

BRIEF NOTE ON LIVE STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 05.01.2017)

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 **05.01.2017**, live storage available in these reservoirs is **89.348 BCM**, which is **57%** of total live storage capacity of these reservoirs. However, last year the live storage available in these reservoirs for the corresponding period was **70.72 BCM** and the average of last 10 years live storage was **91.49 BCM**. Thus, the live storage available in 91 reservoirs **as per 05.01.2017 Bulletin** is **126%** of the live storage of corresponding period of last year and **98%** of storage of average of last ten years.

As per Table-01, the overall storage position is **better than the** corresponding period of last year in the country as a whole but is **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 **05.01.2017**, the total live storage available in these reservoirs is **8.1 BCM** which is **45%** 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 **54%** 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 **05.01.2017**, the total live storage available in these reservoirs is **14.75 BCM** which is **78%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **58%** and average storage of last ten years during corresponding period was **69%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the corresponding period of last year and is also better 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 **05.01.2017**, the total live storage available in these reservoirs is **18.35 BCM** which is **68%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **40%** and average storage of last ten years during corresponding period was **64%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the storage of last year and is also better 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 **05.01.2017**, the total live storage available in these reservoirs is **30.70 BCM** which is **73%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **55%** and average storage of last ten years during corresponding period was **53%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the storage of last year and is also 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 **05.01.2017**, the total live storage available in these reservoirs is **17.45 BCM** which is **34%** 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 **56%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the corresponding period of last year but 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 Narmada, Mahi, , Ganga, Sabarmati, Godavari, Tapi and Mahanadi & neighbouring East Flowing Rivers. NIL in Close to Normal and Deficient in Indus, Rivers of Kutch, West Flowing Rivers of South and Krishna and Highly Deficient in Cauvery & neighbouring EFRs Basin.
- Table on page 9-11 of the bulletin. The numbers of reservoirs having storage more than last year are **58** and reservoirs having storage more than average of last ten years are **43** 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 **9**. The number of reservoirs having storage less than or equal to 50% with respect to last year are **13** and having storage less than or equal to 50% with reference to average of last ten years are **18**.

States having better storage (in %) than last year for corresponding period: Punjab, Rajasthan , Jharkhand, Odisha, West Bengal, Gujarat, Maharashtra, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, AP&TG (Two combined projects in both states), Telangana and Karnataka.

States having equal storage (in %) to last year for corresponding period: NIL

States having lesser storage (in %) than last year for corresponding period: Himachal Pradesh, Tripura, Uttarakhand, Andhra Pradesh, Kerala and Tamil Nadu.

STORAGE STATUS OF IMPORTANT RESERVOIRS IN THE COUNTRY

AS ON 05.01.2017

- 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 **05.01.2017** is **89.348** BCM (**57** percent of the live storage capacity at FRL).The current year's storage is nearly **126** percent of last year's storage and **98** 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	-	1	-	2	2	H.P.	-25 %
									PUNJAB	-13 %
									RAJASTHAN	11 %
EAST (Jharkhand,Odisha, Tripura & W.Bengal (15 Resv.))	2	3	2	3	1	1	2	1	JHARKHAND	20 %
									ODISHA	12 %
									W. BENGAL	17 %
									TRIPURA	106 %
WEST (Guj.& Mah.), (27 Resv.)	-	1	3	7	6	4	2	4	GUJARAT	6 %
									MAH.	4 %
CENTRAL (MP,UP,Uttarakhand & Chh.), (12 Resv)	-	1	2	2	5	-	2	-	U.P.	59 %
									UTTARAKHAND	-12 %
									M.P.	48 %
									CHHATISGARH	14 %
SOUTH (Karnataka,TN,AP&TG,AP, TG, & Kerala), (31 Resv.)	-	-	2	1	1	5	1	21	AP&TG	-53 %
									A,P	-27 %
									TG	72 %
									KARNATAKA	-39 %
									KERALA	-37 %
									T.N.	-82 %
Status of 91 reservoirs	2	5	10	13	14	10	9	28		

4 Basin wise storage position:

Better than normal: Ganga,Sabarmati,Godavari,Mahi, Narmada ,Tapi and Mahanadi & Neighbouring EFRS.

Close to normal: NIL

Deficient: Indus ,Rivers of Kutch,West Flowing Rivers of South and Krishna.

Highly deficient: Cauvery & neighbouring EFRS.

- 5 Out of 91 reservoirs, **57** reservoirs reported more than 80% of normal storage & **34** reservoirs reported 80% or below of normal storage. Out of these **34** reservoirs **18** having storage upto 50% of normal storage.

Name of reservoir	%	Name of reservoir	%
SHOLAYAR	0	DANTIWADA	34
ALIYAR	4	HEMAVATHY	37
VAIGAI	7	BHADRA	39
NAGARJUNA SAGAR	15	MALAPRABHA(RENUKA)	45
TUNGBABHADRA	15	MALAMPUZHA	48
BHADAR	16	KALLADA(PARAPPAR)	49
PERIYAR	18		
METTUR(STANLEY)	19		
LOWER BHAWANI	20		
VANIVILAS SAGAR	21		
KRISHNARAJA SAGRA	21		
PARAMBIKULAM	22		

16 reservoirs having storage 51% to 80% of normal storage.		
51% to 60%	61% to 70%	71% to 80%
1	7	8

- 6 Out of **37** reservoirs with significant(*) hydropower generation, the storage build up is less than or equal to normal in

20 reservoirs.

NOTE : **Normal:** Average of previous ten years, **Close to normal:** 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

GOVERNMENT OF INDIA WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA CENTRAL WATER COMMISSION

WEEK ENDING :- 05.01.2017

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	487.87	6.229	2.666	1/3/2017	43	68	63	676	1200
*2	PONG DAM	423.67	407.66	6.157	2.603	1/4/2017	42	51	50	-	360
<u>PUNJAB</u>											
*3	THEIN	527.91	504.30	2.344	0.842	1/5/2017	36	23	41	348	600
<u>RAJASTHAN</u>											
*4	MAHI BAJAJ SAGAR	280.75	278.35	1.711	1.393	1/5/2017	81	65	60	63	140
5	JHAKAM	359.50	354.75	0.132	0.089	1/5/2017	67	46	51	28	-
*6	RANA PRATAP SAGAR	352.81	347.48	1.436	0.507	1/3/2017	35	32	49	229	172
<u>EASTERN REGION</u>											
<u>JHARKHAND</u>											
7	TENUGHAT	269.14	260.15	0.821	0.423	1/5/2017	52	43	45	-	-
8	MAITHON	146.3	148.65	0.471	0.471	1/5/2017	100	32	86	342	-
*9	PANCHET HILL	124.97	126.97	0.184	0.184	1/5/2017	100	22	84	\$	80
10	KONAR	425.81	425.00	0.176	0.162	1/5/2017	92	66	73	\$	-
11	TILAIYA	368.81	368.67	0.142	0.136	1/5/2017	96	56	65	\$	4
<u>ODISHA</u>											
*12	HIRAKUD	192.02	191.42	5.378	4.439	1/3/2017	83	70	81	153	307
*13	BALIMELA	462.08	458.87	2.676	2.095	12/23/2016	78	68	66	-	360
14	SALANADI	82.30	68.79	0.558	0.192	1/5/2017	34	6	40	42	-
*15	RENGALI	123.50	122.67	3.432	3.160	12/23/2016	92	52	71	3	200
*16	MACHKUND(JALPUT)	838.16	835.70	0.893	0.688	12/23/2016	77	82	84	-	115
*17	UPPER KOLAB	858.00	856.42	0.935	0.785	12/23/2016	84	81	66	89	320
*18	UPPER INDRAVATI	642.00	638.93	1.456	1.129	1/5/2017	78	51	69	128	600
<u>WEST BENGAL</u>											
19	MAYURAKSHI	121.31	115.25	0.480	0.217	1/5/2017	45	20	43	227	-
20	KANGSABATI	134.14	128.37	0.914	0.457	1/5/2017	50	25	40	341	-
<u>TRIPURA</u>											
21	GUMTI	93.55	91.30	0.312	0.212	1/4/2017	68	74	33	-	15
<u>WESTERN REGION</u>											
<u>GUJARAT</u>											
*22	UKAI	105.16	102.38	6.615	5.173	1/3/2017	78	52	67	348	300
23	SABARMATI(DHAROI)	189.59	187.15	0.735	0.510	1/5/2017	69	60	51	95	1
*24	KADANA	127.7	126.16	1.472	1.035	1/5/2017	70	44	63	200	120
25	SHETRUNJI	55.53	53.43	0.300	0.160	1/5/2017	53	75	67	36	-
26	BHADAR	107.89	100.83	0.188	0.015	1/5/2017	8	32	51	27	-
27	DAMANAGANGA	79.86	77.80	0.502	0.385	1/3/2017	77	73	82	51	1
28	DANTIWADA	184.1	168.87	0.399	0.036	1/5/2017	9	51	26	45	-
29	PANAM	127.41	125.30	0.697	0.418	1/5/2017	60	35	63	36	2
*30	SARDAR SAROVAR	121.92	118.83	1.566	1.051	1/3/2017	67	42	75	2120	1450
31	KARJAN	115.25	107.42	0.523	0.311	1/3/2017	59	48	80	51	3

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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
MAHARASHTRA											
32	JAYAKWADI(PAITHON)	463.91	461.99	2.171	1.485	1/4/2017	68	9	43	227	-
*33	KOYANA	657.90	651.38	2.652	1.872	1/4/2017	71	54	81	-	1920
34	BHIMA(UJJANI)	496.83	495.84	1.517	1.197	1/4/2017	79	0	68	125	12
35	ISAPUR	441.00	433.93	0.965	0.392	1/4/2017	41	22	57	104	-
36	MULA	552.30	549.85	0.609	0.484	1/4/2017	79	19	64	139	-
37	YELDARI	461.77	454.11	0.809	0.220	1/5/2017	27	7	42	78	-
38	GIRNA	398.07	395.00	0.524	0.369	1/4/2017	70	4	40	79	-
39	KHADAKVASLA	582.47	580.37	0.056	0.029	1/4/2017	52	50	55	78	8
*40	UPPER VAITARNA	603.50	602.27	0.331	0.291	1/4/2017	88	52	82	-	61
41	UPPER TAPI	214.00	213.32	0.255	0.215	1/4/2017	84	71	87	45	-
*42	PENCH (TOTALADOH)	490.00	479.14	1.091	0.375	1/4/2017	34	42	54	127	160
43	UPPER WARDHA	342.50	340.63	0.564	0.408	1/5/2017	72	57	67	70	-
44	BHATSA	142.07	133.98	0.942	0.735	1/4/2017	78	65	74	29.378	15
45	DHOM	747.70	742.39	0.331	0.219	1/4/2017	66	41	64	36.2	2
46	DUDHGANGA	646.00	642.00	0.664	0.548	1/4/2017	83	50	81	2.441	24
47	MANIKDOH (KUKADI)	711.25	699.98	0.288	0.121	1/4/2017	42	11	42	2.2	6
48	BHANDARDARA	744.91	744.36	0.304	0.296	1/4/2017	97	29	74	63.74	46
CENTRAL REGION											
UTTAR PRADESH											
49	MATATILA	308.46	305.65	0.707	0.357	1/4/2017	50	60	54	-	30
*50	RIHAND	268.22	263.26	5.649	3.521	1/5/2017	62	31	37	-	300
UTTRAKHAND											
*51	RAMGANGA	365.30	346.53	2.196	1.001	1/5/2017	46	56	64	1897	198
*52	TEHRI	830.00	806.75	2.615	1.713	1/5/2017	66	58	64	2351	1000
MADHYA PRADESH											
*53	GANDHI SAGAR	399.90	398.46	6.827	5.817	1/5/2017	85	72	46	220	115
54	TAWA	355.40	350.58	1.944	1.232	1/5/2017	63	56	61	247	-
*55	BARGI	422.76	419.10	3.180	2.198	1/5/2017	69	74	65	157	90
*56	BANSAGAR	341.64	340.16	5.166	4.506	12/22/2016	87	51	56	488	425
*57	INDIRA SAGAR	262.13	259.10	9.745	7.167	1/5/2017	74	57	49	2380	1000
58	BARNA	348.55	346.72	0.456	0.337	12/22/2016	74	50	52	546	-
CHHATTIS GARH											
*59	MINIMATA BANGOI	359.66	354.75	3.046	2.095	1/3/2017	69	44	63	-	120
60	MAHANADI	348.70	348.56	0.767	0.754	1/4/2017	98	46	75	319	10
SOUTHERN REGION											
A.P & TG											
*61	SRISAILAM	269.75	262.74	8.288	3.081	1/5/2017	37	16	57	0	770
*62	NAGARJUNA SAGAR	179.83	157.89	6.841	0.396	1/5/2017	6	0	39	895	810
ANDHRA PRADESH											
63	SOMASILA	100.58	93.17	1.994	1.018	1/5/2017	51	83	70	168	0
TELANGANA											
64	SRIRAMSAGAR	332.54	331.29	2.300	2.065	1/5/2017	90	8	48	411	27
65	LOWER MANAIR	280.42	278.22	0.621	0.517	1/5/2017	83	16	64	199	60

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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	738.67	1.163	0.174	1/4/2017	15	57	71	79	-	
*67	TUNGABHADRA	497.74	483.97	3.276	0.235	1/5/2017	7	18	48	529	72	
68	GHATAPRABHA	662.95	654.22	1.391	0.811	12/28/2016	58	26	51	317	-	
69	BHADRA	657.76	645.04	1.785	0.606	12/28/2016	34	58	88	106	39	
70	LINGANAMAKKI	554.43	545.44	4.294	2.045	1/5/2017	48	50	69	-	55	
71	NARAYANPUR	492.25	490.69	0.863	0.551	1/5/2017	64	40	83	425	-	
72	MALAPRABHA(RENUKA)	633.83	624.89	0.972	0.185	12/28/2016	19	14	42	215	-	
73	KABINI(Sancherla Tank)	696.16	688.96	0.444	0.102	1/4/2017	23	36	33	85	-	
74	HEMAVATHY	890.63	873.27	0.927	0.105	1/4/2017	11	15	31	265	-	
75	HARANGI	871.42	859.26	0.220	0.061	1/4/2017	28	4	10	53	-	
76	SUPA	564.00	544.61	4.120	2.114	1/5/2017	51	43	60	-	-	
77	VANIVILAS SAGAR	652.28	633.42	0.802	0.032	12/29/2016	4	13	19	123	-	
*78	ALMATTI	519.60	513.76	3.105	1.150	1/5/2017	37	14	52	@	290	
*79	GERUSOPPA	55.00	48.38	0.130	0.094	1/5/2017	72	80	84	83	240	
<u>KERALA</u>												
80	KALLADA(PARAPPAR)	115.82	100.86	0.507	0.201	1/5/2017	40	86	81	62	-	
*81	IDAMALAYAR	169.00	152.73	1.018	0.579	1/5/2017	57	56	68	33	75	
*82	IDUKKI	732.43	713.38	1.460	0.553	1/5/2017	38	58	65	-	780	
*83	KAKKI	981.46	966.17	0.447	0.237	1/5/2017	53	74	79	23	300	
*84	PERIYAR	867.41	859.43	0.173	0.017	1/5/2017	10	92	56	84	140	
85	MALAPMUZHA	115.06	105.58	0.224	0.060	1/5/2017	27	41	56	21	3	
<u>TAMIL NADU</u>												
86	LOWER BHAWANI	278.89	262.24	0.792	0.097	1/5/2017	12	51	61	105	8	
*87	METTUR(STANLEY)	240.79	215.32	2.647	0.292	1/5/2017	11	53	57	122	360	
88	VAIGAI	279.20	265.34	0.172	0.006	1/5/2017	3	63	49	61	6	
89	PARAMBIKULAM	556.26	538.95	0.380	0.063	1/5/2017	17	65	77	101	-	
90	ALIYAR	320.04	302.01	0.095	0.003	1/5/2017	3	82	77	#	60	
*91	SHOLAYAR	1002.79	955.12	0.143	0.000	1/5/2017	0	9	41	-	95	
TOTAL FOR 91 RESERVOIRS				157.799	89.348							
PERCENTAGE							57	45	58			

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.

Sl. 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