



Annex U

High Flood Level Information for Rivers nearby Transmission Towers



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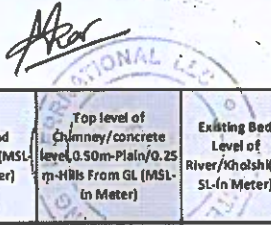




S.No.	Segment	Tower Nos.	Longitude	Latitude	Ground Elevation(MSL- in Meter)	Top level of Chimney/concrete level, 0.50m-Plain/0.25 m-Hills From GL (MSL- in Meter)	Existing Bed Level of River/Kholshi(M SL-in Meter)	Predicted HFL (Based on local Survey; MSL in Meter)	Name of River, tributaries or adjacent Khola/streams	Remarks
1	India Border to New Butwal 3/5	1	83d42'27.968"E	27d25'37.401"N	102.20	102.70	100.25	101.25	Jharahi River: HFL is 1 meter from the river bed level (Based on consultation with local people)	Earthen Embankment was constructed at Right and left banks of Jharahi river to control flood and inundation from AP-1 to AP-33. All towers are located behind the embankment and the embankment is designed for 50 years return period.
2		2	83d42'32.548"E	27d25'46.112"N	101.60	102.10	100.31	101.31		
3		3	83d42'37.055"E	27d25'54.686"N	101.30	101.80	100.36	101.36		
4		4	83d42'37.328"E	27d26'5.116"N	101.50	102.00	100.42	101.42		
5		5	83d42'37.618"E	27d26'16.198"N	102.30	102.80	100.47	101.47		
6		6	83d42'33.56"E	27d26'28.21"N	103.10	103.60	100.53	101.53		
7		7	83d42'29.626"E	27d26'39.852"N	102.70	103.20	100.58	101.58		
8		8	83d42'25.492"E	27d26'52.084"N	106.20	106.70	100.64	101.64		
9		9	83d42'21.284"E	27d27'4.535"N	102.80	103.30	100.70	101.70		
10		10	83d42'17.056"E	27d27'17.047"N	104.00	104.50	100.95	101.95		
11		11	83d42'12.879"E	27d27'29.403"N	104.20	104.70	101.15	102.15		
12		12	83d42'8.85"E	27d27'41.324"N	104.50	105.00	101.35	102.35		
13		13	83d42'4.751"E	27d27'53.448"N	105.10	105.60	101.55	102.55		
14		14	83d42'0.546"E	27d28'5.886"N	105.60	106.10	101.75	102.75		
15		15	83.696413"E	27.474312"N	105.10	105.60	102.50	103.50		
16		16	83.693948"E	27.475648"N	105.00	105.50	103.00	104.00		
17		17	83.696120"E	27.478313"N	105.80	106.30	103.50	104.50		
18		17/1	83.697264"E	27.481800"N	106.00	106.50	104.00	105.00		
19		18	83.696392"E	27.485236"N	106.30	106.80	104.00	105.00		
20		19	83.694483"E	27.488243"N	106.70	107.20	104.50	105.50		
21		20	83.695120"E	27.491594"N	106.80	107.30	105.00	106.00		
22		21	83d41'52.295"E	27d29'27.137"N	107.10	107.60	105.50	106.50		
23		22	83d41'49.581"E	27d29'39.247"N	107.80	108.30	105.15	106.15		
24		23	83d41'46.773"E	27d29'51.773"N	107.70	108.20	105.30	106.30		
25		24	83d41'43.966"E	27d30'4.295"N	108.20	108.70	105.45	106.45		
26		25	83d41'41.166"E	27d30'16.787"N	108.60	109.10	105.55	106.55		
27		26	83d41'41.189"E	27d30'28.879"N	108.90	109.40	105.65	106.65		
28		27	83d41'41.208"E	27d30'39.487"N	109.50	110.00	105.75	106.75		
29		28	83d41'41.227"E	27d30'50.063"N	110.30	110.80	105.90	106.90		
30		29	83d41'41.249"E	27d31'1.672"N	110.80	111.30	106.00	107.00		
31		30	83d41'41.27"E	27d31'13.29"N	111.00	111.50	106.15	107.15		
32		31	83d41'46.664"E	27d31'24.949"N	111.10	111.60	106.30	107.30		
33		32	83d41'51.319"E	27d31'35.01"N	111.20	111.70	106.45	107.45		
34		33	83d41'56.298"E	27d31'45.773"N	112.10	112.60	106.60	107.60		
35		34	83d41'46.796"E	27d31'54.583"N	112.50	113.00	106.75	107.75		
36		35	83d41'37.316"E	27d32'3.377"N	112.60	113.10	106.90	107.90		
37		41	83d40'50.965"E	27d32'46.336"N	114.30	114.80	108.50	109.50		
38		42	83d40'48.261"E	27d32'56.474"N	115.00	115.50	109.15	110.15		
39		43	83d40'49.643"E	27d33'5.083"N	115.60	116.10	109.30	110.30		
40		40	83d40'50.921"E	27d33'13.044"N	112.20	112.70	109.65	110.65		
41		45	83.681147"E	27.555709"N	114.80	115.30	110.48	111.48		
42		45/1	83.683212"E	27.562227"N	115.00	115.50	110.65	111.65		
43		46	83.683828"E	27.558928"N	116.30	116.80	111.05	112.05		
44		47	83.682684"E	27.560171"N	117.10	117.60	111.63	112.63		
45		48	83.684214"E	27.563417"N	117.90	118.40	112.20	113.20		
46		48A	83.688303"E	27.566533"N	118.00	118.50	112.50	113.50		
47		49	83.687564"E	27.568359"N	119.80	120.30	112.78	113.78		
48		50	83.688285"E	27.570277"N	120.70	121.20	113.35	114.35		
49		51	83.688062"E	27.572899"N	121.40	121.90	113.93	114.93		
50		Gantry tower	83d41'17.011"E	27d34'25.943"N	118.10	118.60	114.50	115.50		
51		1	83d41'20.261"E	27d34'24.883"N	118.3	118.80	114.20	114.95		
52	2	83d41'18.526"E	27d34'20.541"N	121.6	122.10	122.50	123.25		Critical/Chimney will be raised by 2.0m ht. and top level of chimney will be obtained 123.60 m Critical	
53	3	83d41'25.325"E	27d34'17.371"N	122.6	123.10	122.60	123.60			
54	4	83d41'32.665"E	27d34'23.049"N	123.7	124.20	122.70	123.45			
55	7	83d41'53.775"E	27d34'47.865"N	131.8	132.30	123.80	124.55			
56	8	83d42'2.445"E	27d34'58.901"N	127.9	128.40	124.90	125.65			
57	9	83d42'0.682"E	27d35'12.174"N	137.5	138.00	126.00	126.75			
58	10	83d42'1.412"E	27d35'21.185"N	135.0	135.50	127.10	127.85		Level of River Bed level/Need to be check	
59	11	83d41'54.087"E	27d35'32.003"N	133.7	134.20	128.20	128.95			
60	12	83d41'52.848"E	27d35'39.968"N	134.2	134.70	129.30	130.05			
61	14	83d41'51.128"E	27d36'3.958"N	142.80	143.30	130.40	131.15		Top level of Chimney is higher than predicted HFL at those tower locations. Hence, those locations are safe from inundation.	
62	15	83d41'45.712"E	27d36'17.771"N	141.30	141.80	134.00	134.75			
63	16	83d41'52.349"E	27d36'29.92"N	147.20	147.70	135.25	136.00			
64	17	83d42'9.915"E	27d36'33.079"N	141.20	141.70	139.40	140.15			

New Damudd





S.No.	Segment	Tower Nos.	Coordinates		Ground Elevation(MSL in Meter)	Top level of Chimney/concrete level/0.50m-Plain/0.25m-Hills From GL (MSL in Meter)	Existing Bed Level of River/Kholshl(M SL-In Meter)	Predicted HFL (Based on local Survey; MSL in Meter)	Name of River crossings or adjacent River/Kholshl	Remedial measures	Remarks
			Longitude	Latitude							
65	New Butwal to F	18	83d42'28.534"E	27d36'30.36"N	143.50	344.00	141.50	142.25		Flash Stream	
66		24	83d43'36.097"E	27d37'1.84"N	192.90	193.40	177.50	178.25		Flash Stream	
67		25	83d43'44.062"E	27d37'55.6"N	210.70	211.20	177.50	178.25		Flash Stream	
68		44	83d45'47.927"E	27d39'25.823"N	553.40	553.90				No any stream	
69		45	83d45'55.68"E	27d39'42.75"N	487.30	487.80				No any stream	
70		47	83d46'10.823"E	27d40'1.863"N	346.30	346.80	257.50	258.50		Flash Stream	
71		48	83d46'33.578"E	27d40'16.806"N	364.80	365.30	257.50	258.50		Flash Stream	
72		49	83d46'32.193"E	27d40'29.394"N	242.10	242.60	225.00	226.00		Flash Stream	
73		50	83d46'29.1"E	27d40'42.644"N	231.70	232.20	225.00	226.00		Flash Stream	
74		51	83d46'28.519"E	27d40'56.711"N	255.90	256.40	237.50	238.50		Flash Stream	
75		64	83d48'38.699"E	27d42'7.218"N	673.5					Not applicable	
76		65	83d48'56.68"E	27d42'8.632"N	664.5					Not applicable	
77		77	83d49'23.569"E	27d43'46.851"N	626.6	626.85	480.00	481.00		Nisdi	
78		78	83d49'27.827"E	27d43'58.175"N	486.0	486.25	480.00	481.00		Nisdi	
79		100	83d52'2.064"E	27d47'39.387"N	677.4					Not applicable/Nisdi	
80		101	83d52'12.752"E	27d47'44.668"N	593.5					Not applicable/Nisdi	
81		108	83d52'45.669"E	27d48'34.934"N	731.5	731.75	505.00	506.00		Nisdi	
82		109	83d52'57.192"E	27d48'46.514"N	576.6	576.85	505.00	506.00		Nisdi	
83		126	83d55'48.957"E	27d50'7.34"N	633.6	633.85	360.00	361.00		Tributry of Nisdi	
84		127	83d55'55.63"E	27d50'8.284"N	369.0	369.25	360.00	361.00		Tributry of Nisdi	
85		143	83d58'35.268"E	27d51'53.283"N	394.9					Kaligandaki HFL considered 5m	
86		144	83d58'42.953"E	27d52'5.444"N	347.2					Kaligandaki HFL considered 5m	
87		220	84d13'29.132"E	27d55'45.264"N	444.0	444.25	417.50	418.50		Stream at Rishing	
88		221	84d13'39.727"E	27d55'48.999"N	557.1	557.35	417.50	418.50		Stream at Rishing	
89		233	84d15'59.569"E	27d56'20.985"N	864.8	865.05	310.00	315.00		Sub 5 m HFL	
90	234	84d16'55.471"E	27d56'33.087"N	806.9	807.15	310.00	315.00		Sub 5 m HFL		
91	38	84d23'14.491"E	27d53'59.048"N	583.8	584.05	555.00	556.00		stream		
92	39	84d23'14.868"E	27d53'51.998"N	600.9	601.15	555.00	556.00		stream		
93	46	84d24'17.493"E	27d53'0.405"N	1008.7	1008.95				Not Applicable		
94	47	84d24'54.341"E	27d52'37.813"N	939.9	940.15				Not Applicable		
95	49	84d25'7.719"E	27d52'33.506"N	1032.0	1032.25				Not Applicable		
96	50	84d25'38.202"E	27d52'13.877"N	840.9	841.15				Not Applicable		
97	59	84d26'47.728"E	27d51'40.806"N	677.2	677.45				Not Applicable		
98	60	84d27'21.155"E	27d51'30.08"N	1057.6	1057.85				Not Applicable		
99	94	84d33'9.333"E	27d50'8.849"N	178.9	179.15	224.00	229.00	HFL 5.0m in Trishuli River (Based on consultation with local people)	Trishuli		
100	95	84d33'20.179"E	27d50'2.762"N	380.6	380.85	224.00	229.00	HFL 5.0m in Trishuli River (Based on consultation with local people)	Trishuli		
101	138	84d41'15.696"E	27d46'39.163"N	714.3					Not Applicable/Tributry of Trishuli		
102	139	84d41'58.488"E	27d46'23.388"N	888.8					Not Applicable/Tributry of Trishuli		
103	155	84d45'27.91"E	27d46'51.764"N	823.4					Not Applicable/Tributry of Trishuli		
104	156	84d46'15.167"E	27d47'4.233"N	577.1					Not Applicable/Tributry of Trishuli		
105	173	84d49'45.599"E	27d47'35.534"N	417.0		384.00	385.00		River at Malekhu bzar		
106	175	84.835634d	27.793982d	392.5	392.75	384.00	385.00		River at Malekhu bzar		
107	183	84d51'11.539"E	27d48'23.934"N	407.6	407.85	352.00	357.00	Trishuli River: HFL is 5 meter from river bed (Based on consultation with local people)	Same Elevation as old Route/Trishuli		
108	184	84d51'7.3"E	27d48'36.148"N	392.2	392.45	352.00	357.00	Trishuli River: HFL is 5 meter from river bed (Based on consultation with local people)	Same Elevation as old Route/Trishuli		
109	240/238	85d1'54.118"E	27d50'59.036"N	434.0	434.25	424.00	429.00		Trishuli		
110	241/239	85d1'54.946"E	27d50'52.668"N	500.0	500.25	424.00	429.00		Trishuli		
111	30	85d8'59.674"E	27d5'23.357"N	532.4	532.65	515.00	517.00	Tributry of Yadi River: HFL is 2 meter from river bed (Based on consultation with local people)	Tributry of Yadi		
112	31	85d9'4.436"E	27d5'29.85"N	528.9	529.15	515.00	517.00		"		
113	39	85d10'15.817"E	27d5'37.954"N	531.1	531.35	507.50	509.50		"		
114	40	85d10'28.265"E	27d5'16.268"N	510.7	510.95	507.50	508.50		"		
115	82	85d18'31.506"E	27d51'41.734"N	725.1	725.35	680.00	681.00	Likhu River: HFL is 1 meter from bed level (Based on consultation with local people)	Likhu		
116	83	85d18'46.187"E	27d51'43.163"N	732.7	732.95	680.00	681.00		Likhu		
117	116	85d25'20.082"E	27d51'12.232"N	1330.6	1330.85				Not applicable		
118	117	85d25'56.434"E	27d51'7.991"N	1510.0	1510.25				Not applicable		
119	122	85d27'4.57"E	27d51'11.569"N	1682.0	1682.25				Not applicable		
120	123	85d27'13.619"E	27d51'4.457"N	1638.9	1639.15				Not applicable		
121	12	85d2'30.588"E	27d49'5.103"N	517.50	517.75	425.00			Belkotghadi/stream		
122	13	85d2'30.281"E	27d48'54.688"N	506.20	506.45	425.00					
123	24	85d2'4.703"E	27d46'34.49"N	552.70	552.95				Not Applicable		
124	25	85d1'54.049"E	27d46'13.139"N	741.70	741.95				Not Applicable		
125	49	84d59'56.634"E	27d41'1.105"N	1,468.60	1,468.85			Flash Rivers: HFL is 1 meter from river bed (Based on consultation with local people).	Not Applicable/Dry River		
126	50	84d59'53.553"E	27d40'47.753"N	1,362.20	1,362.45				"		
127	68	84d57'35.749"E	27d38'35.67"N	1,063.20	1,063.45	940.00			"		
128	69	84d57'31.14"E	27d38'8.012"N	1,079.60	1,079.85	940.00			"		
129	86	84d56'25.055"E	27d34'41.115"N	651.40	651.65	575.00			Kailash		
130	87	84d56'16.104"E	27d34'9.191"N	984.90	985.15	575.00			"		
131	108	84d56'33.388"E	27d30'9.332"N	647.60	647.85				Dry Creek/Flash river		
132	109	84d56'38.537"E	27d29'52.615"N	701.10	701.35				"		

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राज्य सरकार
जल तथा वातावरण मन्त्रालय
पुणे

S.No.	Segment	Tower Nos.	Coordinates		Ground Elevation(MSL-In Meter)	Top level of Chimney/concrete level,0.50m-Plain/0.25 m-Hills From GL (MSL-In Meter)	Existing Bed Level of River/Kholshi(M SL-In Meter)	Predicted HFL (Based on local Survey; MSL-In Meter)	Name of River crosssigns or adjacent River/Kholshi	Remedial measures	Remarks
			Longitude	Latitude							
133	Ratmata S/s to New Hetauda	137 Changed as T5	85.020197°E	27.430802°N	444.00	445.00	443.00	448.00	Rapti River: HFL is 5 meter from the river bed (based on consultation with local people)	At the Right bank of Rapti river Earthen Embankment of around 5.0 m height to control flood was constructed by GoN. All towers are located behind the embankment and the embankment is designed for 50 years return period. Finally checked after check survey	Right Bank of Rapti River and TL towers from T5 to BM1/NEA will not be inducted due to presence of 5.0 m height of Earthen Embankment. {Note-Final decision will be taken after check survey by DB contractor}
134		138 Changed as T6	85.018614°E	27.428830°N	440.00	441.00	442.00	447.00			
135		139 Changed as T7	85.016273°E	27.426848°N	438.00	439.00	439.00	444.00			
136		140 Changed as T8	85.014599°E	27.426012°N	437.00	438.00	436.00	441.00			
137		T9	85.009544°E	27.425317°N	431.00	432.00	429.00	434.00			
138		BM1/1 (NEA 400kV HDD Tower)	85.007099°E	27.425230°N	430.00	431.00	428.00	433.00			
139		BM1 (NEA 400kV HDD Tower)	85.006794°E	27.428408°N	432.00	433.00	428.00	433.00			
140		New Hetauda S/s	85.006737°E	27.429095°N	432.00	433.00	428.00	433.00			


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