

Appendices

Appendix-2.1

(Reference: Paragraph 2.3.4; Page 10)

Details of lack of sewage connectivity in seven Ganga Front Towns

Sl. No.	Name of Town	STPs not connected to households	Details of Projects in these towns
1	Joshimath	02 (3.78 MLD)	Only I&D project sanctioned (March 2010) without any STP at a cost of ₹ 9.61 crore. Work closed in March 2017 after spending ₹ 9.57 crore. Another I&D with STP project sanctioned (March 2017) at a cost of ₹ 48.43 crore (₹ 62.40 crore revised in August 2021). Construction work completed in 2022. No household sewer connections are available in any STP due to lack of sewer network. STPs treat only grey water of five drains.
2	Nandprayag	02 (0.15 MLD)	Only I&D with STP project sanctioned (March 2017) at a cost of ₹ 6.46 crore (₹ 6.51 crore revised in January 2021). No household sewer connections are available in any of the two STPs due to lack of sewer network. STPs treat only grey water of three drains.
3	Karnaprayag	05 (0.35 MLD)	One I&D project and one STP (1.40 MLD) project sanctioned simultaneously (December 2008 & July 2009) at a total cost of ₹ 8.81 crore. Only partial I&D work got done worth 0.95 crore and both the projects abandoned. Another I&D with five STPs project sanctioned (March 2017) at a cost of ₹ 12.09 crore (₹ 12.01 crore revised in September 2021). No household sewer connections are available in any of the five STPs due to lack of sewer network. STPs treat only grey water of seven drains.
4	Rudraprayag	06 (0.525 MLD)	One I&D with one STP (three MLD) project sanctioned (September 2009) at a cost of ₹ 12.62 crore (I & D work: ₹ 7.92 crore and STP: ₹ 4.70 crore). Only partial I&D work got done worth ₹ 0.71 crore and project abandoned. Work related to STP could not be started and abandoned. Another I&D with six STPs project sanctioned (March 2017) at a cost of ₹ 13.15 crore. No household sewer connections are available in any of the six STPs due to lack of sewer network. STPs treat only grey water of eight drains.
5	Kirtinagar	02 (0.060 MLD)	Only I&D with two STPs project sanctioned (March 2017) at a cost of ₹ 4.23 crore. No household sewer connections are available in any of the two STPs. Both the STPs treat only grey water from drains.
6	Chamoli (Near Old Suspension Bridge)	01 (0.05 MLD)	This STP was part of an I&D with STP project sanctioned (March 2017) at a cost of ₹ 61.83 crore (₹ 64.34 crore revised in October 2022). No household sewer connections are available in this STP. It treats only grey water from one drain.
7	Srinagar (01 MLD STP) + Srikot (2 STPs)	03 (1.125 MLD)	Srinagar: Only I&D with STP of one MLD project sanctioned (March 2017) at a cost of ₹ 22.51 crore. No household sewer connections are available in this STP. They treat only grey water from 10 drains. Srikot: Only I&D with two STPs of 75 KLD & 50 KLD project sanctioned (March 2019) at a cost of ₹ 7.86 crore. No household sewer connections are available in these two STPs. They treat only grey water from two drains.
Total		21 (6.04 MLD)	

Source: Minutes of Joint Physical Inspections of STPs and PM, UJN, Ganga, Srinagar and Gopeshwar.

Appendix-2.2

(Reference: Paragraph 2.4.4; Page 20)

List of the STPs operating without Consent to Operate (CTO)

Sl. No.	Name of the STPs operating without CTO	Validity to operate of STPs
1	0.050 MLD STP Near old Suspension Bridge Chamoli	31-03-2021
2	1.190 MLD STP at Vivekanand Colony, Gopeshwar	31-03-2020
3	1.120 MLD STP at Baitarani Gopeshwar	31-03-2020
4	0.050 MLD STP at Sangam Road Nandprayag	31-03-2021
5	0.050 MLD STP Near Police Chowki Karnaprayag	31-03-2021
6	0.010 MLD STP, Near Temple Kirtinagar	Returned for non-compliance
7	2.0 MLD STP at Gyansu Uttarkashi	Returned for non-compliance
8	1.0 MLD STP at Gangotri Uttarkashi	31-03-2021

Source: Uttarakhand Pollution Control Board Dehradun.

Appendix-2.3
(Reference: Paragraph 2.4.5; Page 20)

List of 18 STPs not taken over by maintenance agency due to operational and safety related issues

Sl. No.	Town	Programme under which constructed	Name of STP with capacity	Completed year	Deficiencies/Reasons for not being taken over of STPs
1	Srinagar	Ganga Action Plan	3.50 MLD Srinagar	May 2019	Various deficiencies (like no arrangement of disposal of sludge, damaged boundary wall, sample reports of effluent in inlet and outlet are not as per prescribed standard) in STP affect its functioning and have stopped UJS from taking over of STP despite repeated requests of UJN.
2	Devprayag	NGRBA	0.075 MLD Shanti Bazar	July 2018	Leakage in various main holes and sewage directly flowing in river/overflow/toilet in both the STPs are damaged. These deficiencies in STPs affect their functioning and have stopped UJS from taking over of these STPs despite repeated requests of UJN.
3		NGRBA	0.150 MLD Sangam Bazar	July 2018	
4	Haridwar	Namami Gange	68 MLD Jagjeetpur	June 2020	Both STPs will be run by UJN up to completion of capex as per instruction of NMCG.
5		Namami Gange	14 MLD Sarai	June 2020	
6	Rishikesh	Namami Gange	5 MLD Chorpani	September 2020	In both the STPs sewage coming in excess of their treatment capacity which affect their functioning and have stopped UJS from taking over of these STPs despite repeated requests of UJN.
7		Namami Gange	7.5 MLD Chandreshwar Nagar Muni-ki-Reti Dhalwala	September 2020	
8		Namami Gange	26 MLD Lakkarghat	September 2020	
9	Srikot	Namami Gange	0.050 MLD Srikot	February 2021	No joint inspection of both the STPs is carried out by UJN and UJS.
10		Namami Gange	0.075 MLD Srikot	February 2021	
11	Rudraprayag	Namami Gange	0.100 MLD Near Rudra complex	March 2019	Damaged drains, no arrangement of water connection and toilet, nonfunctional of filter press and drain feed pump, no protection wall, no arrangement of sludge dumping.
12		Namami Gange	0.075 MLD Near Bus Stand	May 2019	
13		Namami Gange	0.100 MLD STP 4	May 2019	
14		Namami Gange	0.050 MLD STP 6 Near Belni Road	November 2020	

Sl. No.	Town	Programme under which constructed	Name of STP with capacity	Completed year	Deficiencies/Reasons for not being taken over of STPs
15	Karnprayag	Namami Gange	0.100 MLD STP 2 Near Purana Pul	May 2019	Non-functional filter feed pump, sludge feed pump, grey water of drains directly flowing into Pinder River without treatment, tapped dry drain in one STP near purana bridge.
16		Namami Gange	0.050 MLD STP 4 Near Naya Pul	November 2020	
17		Namami Gange	0.100 MLD STP 5 Near Ward No. 1 & 3	March 2019	
18	Joshimath	Namami Gange	2.70 MLD STP 2 Marwari	March 2023	Due to various deficiencies in STP noticed during physical inspection in May 2023 viz Back flow from grit chamber, no flowmeter on inlet and outlet, leakage from weepholes, no arrangement for sludge disposal. UJS not ready for taking over this STP before rectification of these deficiencies by UJN.

Source: Information collected from Implementing agencies, PM, Mechanical Division Ganga, GM, UJN, Namami Gange and UJS divisions.

Appendix-4.1

(Reference: Paragraph 4.3; Page 36)

Water quality criteria according to CPCB

Water Quality Criteria	Class of Water	Designated-Best-Use
<ul style="list-style-type: none"> Total Coliforms Organism MPN/100 ml shall be 50 or less pH between 6.5 and 8.5 Dissolved Oxygen 6 mg/l or more Biochemical Oxygen Demand 5 days 20⁰ C 2 mg/l or less 	A	Drinking Water Source without conventional treatment but after disinfection
<ul style="list-style-type: none"> Total Coliforms Organism MPN/100 ml shall be 500 or less pH between 6.5 and 8.5 Dissolved Oxygen 5 mg/l or more Biochemical Oxygen Demand 5 days 20⁰ C 3 mg/l or less 	B	Outdoor bathing (Organised)
<ul style="list-style-type: none"> Total Coliforms Organism MPN/100 ml shall be 5000 or less pH between 6 to 9 Dissolved Oxygen 4 mg/l or more Biochemical Oxygen Demand 5 days 20⁰ C 3 mg/l or less 	C	Drinking water source after conventional treatment and disinfection
<ul style="list-style-type: none"> pH between 6.5 to 8.5 Dissolved Oxygen 4 mg/l or more Free Ammonia (as N) 1.2 mg/l or less 	D	Propagation of Wildlife and Fisheries
<ul style="list-style-type: none"> pH between 6.0 to 8.5 Electrical Conductivity at 25⁰ C micro mhos/cm Max.2250 Sodium absorption Ratio Max. 26 Boron Max. 2 mg/l 	E	Irrigation, Industrial Cooling, Controlled Waste Disposal
Not Meeting A, B, C, D & E Criteria	Below-E	Use not specified

Appendix-5.1
(Reference: Paragraph 5.4; Page 47)

Commencement of work before obtaining technical approval from competent authority

Sl. No.	Division	Work executed	Agreement No.	DoS as per agreement	Date of technical sanction
1	EE, ID, Rudraprayag	Koteshwar Mahadev Bathing Ghat (B G)	02/SE/2017-18	17.11.2017	28.02.2018
		Gholtir Cremation Ghat (CG)			
2	EE, ID, Tharali	Gaucher C G	01/SE/2017-18	17.11.2017	28.02.2018
		Karnprayag C G			
		Karnprayag B G/C G			
3	EE, ID, Srinagar	Umarkot C G	01/SE/2017-18	17.11.2017	28.02.2018
		Nandprayag B G			
		Nandprayag C G			
		Chamoli C G			
4	EE, ID, Uttarkashi	Kedar (B G)/ (C G)	02/SE/2017-18	04.12.2017	28.08.2018
		Manikarnika B G	04/SE/2017-18	04.12.2017	17.01.2018
		Jad Bharat B G	03/SE/2017-18	04.12.2017	19.01.2018
		Heena B G/C G	05/SE/2017-18	12.12.2017	28.08.2018
		Nageshwar B G	06/SE/2017-18	22.12.2017	28.08.2018
		Dunda C G	01/SE/2017-18	04.12.2017	28.08.2018

Appendix-5.2
(Reference: Paragraph 5.6; Page 48)

Short recovery of Liquidated damage for delay in execution of works related to sewage projects

(₹ in crore)

Sl. No.	Division	Bond No.	Contract value	Schedule Date of Start	Schedule Date of Completion	Actual Date of Completion	Delay (in days)	LD should be imposed	LD Imposed	Short recovery of LD
1	UJN, Ganga, Gopeshwar	14/GM/2017-18	10.48	20.11.2017	19.05.2019	31.10.2020	530	1.05	0.09	0.96
2	UJN, Ganga, Gopeshwar/Srinagar	15/GM/2017-18	69.03	20.11.2017	19.02.2019	31.05.2021	830	6.90	0.80	6.10
3	UJN, Ganga, Rishikesh	02/GM/2018-19	126.37	31.05.2018	30.11.2019	31.03.2023	1,216	12.64	0.002	12.64
		Total	205.88				530 to 1,216	20.59	0.89	19.70

