganga	UJVNL
16	Dunao	1.5	Pauri	Eastern Nayar	UJVNL
17	Tanakpur	120.00	Champawat	Sharda	NHPC
18	Dhauli Ganga	280.00	Pithoragarh	Dhauli Ganga	NHPC
19	Tehri Dam	1000.00	Tehri	Bhagirathi	THDC
20	Koteshwar Dam	400.00	Tehri	Bhagirathi	THDC
21	Rajwakti	3.6	Chamoli	Nandakini	Him Urja Pvt Ltd
22	Hanuman Ganga	4.95	Uttarkashi	Hanuman ganga	Regency Aqua
23	Vishnuprayag	400	Chamoli	Alaknanda	JPVL
24	Deval	5	Chamoli	Pinder	Chamoli Hydro Pvt Ltd.
25	Loharkhet	4.8	Bageshwar	Lohar Khet	Parvatiya Power Pvt Ltd.
26	Agunda Thati	3	Tehri	Balganga	Gunsola Hydro
27	Vanala	15	Chamoli	Banala	Hima Urja Pvt Ltd.
28	Bhilangana	22.5	Tehri	Bhilangana	Swasti Power
29	Motighat	5	Pithoragarh	Sheraghat	Himalaya Hydro (P) Ltd.
30	Birahiganga	7.2	Chamoli	Birahiganga	Birahignaga Hydro
31	Rishiganga	13.2	Chamoli	Rishiganga	Rishiganga Power
32	Bhilangna III	24	Uttarkashi	Bhilangana	Bhilangana Hydro Power Ltd
33	Gangani	8	Uttarkashi	Gangani	Regency Gangani Energy
34	Sarju Stage-III	10.5	Bageshwar	Sarju	Uttar Bharat Power Pvt. Ltd
35	Badyar	4.9	Uttarkashi	Badyar gad	Regency Yamuna Energy
36	Srinagar	330	Pauri	Alaknanda	GVK
37	Sarju Stage-II	15	Bageshwar	Sarju	Uttar Bharat Power Pvt. Ltd
38	Tanga	5	Pithoragarh	Sheraghat	Himalaya Hydro (P) Ltd.
	Total	**3971**			

Hydro Projects being Developed by CPSUs in Uttarakhand State

Sr. No.	Name Of the Project	Capacity In MW	District	River Valley	Tributary	Name Of Agency
1	Tehri PSP	1000.00	Tehri	Bhagirathi	Bhagirathi	THDC
2	Tapovan Vishnugad	520.00	Chamoli	Alaknanda	Dhauliganga	NTPC
3	Vishnugad Pipalkoti	444.00	Chamoli	Alaknanda	Alaknanda	THDC
4	Lata Tapovan	171.00	Chamoli	Alaknanda	Dhauliganga	NTPC
5	Naitwar mori	60.00	Uttarkashi	Yamuna	Tons	SJVNL
6	Devsari Dam	252.00	Chamoli	Alaknanda	Pindar	SJVNL
7	Kothi Bhel - IA	195.00	Tehri	Bhagirathi	Bhagirathi	NHPC
8	Rusiya Bagar Khasiyabara	260.00	Pithoragarh	Gauriganga	Gauriganga	NTPC
9	Kothi Bhel - IB	320.00	Pauri (G)	Alaknanda	Alaknanda	NHPC
10	Kothi Bhel - II	530	Pauri (G)	Ganga	Ganga	NHPC
11	Jakhol Sankri	51.00	Uttarkashi	Yamuna	Tons	SJVNL
12	Jhelam Tamak	108.00	Chamoli	Alaknanda	Dhauliganga	THDC
13	Maleri Jhelam	65.00	Chamoli	Alaknanda	Dhauliganga	THDC
14	Gohana Tal	50.00	Chamoli	Alaknanda	Birahiganga	THDC
15	Gauriganga III A	120.00	Pithoragarh	Gauriganga	Gauriganga	NHPC
16	Dhauliganga Intermediate Stage	210.00	Pithoragarh	Dhauliganga	Dhauliganga	NHPC
17	Karmoli Lumti Talli	55.00	Pithoragarh	Gauriganga	Gauriganga	NHPC
18	Chungar Chal	240.00	Pithoragarh	Dhauliganga	Dhauliganga	NHPC
19	Garba Tawaghat	630.00	Pithoragarh	Sharda	Sharda	NHPC
20	Karmoli	140.00	Uttarkashi	Bhagirathi	Jadhganga	THDC
21	Jadhganga	50.00	Uttarkashi	Bhagirathi	Jadhganga	THDC
22	Bokang Bailing	330.00	Pithoragarh	Dhauliganga	Dhauliganga	THDC
	Total	**5801**				

Hydro Projects being Developed by IPPs in Uttarakhand State

S.N.	Name of Project	Estimated Potential (MW)	District	River/ Tributary	Developer
1	Rayat	6	Tehri	Aglar gad	Aglar Pvt.Ltd.
2	Bgyunder Ganga	24.3	Chamoli	Bgyunder Ganga	Super Hydro Pvt ltd
3	Phata- Byung	76	Rudraprayag	Mandakini	Lanco Kondapalli
4	Singoli-Bhatwari	99	Rudraprayag	Mandakini	ReNew Jal Urja Ltd.
5	Hanuman Ganga Ext. II	1.9	Uttarkashi	Hanuman ganga	Regency Aqua
6	Lagrasu	3	Tehri	Aglar	Aglar Pvt.Ltd.
7	Burthing	6.5	Pithoragarh	Eastern Ramganga	M/S Energy Development Company
8	Phuliabagar	5	Pithoragarh	Eastern Ramganga	M/S Energy Development Company
9	Balighat	5.5	Bageshwar	Sarju	M/S Energy Development Company
10	Barnigad	22.8	Uttarkashi	Yamuna	K Ramchandra Rao
11	Kot-Buda Kedar	6	Tehri	Bhilangana	Gunsola Hydro
12	Jhala Koti	12.5	Tehri	Dharam Ganga	Gunsola Hydro
13	Khirao ganga	4	Uttarkashi	khiroganga	Super Hydro Pvt. Ltd.
14	Devali	13	Chamoli	Nandakini	Hima Urja Pvt Ltd.
15	Kailganga	5	Chamoli	Pinder	Chamoli Hydro Pvt Ltd.
16	Hanol Tuni	60	Uttarkashi	Tons	Sunflag Power
17	Kakora Gad	12.5	Uttarkashi	Bhagirathi	Harsil Hydro
18	Jalandhari Gad	24	Uttarkashi	Bhagirathi	Harsil Hydro
19	Siyangad	11.5	Uttarkashi	Bhagirathi	Harsil Hydro
20	Alaknanda	300	Chamoli	Alaknanda	GMR Energy
21	Melkhet	24	Chamoli	Pinder	Melkhet Power
22	Sarju Stage-I	7.5	Bageshwar	Sarju	Uttar Bharat Power Pvt. Ltd
23	Khutani	21	Bageshwar	Sarju	Shayama Power
24	Rambara	76	Rudraprayag	Mandakini	Lanco Kondapalli
25	Birahi Ganga-I	24	Chamoli	Birahiganga	PES Engineering
26	Balgad	19.80	Pithoragarh	Eastern Ramganga	Balgad Power Company Ltd.
27	Madkini	21	Pithoragarh	Mandakini	Mandakini hydro Power Ltd.
28	Mori-Hanol	63	Uttarkashi	Tons	Krisna Knitwear
29	Rupin Stage III	8	Uttarkashi	Rupin	Tons Hydro
30	Rupin Stage IV	10	Uttarkashi	Rupin	Tons Hydro
31	Rupin Stage V	24	Uttarkashi	Tons	Tons Hydro
32	Birahi Ganga-II	24	Chamoli	Birahiganga	PES Engineering
33	Urthing Sobla	340	Pithoragarh	Dhauliganga	Reliance Energy
	Total	**1360.8**			

Hydro Projects being Developed by UJVNL

S. No.	Name of Project	Estimated Potential (MW)	District	River/Tributary
1	Vyasi	120	Dehradun	Yamuna
2	Lakhwar	300	Dehradun	Yamuna
3	Pala Maneri	480	Uttarkashi	Bhagirathi
4	Bharon Ghati	381	Uttarkashi	Bhagirathi
5	Bowla Nandprayag	300	Chamoli	Alaknanda
6	Nand Pyayag Langasu	100	Chamoli	Alaknanda
7	Tamak lata	280	Chamoli	Dhauliganga
8	Sarkari Bhyol Rupsiabagar	120	Pithoragarh	Goriganga
g	Sela Urthing	230	Pithoragarh	Dhauliganga
10	Taluka Sankri	140	Uttarkashi	Tons
11	Rishiganga I	70	Chamoli	Rishiganga
12	Rishiganga II	35	Chamoli	Rishiganga
13	Madhmaheshwar	15	Rudrprayag	Madhmaheshwar
14	Kaldigad	9	Uttarkashi	Kaldigad
15	Kaliganga-II	6	Rudrprayag	Kaliganga
16	Asiganga-I	4.5	Uttarkashi	Asiganga
17	Kaliganga-I	4	Rudrprayag	Kaliganga
18	Sobla I	8	Pithoragarh	Sobla
19	Asiganga-II	4.5	Uttarkashi	Asiganga
20	Dunao	1.5	Pauri	Eastern Nayar
21	Suwarigad	2	Uttarkashi	Bhagirathi
22	Limchagad	3.5	Uttarkashi	Bhagirathi
23	Tankul	12	Pithoragarh	Shyamkholigad
24	Painagad	4	Pithoragarh	Painagad
25	Pilangad-II	4	Uttarkashi	Pilangad
26	Urgam-II	3.8	Chamoli	Kalpganga
27	Asiganga-III	7.5	Uttarkashi	Asiganga
28	Suringad-II	5	Pithoragarh	Suringad
29	Songad	3	Pithoragarh	Songad
30	Bhilangana II - A	24	Tehri	Bhilangana
31	Bhilangana II - B	24	Tehri	Bhilangana
32	Bhilangana II - C	24	Tehri	Bhilangana
	Total	**2725.3**		

Annexure III

Salient Features of Maneri Bhali Phase I		
	Attribute	**Value**
1	**Name of Barrage/ Weir/ Anicut**	Joshiyara barrage
2	**River**	Bhagirathi
3	**Basin**	Ganga
4	**Nearest City**	Bhatwari
5	**District**	Uttarkashi
6	**State**	Uttarakhand
7	**Status**	Completed
8	**Year of Completion (YYYY)**	2007
9	**Barrage/ Weir/ Anicut as per Parliamentary Constituency**	Tehri Garhwal
10	**Seismic Zone**	Seismic Zone-IV
11	**Length of Barrage & Anicut (m)**	81
12	**Height up to Crest (m)**	39
13	**Pond Level (m)**	1108
14	**Type of Spillway Gate**	Vertical Lift
15	**No. of Spillway Gates**	5
16	**Latitude**	30°43’35.76" N
17	**Longitude**	78°26'44.88” E

Salient Features of Maneri Bhali Phase II		
	Attribute	**Value**
1	**Hydroelectric Project Name**	Maneri Bhali Stage - II Hydroelectric Project
2	**State**	Uttarakhand
3	**Districts**	Uttarkashi
4	**River**	Bhagirathi
5	**Basin**	Ganga
6	**Hydroelectric Region**	North HE Region
7	**Total Installed Capacity (MW)**	304
8	**Type of Project**	Major (> 25 MW)
9	**Hydroelectric Project Status**	Completed
10	**Purpose**	Hydroelectric
11	**Owner**	State
12	**Owner Name**	UJVNL
13	**Inter basin**	No
14	**Project Sharing**	None
15	**Interstate Agreements**	
16	**Intercountry**	None
17	**Latitude**	30° 43' 46.52" N
18	**Longitude**	78° 25' 25.75" E

Salient Features of Tehri Dam		
	Attribute	**Value**
1	**Name of Dam**	Tehri Dam
2	**Dam Name Alias**	
3	**River**	Bhagirathi
4	**Nearest City**	Pratapnagar
5	**District**	Tehri Garhwal
6	**State**	Uttarakhand
7	**Basin**	Ganga
8	**Status**	Completed
9	**Purpose of Dam**	Hydroelectric, Irrigation
10	**Year of Commencement (YYYY)**	
11	**Year of Completion (YYYY)**	2005
12	**Operating & Maintenance Agency**	THDC
13	**Dam as per Parliamentary Constituency**	Tehri Garhwal
14	**Seismic Zone**	Seismic Zone-IV
15	**Type of Dam**	Earthen/ Gravity & Masonry
16	**Length of Dam (m)**	575
17	**Max Height above Foundation (m)**	260.5
18	**Design Flood (cumecs)**	15540
19	**Type of Spillway**	Chute
20	**Length of Spillway (m)**	592
21	**Crest Level of Spillway (m)**	815
22	**Spillway Capacity (cumecs)**	13040
23	**Type of Spillway Gates**	Radial
24	**No. of Spillway Gates**	3
25	**Size of Spillway Gates (m x m)**	18 x 14
26	**NRLD No.**	UA34VH0012
27	**Latitude**	30°22'41.16” N
28	**Longitude**	78°28’49.44" E

Salient Features of Koteshwar Dam		
	Attribute	**Value**
1	**Name of Dam**	Koteshwar Dam
2	**River**	Bhagirathi
3	**Nearest City**	Pratapnagar
4	**District**	Tehri Garhwal
5	**State**	Uttarakhand
6	**Basin**	Ganga
7	**Status**	Completed
8	**Purpose of Dam**	Hydroelectric
9	**Operating & Maintenance Agency**	THDC
10	**Dam as per Parliamentary Constituency**	Garhwal
11	**Seismic Zone**	Seismic Zone-IV
12	**Type of Dam**	Gravity & Masonry
13	**Length of Dam (m)**	300.5
14	**Max Height above Foundation (m)**	97.5
15	**Total Volume Content of Dam (TCM)**	560
16	**Design Flood (cumecs)**	13240
17	**Type of Spillway**	Ogee
18	**Crest Level of Spillway (m)**	618.5
19	**Spillway Capacity (cumecs)**	13240
20	**Type of Spillway Gates**	Radial
21	**No. of Spillway Gates**	4
22	**Size of Spillway Gates (m x m)**	18 x 16
23	**Remarks**	Height- 103.50 m
24	**NRLD No.**	UA34HH0015
25	**Latitude**	30°15'37.08" N
26	**Longitude**	78°29’53.16" E

Salient Features of Vishnuprayag HEP		
	Attribute	**Value**
1	**Hydroelectric Project Name**	Vishnuprayag Hydroelectric Project
2	**State**	Uttarakhand
3	**Districts**	Chamoli
4	**River**	Alaknanda
5	**Basin**	Ganga
6	**Hydroelectric Region**	North HE Region
7	**Total Installed Capacity (MW)**	400
8	**Type of Project**	Major (> 25 MW)
9	**Hydroelectric Project Status**	Completed
10	**Purpose**	Hydroelectric
11	**Owner**	Private
12	**Owner Name**	JPVL
13	**Inter basin**	No
14	**Project Sharing**	None
15	**Intercountry**	None
16	**Latitude**	30°34’0.84” N
17	**Longitude**	79°32'48.48" E

Salient Features of Srinagar Dam		
	Attribute	**Value**
1	**Hydroelectric Project Name**	AHPCL Srinagar
2	**State**	Uttarakhand
3	**Districts**	Pauri Garhwal
4	**River**	Alaknanda
5	**Basin**	Ganga
6	**Hydroelectric Region**	North HE Region
7	**Total Installed Capacity (MW)**	330
8	**Type of Project**	Major (> 25 MW)
9	**Hydroelectric Project Status**	Completed
10	**Purpose**	Hydroelectric
11	**Owner**	AHPCL
12	**Owner Name**	AHPCL
13	**Latitude**	30°13'50.88" N
14	**Longitude**	78°47'28.32" E

Salient Features of Pashulok Barrage		
	Attribute	**Value**
1	**Name of Barrage/ Weir/ Anicut**	Rishikesh Barrage
2	**Name of Barrage/ Weir/ Anicut Alias**	Pashulok Barrage
3	**River**	Ganga
4	**Basin**	Ganga
5	**Nearest City**	Dehra Dun
6	**District**	Dehradun
7	**State**	Uttarakhand
8	**Status**	Completed
9	**Year of Completion (YYYY)**	1980
10	**Barrage/ Weir/ Anicut as per Parliamentary Constituency**	Hardwar
11	**Seismic Zone**	Seismic Zone-IV
12	**Length of Barrage & Anicut (m)**	312
13	**No. of Bays**	11
14	**Width of Bay (m)**	18
15	**Crest Level of Spillway (m)**	325.5
16	**Pond Level (m)**	337
17	**Design Flood Discharge (cumecs)**	13200
18	**Means for Dissipating Energy (Hydraulic)**	Stilling Basin with baffle blocks
19	**Sediment Excluding Devices**	Silt excluder tunnel
20	**Type of Spillway Gate**	Vertical Lift
21	**No. of Spillway Gates**	11
22	**Size of Spillway Gates (m x m)**	18x8.5
23	**No. of Under Sluice Bay**	4
24	**Size of Under Sluice Bay (m x m)**	18
25	**No. of Under Sluice Gate**	4
26	**Width of Head Regulators**	11
27	**Latitude**	30° 4'27.12" N
28	**Longitude**	78°17'17.88” E

Salient Features of Bhimgoda Barrage		
	Attribute	**Value**
1	**Name of Barrage/ Weir/ Anicut**	Bhimgoda Barrage
2	**River**	Ganga
3	**Basin**	Ganga
4	**District**	Haridwar
5	**State**	Uttarakhand
6	**Status**	Completed
7	**Year of Commencement (YYYY)**	1982
8	**Year of Completion (YYYY)**	1986
9	**Barrage/ Weir/ Anicut as per Parliamentary Constituency**	Haridwar
10	**Seismic Zone**	Seismic Zone-IV
11	**Width of River (m)**	675
12	**Length of Barrage & Anicut (m)**	453.5
13	**No. of Bays**	15
14	**Width of Bay (m)**	18
15	**Pond Level (m)**	293.7
16	**Highest Flood Level (m)**	296.3
17	**Design Flood Discharge (cumecs)**	193000
18	**Means for Dissipating Energy (Hydraulic)**	Basin Blocks and Dentated Sils
19	**Sediment Excluding Devices**	Silt Excluder and Silt Ejector
20	**Type of Spillway Gate**	Vertical Lift
21	**No. of Spillway Gates**	15
22	**Size of Spillway Gates (m x m)**	18x7.8
23	**No. of Under Sluice Bay**	7
24	**Size of Under Sluice Bay (m x m)**	18
25	**No. of Under Sluice Gate**	7
26	**Size of Under Sluice Gate (m x m)**	18x8.4
27	**Type of Under Sluice Gate**	VL
28	**Orientation of Head Regulator with respect to Barrage axis (Angular Unit)**	107
29	**Maximum Discharge of Canal**	164 Cumecs Left And 410 Cumecs Right
30	**Latitude**	29°57'22.68” N
31	**Longitude**	78°10’49.44" E

Salient Features of Bijnor Barrage		
	Attribute	**Value**
1	**Name of Barrage/ Weir/ Anicut**	Chaudhary Charan Singh Barrage
2	**River**	Ganga
3	**Basin**	Ganga
4	**Nearest City**	Jansath
5	**District**	Muzaffarnagar
6	**State**	Uttar Pradesh
7	**Status**	Completed
8	**Year of Commencement (YYYY)**	1978
9	**Seismic Zone**	Seismic Zone-IV
10	**Length of Barrage & Anicut (m)**	621
11	**No. of Bays**	22
12	**Width of Bay (m)**	18
13	**Pond Level (m)**	221.8
14	**Design Flood Discharge (cumecs)**	17600
15	**No. of Under Sluice Bay**	6
16	**Size of Under Sluice Bay (m x m)**	18
17	**Size of Under Sluice Gate (m x m)**	18x7.5
18	**Latitude**	29°22’24.72"N
19	**Longitude**	78° 2’25.60"E

Salient Features of Singoli-Bhatwari HEP		
	Attribute	**Value**
1	**Hydroelectric Project Name**	Singoli-Bhatwari Hydroelectric Project
2	**State**	Uttarakhand
3	**Districts**	Rudraprayag
4	**River**	Mandakini
5	**Basin**	Ganga
6	**Hydroelectric Region**	North HE Region
7	**Total Installed Capacity (MW)**	99
8	**Type of Project**	Major (> 25 MW)
9	**Hydroelectric Project Status**	Completed
10	**Purpose**	Hydroelectric
11	**Owner**	Private
12	**Owner Name**	ReNew Jal Urja Ltd.
13	**Inter basin**	No
14	**Project Sharing**	None
15	**Intercountry**	None
16	**Latitude**	30°30’17” N
17	**Longitude**	79°05'22" E

Salient Features of Kanpur Barrage		
	Attribute	**Value**
1	**Name of Barrage**	Lav Kush Barrage
2	**State**	Uttar Pradesh
3	**Districts**	Kanpur
4	**River**	Ganga
5	**Basin**	Ganga
6	**No. of Bays**	30
7	**Width of Bay (m)**	18
8	**Design Flood Discharge (cumecs)**	18840
9	**Design HFL (m)**	116.35
10	**Catchment Area (sq. km)**	85340
11	**Owner**	Government
12	**Owner Name**	IDUP
13	**Inter basin**	No
14	**Project Sharing**	None
15	**Intercountry**	None
16	**Latitude**	26°30’30” N
17	**Longitude**	80°19'01" E

Annexure IV

Data Transmission status Matrix

S.No.	Project Name	01-04-2023	02-04-2023	03-04-2023	04-04-2023	05-04-2023	06-04-2023	07-04-2023
1	Maneri Bhali-1	A	A	B	A	A	B	A
2	Maneri Bhali-2	B	A	A	A	A	B	B
3	Koteshwar Dam	B	B	B	B	B	B	B
4	Tehri Dam	B	B	B	B	B	B	B
5	Bhimgoda Barrage	B	A	B	B	B	B	A
6	Vishnuparayag HEP	B	A	A	A	A	A	A
7	Chaudhary Charan Singh Barrage	B	B	B	B	B	B	B
8	Pashulok Barrage	A	A	A	A	A	A	A
9	Srinagar HEP	B	A	A	A	A	A	A
10	Singoli Bhatwari HEP	A	A	A	A	A	A	A
11	Narora Barrage	A	A	A	A	A	A	A
12	Lav Kush Barrage	B	B	B	B	B	B	B

A	Hourly flow data received timly
B	Hourly flow data received late
C	Data received but not in desired format
D	No data received

S.No.	Project Name	08-04-2023	09-04-2023	10-04-2023	11-04-2023	12-04-2023	13-04-2023	14-04-2023
1	Maneri Bhali-1	B	A	A	B	A	B	A
2	Maneri Bhali-2	B	A	A	A	A	B	A
3	Koteshwar Dam	B	B	A	B	B	B	B
4	Tehri Dam	B	B	A	B	B	B	B
5	Bhimgoda Barrage	A	A	A	A	A	B	B
6	Vishnuparayag HEP	B	A	A	A	A	A	A
7	Chaudhary Charan Singh Barrage	B	B	B	B	B	B	B
8	Pashulok Barrage	A	A	A	A	A	B	A
9	Srinagar HEP	B	A	A	A	A	A	A
10	Singoli Bhatwari HEP	A	A	A	A	A	A	A
11	Narora Barrage	A	A	A	A	A	A	A
12	Lav Kush Barrage	B	B	B	B	B	B	B

A	Hourly flow data received timly
B	Hourly flow data received late
C	Data received but not in desired format
D	No data received

S.No.	Project Name	15-04-2023	16-04-2023	17-04-2023	18-04-2023	19-04-2023	20-04-2023	21-04-2023
1	Maneri Bhali-1	B	A	A	B	A	A	B
2	Maneri Bhali-2	B	A	A	A	A	A	B
3	Koteshwar Dam	B	B	A	B	A	A	B
4	Tehri Dam	B	B	A	B	A	A	B
5	Bhimgoda Barrage	B	B	A	B	B	B	A
6	Vishnuparayag HEP	B	A	A	A	A	A	A
7	Chaudhary Charan Singh Barrage	B	B	B	B	B	B	B
8	Pashulok Barrage	A	A	A	A	A	A	A
9	Srinagar HEP	B	A	A	A	A	B	A
10	Singoli Bhatwari HEP	A	A	A	A	A	A	A
11	Narora Barrage	A	A	A	A	A	A	A
12	Lav Kush Barrage	B	B	B	B	B	B	B

A	Hourly flow data received timly
B	Hourly flow data received late
C	Data received but not in desired format
D	No data received

S.No.	Project Name	22-04-2023	23-04-2023	24-04-2023	25-04-2023	26-04-2023	27-04-2023	30-04-2023
1	Maneri Bhali-1	B	B	A	A	B	A	A
2	Maneri Bhali-2	B	A	A	A	A	A	A
3	Koteshwar Dam	B	B	B	A	B	B	A
4	Tehri Dam	B	B	B	A	B	B	A
5	Bhimgoda Barrage	B	A	A	A	A	A	A
6	Vishnuparayag HEP	B	A	A	A	A	A	A
7	Chaudhary Charan Singh Barrage	B	B	B	B	B	B	A
8	Pashulok Barrage	A	A	A	A	A	A	A
9	Srinagar HEP	B	A	A	A	A	A	B
10	Singoli Bhatwari HEP	A	A	A	A	A	A	A
11	Narora Barrage	A	A	A	A	A	A	A
12	Lav Kush Barrage	B	B	B	B	B	B	B

A	Hourly flow data received timly
B	Hourly flow data received late
C	Data received but not in desired format
D	No data received

S.No.	Project Name	01-05-2023	02-05-2023	03-05-2023	04-05-2023	05-05-2023	06-05-2023	07-05-2023
1	Maneri Bhali-1	A	B	B	A	A	B	A
2	Maneri Bhali-2	A	A	A	B	A	A	A
3	Koteshwar Dam	B	B	B	B	B	B	B
4	Tehri Dam	B	B	B	B	B	B	B
5	Bhimgoda Barrage	B	B	B	B	A	B	A
6	Vishnuparayag HEP	A	A	A	A	A	B	A
7	Chaudhary Charan Singh Barrage	B	B	B	B	B	B	B
8	Pashulok Barrage	A	A	A	A	A	A	A
9	Srinagar HEP	B	B	B	B	B	B	B
10	Singoli Bhatwari HEP	A	A	A	A	A	A	A
11	Narora Barrage	A	A	A	A	A	A	A
12	Lav Kush Barrage	B	B	B	B	B	B	B

A	Hourly flow data received timly
B	Hourly flow data received late
C	Data received but not in desired format
D	No data received

S.No.	Project Name	08-05-2023	09-05-2023	10-05-2023	11-05-2023	12-05-2023	13-05-2023	14-05-2023
1	Maneri Bhali-1	A	A	A	A	A	A	A
2	Maneri Bhali-2	A	A	A	A	B	B	A
3	Koteshwar Dam	B	A	A	A	B	B	A
4	Tehri Dam	B	A	A	A	B	B	A
5	Bhimgoda Barrage	B	B	B	A	B	B	A
6	Vishnuparayag HEP	A	A	A	A	A	B	A
7	Chaudhary Charan Singh Barrage	B	B	B	B	B	B	B
8	Pashulok Barrage	A	A	A	A	A	B	A
9	Srinagar HEP	B	B	B	A	A	A	A
10	Singoli Bhatwari HEP	A	A	A	A	A	A	A
11	Narora Barrage	A	A	A	A	A	A	A
12	Lav Kush Barrage	B	B	B	B	B	B	B

A	Hourly flow data received timly
B	Hourly flow data received late
C	Data received but not in desired format
D	No data received

S.No.	Project Name	15-05-2023	16-05-2023	17-05-2023	18-05-2023	19-05-2023	20-05-2023	21-05-2023
1	Maneri Bhali-1	A	A	A	A	A	A	A
2	Maneri Bhali-2	A	A	A	A	A	B	A
3	Koteshwar Dam	B	B	A	A	A	B	A
4	Tehri Dam	B	B	A	A	A	B	A
5	Bhimgoda Barrage	A	B	A	A	B	B	A
6	Vishnuparayag HEP	A	A	A	A	A	B	A
7	Chaudhary Charan Singh Barrage	B	B	B	B	B	B	B
8	Pashulok Barrage	A	A	A	A	A	A	A
9	Srinagar HEP	B	A	A	A	A	B	A
10	Singoli Bhatwari HEP	A	A	A	A	A	A	A
11	Narora Barrage	A	A	A	A	A	A	A
12	Lav Kush Barrage	B	B	B	B	B	B	B

A	Hourly flow data received timly
B	Hourly flow data received late
C	Data received but not in desired format
D	No data received

S.No.	Project Name	22-05-2023	23-05-2023	24-05-2023	25-05-2023	26-05-2023	27-05-2023	28-05-2023
1	Maneri Bhali-1	A	A	A	A	A	A	A
2	Maneri Bhali-2	A	A	A	B	A	B	A
3	Koteshwar Dam	B	B	B	B	B	B	A
4	Tehri Dam	B	B	B	B	B	B	A
5	Bhimgoda Barrage	A	B	A	A	B	B	A
6	Vishnuparayag HEP	A	A	A	A	A	B	A
7	Chaudhary Charan Singh Barrage	A	B	B	B	B	B	B
8	Pashulok Barrage	A	B	B	B	A	A	B
9	Srinagar HEP	A	A	A	A	A	B	A
10	Singoli Bhatwari HEP	A	A	A	A	A	A	A
11	Narora Barrage	A	A	A	A	A	A	A
12	Lav Kush Barrage	B	B	B	B	B	B	B

A	Hourly flow data received timly
B	Hourly flow data received late
C	Data received but not in desired format
D	No data received

S.No.	Project Name	29-05-2023	30-05-2023	31-05-2023	01-06-2023	02-06-2023	03-06-2023	04-06-2023
1	Maneri Bhali-1	A	A	A	A	A	B	A
2	Maneri Bhali-2	B	A	A	A	A	B	A
3	Koteshwar Dam	B	A	A	B	B	B	B
4	Tehri Dam	B	A	A	B	B	B	B
5	Bhimgoda Barrage	B	A	B	A	B	B	A
6	Vishnuparayag HEP	A	A	A	A	A	B	A
7	Chaudhary Charan Singh Barrage	A	B	B	B	B	B	B
8	Pashulok Barrage	A	A	A	A	A	A	A
9	Srinagar HEP	A	B	A	A	A	B	A
10	Singoli Bhatwari HEP	A	A	A	A	A	A	A
11	Narora Barrage	A	A	A	A	A	A	A
12	Lav Kush Barrage	B	B	B	B	B	B	B

A	Hourly flow data received timly
B	Hourly flow data received late
C	Data received but not in desired format
D	No data received

S.No.	Project Name	05-06-2023	06-06-2023	07-06-2023	08-06-2023	09-06-2023	10-06-2023	11-06-2023
1	Maneri Bhali-1	B	A	A	B	A	B	A
2	Maneri Bhali-2	A	A	A	A	B	B	A
3	Koteshwar Dam	B	B	B	A	B	B	A
4	Tehri Dam	B	B	B	A	B	B	A
5	Bhimgoda Barrage	B	A	B	A	B	B	A
6	Vishnuparayag HEP	A	A	A	A	A	B	A
7	Chaudhary Charan Singh Barrage	B	B	B	B	B	B	B
8	Pashulok Barrage	A	A	A	A	A	A	A
9	Srinagar HEP	A	A	A	A	A	B	A
10	Singoli Bhatwari HEP	A	A	A	A	A	A	A
11	Narora Barrage	A	A	A	A	A	A	A
12	Lav Kush Barrage	B	B	B	B	B	B	B

A	Hourly flow data received timly
B	Hourly flow data received late
C	Data received but not in desired format
D	No data received

S.No.	Project Name	12-06-2023	13-06-2023	14-06-2023	15-06-2023	16-06-2023	17-06-2023	18-06-2023
1	Maneri Bhali-1	A	B	A	A	A	A	B
2	Maneri Bhali-2	A	A	A	A	A	B	A
3	Koteshwar Dam	B	A	B	A	B	B	A
4	Tehri Dam	B	A	B	A	B	B	A
5	Bhimgoda Barrage	B	A	A	B	B	B	B
6	Vishnuparayag HEP	A	A	A	A	A	B	A
7	Chaudhary Charan Singh Barrage	B	B	B	B	B	B	B
8	Pashulok Barrage	A	A	B	B	A	A	A
9	Srinagar HEP	B	A	A	A	A	B	A
10	Singoli Bhatwari HEP	A	A	A	A	A	A	B
11	Narora Barrage	A	A	A	A	A	A	A
12	Lav Kush Barrage	B	B	B	B	B	B	B

A	Hourly flow data received timly
B	Hourly flow data received late
C	Data received but not in desired format
D	No data received

S.No.	Project Name	19-06-2023	20-06-2023	21-06-2023	22-06-2023	23-06-2023	24-06-2023	25-06-2023
1	Maneri Bhali-1	A	A	A	B	A	B	A
2	Maneri Bhali-2	A	A	A	A	A	A	A
3	Koteshwar Dam	A	A	B	A	B	B	A
4	Tehri Dam	A	A	B	A	B	B	A
5	Bhimgoda Barrage	A	B	A	A	B	A	B
6	Vishnuparayag HEP	A	A	A	A	A	B	A
7	Chaudhary Charan Singh Barrage	B	A	B	B	B	B	B
8	Pashulok Barrage	A	A	B	A	A	A	B
9	Srinagar HEP	A	B	B	A	A	B	A
10	Singoli Bhatwari HEP	A	A	A	A	A	A	A
11	Narora Barrage	A	A	A	A	A	A	A
12	Lav Kush Barrage	B	B	B	B	B	B	B

A	Hourly flow data received timly
B	Hourly flow data received late
C	Data received but not in desired format
D	No data received

S.No.	Project Name	26-06-2023	27-06-2023	28-06-2023	29-06-2023	30-06-2023
1	Maneri Bhali-1	A	B	B	A	A
2	Maneri Bhali-2	A	A	B	A	A
3	Koteshwar Dam	B	A	B	A	B
4	Tehri Dam	B	A	B	A	B
5	Bhimgoda Barrage	A	B	A	B	A
6	Vishnuparayag HEP	A	A	A	A	A
7	Chaudhary Charan Singh Barrage	B	B	B	A	A
8	Pashulok Barrage	A	A	A	A	A
9	Srinagar HEP	B	A	A	A	A
10	Singoli Bhatwari HEP	A	A	A	A	A
11	Narora Barrage	A	A	A	A	A
12	Lav Kush Barrage	B	B	B	B	B

A	Hourly flow data received timly
B	Hourly flow data received late
C	Data received but not in desired format
D	No data received