

BRIEF NOTE ON LIVE STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 28.07.2016)

1. ALL INDIA STATUS

Central Water Commission is monitoring live storage status of 91 reservoirs of the country on weekly basis and is issuing weekly bulletin on every Thursday. Out of these reservoirs, 37 reservoirs have hydropower benefit with installed capacity of more than 60 MW. The total live storage capacity of these 91 reservoirs is 157.799 BCM which is about 62% of the live storage capacity of 253.388 BCM which is estimated to have been created in the country. As per reservoir storage bulletin dated **28.07.2016**, live storage available in these reservoirs is **59.366 BCM**, which is **38%** of total live storage capacity of these reservoirs. However, last year the live storage available in these reservoirs for the corresponding period was **68.454 BCM** and the average of last 10 years live storage was **63.128 BCM**. Thus, the live storage available in 91 reservoirs **as per 28.07.2016 Bulletin** is **87%** of the live storage of corresponding period of last year and **94%** of storage of average of last ten years.

As per Table-01, the overall storage position is **less than the** corresponding period of last year in the country as a whole and is **also less than the** average storage of last ten years during the corresponding period.

2. REGION WISE STORAGE STATUS:

a) NORTHERN REGION

The northern region includes States of Himachal Pradesh, Punjab and Rajasthan. There are 6 reservoirs under CWC monitoring having total live storage capacity of 18.01 BCM. As per Reservoir Storage Bulletin dated **28.07.2016**, the total live storage available in these reservoirs is **6.48 BCM** which is **36%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **69%** and average storage of last ten years during corresponding period was **47%** of live storage capacity of these reservoirs. Thus, storage during current year is less than the corresponding period of last year and is also less than the average storage of last ten years during the corresponding period.

b) EASTERN REGION

The Eastern region includes States of Jharkhand, Odisha, West Bengal and Tripura. There are 15 reservoirs under CWC monitoring having total live storage capacity of 18.83 BCM. As per Reservoir Storage Bulletin dated **28.07.2016**, the total live storage available in these reservoirs is **6.09 BCM** which is **32%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **45%** and average storage of last ten years during corresponding period was **33%** of live storage capacity of these reservoirs. Thus, storage during current year is less than the corresponding period of last year and is also less than the average storage of last ten years during the corresponding period.

c) WESTERN REGION

The Western region includes States of Gujarat and Maharashtra. There are 27 reservoirs under CWC monitoring having total live storage capacity of 27.07 BCM. As per Reservoir Storage Bulletin dated **28.07.2016**, the total live storage available in these reservoirs is **9.77 BCM** which is **36%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **34%** and average storage of last ten years during corresponding period was **41%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the storage of last year but is less than the average storage of last ten years during the corresponding period.

d) CENTRAL REGION

The Central region includes States of Uttar Pradesh, Uttarakhand, Madhya Pradesh and Chhattisgarh. There are 12 reservoirs under CWC monitoring having total live storage capacity of 42.30 BCM. As per Reservoir Storage Bulletin dated

21.07.2016, the total live storage available in these reservoirs is **21.26 BCM** which is **50%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **53%** and average storage of last ten years during corresponding period was **33%** of live storage capacity of these reservoirs. Thus, storage during current year is less than the storage of last year but is better than the average storage of last ten years during the corresponding period.

e) SOUTHERN REGION

The Southern region includes States of Andhra Pradesh, Telangana, AP&TG (2 combined projects in both states) Karnataka, Kerala and Tamil Nadu. There are 31 reservoirs under CWC monitoring having total live storage capacity of 51.59 BCM. As per Reservoir Storage Bulletin dated **28.07.2016**, the total live storage available in these reservoirs is **15.76 BCM** which is **31%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **31%** and average storage of last ten years during corresponding period was **45%** of live storage capacity of these reservoirs. Thus, storage during current year is equal to the corresponding period of last year and is less than the average storage of last ten years during the corresponding period.

The region wise and reservoir wise details are given in the following pages of the Bulletin.

BROAD ANALYSIS OF OTHER TABLES IN THE BULLETIN

- Normal storage means average storage of last ten years, Close to normal storage means where shortfall is upto 20% of normal, deficient storage is where shortfall is more than 20% of the normal and upto 60% of the normal, highly deficient means where shortfall is more than 60% of normal.
- In the table on page 8, better than normal storage is available in Ganga, Narmada, Godavari and West flowing rivers of South. Close to Normal in Tapi, Mahi, and Sabarmati. Deficient in Indus, Krishna, Mahanadi & neighbouring East Flowing Rivers and Cauvery & neighbouring EFRs and Highly Deficient in Rivers of Kutch basin.
- Table on page 5-7 of the bulletin. The numbers of reservoirs having storage more than last year are **28** and reservoirs having storage more than average of last ten years are **37**. The numbers of reservoirs having storage less than 20% with respect to last year is **5** and having storage less than 20% with reference to average of last ten years is **6**. The number of reservoirs having storage less than or equal to 50% with respect to last year are **20** and having storage less than or equal to 50% with reference to average of last ten years are **19**.

STORAGE STATUS OF IMPORTANT RESERVOIRS IN THE COUNTRY

AS ON 28.07.2016

- 1 Central Water Commission is monitoring storage status of 91 important reservoirs spread all over the country, in which **37** reservoirs have hydropower benefit each with installed capacity of more than 60 MW. These reservoirs are identified thus(*) in the enclosed weekly report.
- 2 The total live storage in 91 important reservoirs in different parts of the country, monitored by CWC as on **28.07.2016** is **59.366** BCM (**38** percent of the live storage capacity at FRL).The current year's storage is nearly **87** percent of last year's storage and **94** percent of the average of last ten years.

3 Region wise storage status:-

REGION (States), (Monitoring No. of Reservoirs)	Filling position of 91 reservoirs w.r.t. FRL								Departure from Normal storage	
	100%	91%-99%	81%-90%	71%-80%	61%-70%	51%-60%	41%-50%	40% & below		
NORTH (HP, Punjab & Rajasthan), (6 Resv.)	-	-	-	-	1	-	2	3	H.P.	-34 %
									PUNJAB	-21 %
									RAJASTHAN	13 %
EAST (Jharkhand, Odisha, Tripura & W. Bengal (15 Resv.)	-	-	-	1	-	2	5	7	JHARKHAND	-2 %
									ODISHA	1 %
									W. BENGAL	-34 %
									TRIPURA	38 %
WEST (Guj.& Mah.), (27 Resv.)	-	-	2	3	1	4	2	15	GUJARAT	-11 %
									MAH.	-15 %
CENTRAL (MP, UP, Uttarakhand & Chh.), (12 Resv)	-	-	2	-	3	2	2	3	U.P.	13 %
									UTTARAKHAND	0 %
									M.P.	90 %
									CHHATISGARH	-29 %
SOUTH (Karnataka, TN, AP&TG, AP, TG, & Kerala), (31 Resv.)	2	-	-	2	1	3	4	19	AP&TG	-83 %
									A,P	-34 %
									TG	26 %
									KARNATAKA	-16 %
									KERALA	-7 %
									T.N.	-56 %
Status of 91 reservoirs	2	0	4	6	6	11	15	47		

4 Basin wise storage position:

- Better than normal:** Ganga, Narmada, Godavari and West Flowing rivers of south.
- Close to normal:** Tapi, Mahi, Sabarmati
- Deficient:** Indus, Krishna, Mahanadi & Neighbouring EFRS and Cauvery & neighbouring EFRS
- Highly deficient:** Rivers of Kutch.

- 5 Out of 91 reservoirs, **48** reservoirs reported more than 80% of normal storage & **43** reservoirs reported 80% or below of normal storage. Out of these **43** reservoirs **19** having storage upto 50% of normal storage.

Name of reservoir	%	Name of reservoir	%
NAGARJUNA SAGAR	0	LOWER MANAIR	40
BHIMA(UJJANI)	0	MALAPRABHA(RENUKA)	41
JAYAKWADI(PAITHON)	0	METTUR(STANLEY)	42
YELDARI	0	LOWER BHAWANI	44
BHADAR	8	SALANADI	45
VAIGAI	19	VANIVILAS SAGAR	46
DANTIWADA	29	GIRNA	50
KARJAN	30		
SRISAILAM	30		
ALIYAR	34		
ISAPUR	35		
SHETRANJI	40		

24 reservoirs having storage 51% to 80% of normal storage.		
51% to 60%	61% to 70%	71% to 80%
10	7	7

6 Out of **37** reservoirs with significant(*) hydropower generation, the storage build up is less than or equal to normal in where shortfall is up to 20% of the normal, **Deficient:** where shortfall is more than 20% of the normal and up to 60% of the normal, **Highly deficient** : Where shortfall is more than 60% of the normal

WEEKLY REPORT - BASINWISE

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 28.07.2016

NAME OF BASIN	LIVE CAP. AT FRL	THIS YEAR'S STORAGE		LAST YEAR'S STORAGE		LAST 10 YEARS' AVG. STORAGE		% DEPARTURE W.R.T. AVE. OF 10 YEARS'
GANGA	28.096	11.235	39.99%	17.421	62.01%	9.027	32.13%	24.46
INDUS	14.730	4.750	32.25%	10.174	69.07%	6.949	47.18%	-31.64
NARMADA	17.414	12.200	70.06%	7.597	43.63%	6.251	35.90%	95.17
TAPI	7.394	2.633	35.61%	1.728	23.37%	2.862	38.71%	-8.00
MAHI	4.012	1.463	36.47%	2.191	54.61%	1.813	45.19%	-19.31
SABARMATI	0.735	0.187	25.44%	0.270	36.73%	0.229	31.16%	-18.34
RIVERS OF KUTCH	0.887	0.074	8.34%	0.361	40.70%	0.249	28.07%	-70.28
GODAVARI	15.394	5.076	32.97%	3.652	23.72%	4.219	27.41%	20.31
KRISHNA	32.831	9.388	28.59%	7.627	23.23%	14.893	45.36%	-36.96
MAHANADI & NEIGHBOURING EFRS	13.181	3.668	27.83%	6.390	48.48%	5.167	39.20%	-29.01
CAUVERY & NEIGHBOURING EFRS	8.359	2.618	31.32%	4.711	56.36%	4.375	52.34%	-40.16
WEST FLOWING RIVERS OF SOUTH	14.766	6.074	41.14%	6.332	42.88%	7.094	48.04%	-14.38
TOTAL	157.799	59.366		68.454		63.128		
PERCENTAGE								-5.96

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 28.07.2016

S. NO	NAME OF RESERVOIR	FRL (m)	CURRENT RESERVOIR LEVEL (m)	LIVE CAPACITY AT FRL (BCM)	CURRENT LIVE STORAGE (BCM)	DATE	STORAGE AS % OF LIVE CAPACITY AT FRL			BENEFITS	
							CURRENT YEAR	LAST YEAR	LAST 10 YEARS AVERAGE	IRR. (CCA) IN TH. HA	HYDEL IN MW
1	2	4	6	5	7	8	9	10	11	3A	3B
<u>NORTHERN REGION</u>											
<u>HIMACHAL PRADESH</u>											
*1	GOBIND SAGAR(BHAKRA)	512.06	485.27	6.229	2.403	28-07-2016	39	71	54	676	1200
*2	PONG DAM	423.67	399.62	6.157	1.383	27-07-2016	22	62	39	-	360
<u>PUNJAB</u>											
*3	THEIN	527.91	506.81	2.344	0.964	28-07-2016	41	84	52	348	600
<u>RAJASTHAN</u>											
*4	MAHI BAJAJ SAGAR	280.75	271.40	1.711	0.717	28-07-2016	42	45	41	63	140
5	JHAKAM	359.50	344.50	0.132	0.028	28-07-2016	21	77	39	28	-
*6	RANA PRATAP SAGAR	352.81	350.41	1.436	0.986	28-07-2016	69	90	54	229	172
<u>EASTERN REGION</u>											
<u>JHARKHAND</u>											
7	TENUGHAT	269.14	258.56	0.821	0.362	28-07-2016	44	44	39	-	-
8	MAITHON	146.3	142.18	0.471	0.240	28-07-2016	51	63	54	342	-
*9	PANCHET HILL	124.97	124.15	0.184	0.145	28-07-2016	79	96	77	\$	80
10	KONAR	425.81	419.73	0.176	0.079	28-07-2016	45	69	55	\$	-
11	TILAIYA	368.81	365.32	0.142	0.036	28-07-2016	25	50	47	\$	4
<u>ODISHA</u>											
*12	HIRAKUD	192.02	184.80	5.378	1.282	27-07-2016	24	31	35	153	307
*13	BALIMELA	462.08	452.23	2.676	1.206	27-07-2016	45	47	16	-	360
14	SALANADI	82.30	60.80	0.558	0.074	27-07-2016	13	41	29	42	-
*15	RENGALI	123.50	114.45	3.432	0.809	27-07-2016	24	59	29	3	200
*16	MACHKUND(JALPUT)	838.16	830.79	0.893	0.381	27-07-2016	43	43	42	-	115
*17	UPPER KOLAB	858.00	850.50	0.935	0.315	27-07-2016	34	38	33	89	320
*18	UPPER INDRAVATI	642.00	632.73	1.456	0.559	27-07-2016	38	27	31	128	600
<u>WEST BENGAL</u>											
19	MAYURAKSHI	121.31	115.31	0.480	0.219	28-07-2016	46	72	53	227	-
20	KANGSABATI	134.14	123.75	0.914	0.219	28-07-2016	24	60	45	341	-
<u>TRIPURA</u>											
21	GUMTI	93.55	90.25	0.312	0.168	27-07-2016	54	63	39	-	15
<u>WESTERN REGION</u>											
<u>GUJARAT</u>											
*22	UKAI	105.16	96.25	6.615	2.553	28-07-2016	39	24	41	348	300
23	SABARMATI(DHAROI)	189.59	182.32	0.735	0.187	28-07-2016	25	37	31	95	1
*24	KADANA	127.7	120.02	1.472	0.532	28-07-2016	36	64	50	200	120
25	SHETRUNJI	55.53	50.37	0.300	0.058	28-07-2016	19	94	49	36	-
26	BHADAR	107.89	99.21	0.188	0.005	28-07-2016	3	8	35	27	-
27	DAMANAGANGA	79.86	73.85	0.502	0.237	28-07-2016	47	43	33	51	1
28	DANTIWADA	184.1	165.16	0.399	0.011	28-07-2016	3	16	10	45	-
29	PANAM	127.41	120.00	0.697	0.186	28-07-2016	27	54	46	36	2
*30	SARDAR SAROVAR	121.92	119.48	1.566	1.144	28-07-2016	73	86	58	2120	1450
31	KARJAN	115.25	89.44	0.523	0.078	28-07-2016	15	63	50	51	3

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 28.07.2016

S. NO	NAME OF RESERVOIR	FRL (m)	CURRENT RESERVOIR LEVEL (m)	LIVE CAPACITY AT FRL (BCM)	CURRENT LIVE STORAGE (BCM)	DATE	STORAGE AS % OF LIVE CAPACITY AT FRL			BENEFITS	
							CURRENT YEAR	LAST YEAR	LAST 10 YEARS AVERAGE	IRR. (CCA) IN TH. HA	HYDEL IN MW
1	2	4	6	5	7	8	9	10	11	3A	3B
MAHARASHTRA											
32	JAYAKWADI(PAITHON)	463.91	455.33	2.171	0.000	28-07-2016	0	0	17	227	-
*33	KOYANA	657.90	644.68	2.652	1.467	28-07-2016	55	65	68	-	1920
34	BHIMA(UJJANI)	496.83	488.53	1.517	0.000	27-07-2016	0	0	26	125	12
35	ISAPUR	441.00	428.68	0.965	0.123	27-07-2016	13	18	37	104	-
36	MULA	552.30	545.28	0.609	0.293	27-07-2016	48	13	32	139	-
37	YELDARI	461.77	447.65	0.809	0.000	27-07-2016	0	1	16	78	-
38	GIRNA	398.07	383.64	0.524	0.033	27-07-2016	6	8	13	79	-
39	KHADAKVASLA	582.47	581.56	0.056	0.044	27-07-2016	79	36	64	78	8
*40	UPPER VAITARNA	603.50	599.36	0.331	0.203	27-07-2016	61	5	47	-	61
41	UPPER TAPI	214.00	209.50	0.255	0.047	27-07-2016	18	30	31	45	-
*42	PENCH (TOTALADOH)	490.00	484.45	1.091	0.638	27-07-2016	58	18	38	127	160
43	UPPER WARDHA	342.50	341.24	0.564	0.456	28-07-2016	81	54	54	70	-
44	BHATSA	142.07	131.50	0.942	0.678	27-07-2016	72	49	56	29.378	15
45	DHOM	747.70	737.01	0.331	0.177	27-07-2016	53	53	52	36.2	2
46	DUDHGANGA	646.00	634.42	0.664	0.336	27-07-2016	51	52	64	2.441	24
47	MANIKDOH (KUKADI)	711.25	696.63	0.288	0.105	28-07-2016	36	19	22	2.2	6
48	BHANDARDARA	342.50	341.24	0.304	0.181	28-07-2016	81	54	54	70	-
CENTRAL REGION											
UTTAR PRADESH											
49	MATATILA	308.46	306.93	0.707	0.479	27-07-2016	68	59	47	-	30
*50	RIHAND	268.22	256.34	5.649	0.945	28-07-2016	17	30	16	-	300
UTTRAKHAND											
*51	RAMGANGA	365.30	335.12	2.196	0.520	25-07-2016	24	72	30	1897	198
*52	TEHRI	830.00	787.30	2.615	1.096	28-07-2016	42	47	36	2351	1000
MADHYA PRADESH											
*53	GANDHI SAGAR	399.90	392.33	6.827	2.789	28-07-2016	41	89	30	220	115
54	TAWA	355.40	353.20	1.944	1.634	28-07-2016	84	56	58	247	-
*55	BARGI	422.76	418.85	3.180	2.137	28-07-2016	67	38	38	157	90
*56	BANSAGAR	341.64	336.29	5.166	2.952	28-07-2016	57	58	32	488	425
*57	INDIRA SAGAR	262.13	258.61	9.745	6.834	28-07-2016	70	35	26	2380	1000
58	BARNA	348.55	347.30	0.456	0.373	28-07-2016	82	56	44	546	-
CHHATTIS GARH											
*59	MINIMATA BANGOI	359.66	346.95	3.046	1.100	26-07-2016	36	74	57	-	120
60	MAHANADI	348.70	344.33	0.767	0.403	27-07-2016	53	26	52	319	10
SOUTHERN REGION											
A.P & TG											
*61	SRISAILAM	269.75	246.00	8.288	0.828	28-07-2016	10	0	33	0	770
*62	NAGARJUNA SAGAR	179.83	153.44	6.841	0.000	28-07-2016	0	1	32	895	810
ANDHRA PRADESH											
63	SOMASILA	100.58	84.41	1.994	0.318	28-07-2016	16	13	24	168	0
TELANGANA											
64	SRIRAMSAGAR	332.54	326.32	2.300	0.854	28-07-2016	37	9	24	411	27
65	LOWER MANAIR	280.42	267.34	0.621	0.070	28-07-2016	11	19	28	199	60

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GOVERNMENT OF INDIA

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							CURRENT YEAR	LAST YEAR	LAST 10 YEARS AVERAGE	IRR. (CCA) IN TH. HA	HYDEL IN MW
1	2	4	6	5	7	8	9	10	11	3A	3B
<u>KARNATAKA</u>											
66	KRISHNARAJA SAGRA	752.50	744.79	1.163	0.510	26-07-2016	44	64	66	79	-
*67	TUNGABHADRA	497.74	491.58	3.276	1.157	28-07-2016	35	55	64	529	72
68	GHATAPRABHA	662.95	650.32	1.391	0.612	27-07-2016	44	27	58	317	-
69	BHADRA	657.76	646.05	1.785	0.677	27-07-2016	38	61	69	106	39
70	LINGANAMAKKI	554.43	542.62	4.294	1.558	28-07-2016	36	39	51	-	55
71	NARAYANPUR	492.25	491.90	0.863	0.694	28-07-2016	80	59	65	425	-
72	MALAPRABHA(RENUKA)	633.83	623.90	0.972	0.141	27-07-2016	15	21	35	215	-
73	KABINI(Sancherla Tank)	696.16	693.13	0.444	0.281	26-07-2016	63	98	56	85	-
74	HEMAVATHY	890.63	882.31	0.927	0.435	26-07-2016	47	85	72	265	-
75	HARANGI	871.42	871.13	0.220	0.219	26-07-2016	100	96	81	53	-
76	SUPA	564.00	534.69	4.120	1.390	28-07-2016	34	41	41	-	-
77	VANIVILAS SAGAR	652.28	634.30	0.802	0.045	28-07-2016	6	5	12	123	-
*78	ALMATTI	519.60	519.60	3.105	3.105	28-07-2016	100	40	64	@	290
*79	GERUSOPPA	55.00	48.46	0.130	0.094	28-07-2016	72	83	85	83	240
<u>KERALA</u>											
80	KALLADA(PARAPPAR)	115.82	106.20	0.507	0.287	27-07-2016	57	28	49	62	-
*81	IDAMALAYAR	169.00	146.64	1.018	0.441	28-07-2016	43	46	47	33	75
*82	IDUKKI	732.43	714.06	1.460	0.580	28-07-2016	40	54	43	-	780
*83	KAKKI	981.46	966.85	0.447	0.244	28-07-2016	55	44	51	23	300
*84	PERIYAR	867.41	862.18	0.173	0.061	28-07-2016	35	53	54	84	140
85	MALAPMUZHA	867.41	862.18	0.224	0.070	28-07-2016	35	53	54	84	140
<u>TAMIL NADU</u>											
86	LOWER BHAWANI	278.89	266.72	0.792	0.206	28-07-2016	26	69	59	105	8
*87	METTUR(STANLEY)	240.79	221.64	2.647	0.641	28-07-2016	24	62	57	122	360
88	VAIGAI	279.20	265.92	0.172	0.008	28-07-2016	5	37	25	61	6
89	PARAMBIKULAM	556.26	543.12	0.380	0.129	28-07-2016	34	39	66	101	-
90	ALIYAR	320.04	307.00	0.095	0.022	28-07-2016	23	92	68	#	60
*91	SHOLAYAR	1002.79	992.40	0.143	0.080	28-07-2016	56	88	78	-	95
TOTAL FOR 91 RESERVOIRS				157.799	59.366						
PERCENTAGE							38	43	40		

Sd/-

Director

W. M. , CWC

* HYDEL POWER CAPACITY HAVING CAPACITY MORE THAN 60MW

\$ TOTAL CCA 342 TH. HA OF DVC SYSTEM

TOTAL CCA 101 TH. HA OF PARAMBIKULAM & ALIYAR

@ TOTAL CCA 425 TH. HA. OF NARAYANPUR AND ALMATTI

† SABARMATI RESERVOIR IS SUPPLEMENTED WITH NARMADA WATER THROUGH PIPELINE.

SI. No. 30th The FRL of S.S.P. 138.38 M and Live capacity at FRL will be 5.760 BCM. However at present the lowest block of the dam is at the level of 121.92 M. and the live capacity at this level is 1.566 BCM