

BRIEF NOTE ON LIVE STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 27.10.2016)

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 **27.10.2016**, live storage available in these reservoirs is **115.457 BCM**, which is **73%** of total live storage capacity of these reservoirs. However, last year the live storage available in these reservoirs for the corresponding period was **89.056 BCM** and the average of last 10 years live storage was **116.331 BCM**. Thus, the live storage available in 91 reservoirs **as per 27.10.2016 Bulletin** is **130%** of the live storage of corresponding period of last year and **99%** of storage of average of last ten years.

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 **27.10.2016**, the total live storage available in these reservoirs is **12.54 BCM** which is **70%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **79%** and average storage of last ten years during corresponding period was **78%** 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 **27.10.2016**, the total live storage available in these reservoirs is **16.00 BCM** which is **85%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **66%** and average storage of last ten years during corresponding period was **77%** 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 **27.10.2016**, the total live storage available in these reservoirs is **23.35 BCM** which is **86%** 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 **79%** 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 **27.10.2016**, the total live storage available in these reservoirs is **38.06 BCM** which is **90%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **70%** 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 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 **27.10.2016**, the total live storage available in these reservoirs is **25.51 BCM** which is **49%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **33%** and average storage of last ten years during corresponding period was **72%** 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 4, better than normal storage is available in Narmada, Mahi, , Ganga, Sabarmati, Godavari, Tapi and Mahanadi & neighbouring East Flowing Rivers. Close to Normal in Indus and Deficient in Rivers of Kutch, West Flowing Rivers of South, Krishna and Cauvery & neighbouring EFRs Basin.
- Table on page 5-7 of the bulletin. The numbers of reservoirs having storage more than last year are **63** and reservoirs having storage more than average of last ten years are **47**. 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 **10** and having storage less than or equal to 50% with reference to average of last ten years are **16**.

STORAGE STATUS OF IMPORTANT RESERVOIRS IN THE COUNTRY

AS ON 27.10.2016

- 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 **27.10.2016** is **115.457** BCM (**73** percent of the live storage capacity at FRL).The current year's storage is nearly **130** percent of last year's storage and **99** 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.)	2	-	1	-	2	1	-	-	H.P.	-19 %	
									PUNJAB	-3 %	
									RAJASTHAN	18 %	
EAST (Jharkhand,Odisha, Tripura & W.Bengal (15 Resv.)	4	2	5	-	2	1	1	-	JHARKHAND	15 %	
									ODISHA	7 %	
									W. BENGAL	41 %	
									TRIPURA	55 %	
WEST (Guj.& Mah.), (27 Resv.)	9	6	3	1	3	-	2	3	GUJARAT	11 %	
									MAH.	8 %	
CENTRAL (MP,UP,Uttarakhand & Chh.), (12 Resv)	3	3	2	2	1	1	-	-	U.P.	50 %	
									UTTARAKHAND	-3 %	
									M.P.	36 %	
									CHHATISGARH	13 %	
SOUTH (Karnataka,TN,AP&TG,AP, TG, & Kerala), (31 Resv.)	2	1	1	2	1	5	4	15	AP&TG	-36 %	
									A,P	-10 %	
									TG	74 %	
									KARNATAKA	-35 %	
									KERALA	-38 %	
									T.N.	-65 %	
Status of 91 reservoirs	20	12	12	5	9	8	7	18			

4 Basin wise storage position:

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

Close to normal: Indus

Deficient: Rivers of Kutch,West Flowing Rivers of South,Krishna and Cauvery & neighbouring EFRS.

Highly deficient: NIL

- 5 Out of 91 reservoirs, **60** reservoirs reported more than 80% of normal storage & **31** reservoirs reported 80% or below of normal storage. Out of these **31** reservoirs **16** having storage upto 50% of normal storage.

Name of reservoir	%	Name of reservoir	%
VAIGAI	6	METTUR(STANLEY)	41
PERIYAR	8	KALLADA(PARAPPAR)	41
SHOLAYAR	10	MALAMPUZHA	47
ALIYAR	11	BHADRA	48
BHADAR	17		
KRISHNARAJA SAGRA	19		
HEMAVATHY	22		
TUNGABHADRA	29		
VANIVILAS SAGAR	30		
LOWER BHAWANI	33		
NAGARJUNA SAGAR	34		
PARAMBIKULAM	39		

15 reservoirs having storage 51% to 80% of normal storage.		
51% to 60%	61% to 70%	71% to 80%
2	5	8

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

16 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

WEEKLY REPORT - BASINWISE

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 27.10.2016

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	23.940	85.21%	17.309	61.61%	17.289	61.54%	38.47
INDUS	14.730	9.437	64.07%	11.655	79.12%	11.402	77.41%	-17.23
NARMADA	17.414	16.866	96.85%	14.562	83.62%	14.141	81.20%	19.27
TAPI	7.394	6.964	94.18%	4.914	66.46%	5.944	80.39%	17.16
MAHI	4.012	3.766	93.87%	2.911	72.56%	3.115	77.64%	20.90
SABARMATI	0.735	0.725	98.64%	0.629	85.58%	0.540	73.47%	34.26
RIVERS OF KUTCH	0.887	0.343	38.67%	0.764	86.13%	0.580	65.39%	-40.86
GODAVARI	15.394	12.467	80.99%	6.877	44.67%	10.477	68.06%	18.99
KRISHNA	32.831	18.783	57.21%	10.432	31.77%	25.320	77.12%	-25.82
MAHANADI & NEIGHBOURING EFRS	13.181	11.266	85.47%	8.374	63.53%	10.609	80.49%	6.19
CAUVERY & NEIGHBOURING EFRS	8.359	2.370	28.35%	2.550	30.51%	5.051	60.43%	-53.08
WEST FLOWING RIVERS OF SOUTH	14.766	8.530	57.77%	8.079	54.71%	11.863	80.34%	-28.10
TOTAL	157.799	115.457		89.056		116.331		
PERCENTAGE								-0.75

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 27.10.2016

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
NORTHERN REGION											
<u>HIMACHAL PRADESH</u>											
*1	GOBIND SAGAR(BHAKRA)	512.06	499.48	6.229	4.080	25-10-2016	66	90	86	676	1200
*2	PONG DAM	423.67	415.14	6.157	3.997	26-10-2016	65	78	76	-	360
<u>PUNJAB</u>											
*3	THEIN	527.91	514.17	2.344	1.360	27-10-2016	58	53	60	348	600
<u>RAJASTHAN</u>											
*4	MAHI BAJAJ SAGAR	280.75	281.50	1.711	1.711	27-10-2016	100	99	87	63	140
5	JHAKAM	359.50	359.55	0.132	0.132	27-10-2016	100	92	85	28	-
*6	RANA PRATAP SAGAR	352.81	351.81	1.436	1.259	27-10-2016	88	56	72	229	172
<u>EASTERN REGION</u>											
<u>JHARKHAND</u>											
7	TENUGHAT	269.14	260.60	0.821	0.441	25-10-2016	54	47	44	-	-
8	MAITHON	146.3	148.72	0.471	0.471	25-10-2016	100	40	90	342	-
*9	PANCHET HILL	124.97	127.67	0.184	0.184	25-10-2016	100	14	85	\$	80
10	KONAR	425.81	425.85	0.176	0.176	25-10-2016	100	80	90	\$	-
11	TILAIYA	368.81	370.92	0.142	0.142	25-10-2016	100	91	89	\$	4
<u>ODISHA</u>											
*12	HIRAKUD	192.02	192.07	5.378	4.852	26-10-2016	90	82	92	153	307
*13	BALIMELA	462.08	459.49	2.676	2.196	27-10-2016	82	71	69	-	360
14	SALANADI	82.30	71.58	0.558	0.251	26-10-2016	45	18	46	42	-
*15	RENGALI	123.50	122.96	3.432	3.266	27-10-2016	95	60	83	3	200
*16	MACHKUND(JALPUT)	838.16	837.51	0.893	0.829	27-10-2016	93	94	90	-	115
*17	UPPER KOLAB	858.00	856.70	0.935	0.812	27-10-2016	87	81	69	89	320
*18	UPPER INDRAVATI	642.00	639.44	1.456	1.179	27-10-2016	81	54	77	128	600
<u>WEST BENGAL</u>											
19	MAYURAKSHI	121.31	117.33	0.480	0.300	25-10-2016	63	23	51	227	-
20	KANGSABATI	134.14	130.76	0.914	0.638	25-10-2016	70	25	46	341	-
<u>TRIPURA</u>											
21	GUMTI	93.55	92.40	0.312	0.258	26-10-2016	83	93	53	-	15
<u>WESTERN REGION</u>											
<u>GUJARAT</u>											
*22	UKAI	105.16	104.31	6.615	6.235	26-10-2016	94	70	82	348	300
23	SABARMATI(DHAROI)	189.59	189.39	0.735	0.725	27-10-2016	99	86	73	95	1
*24	KADANA	127.7	127.71	1.472	1.472	27-10-2016	100	53	69	200	120
25	SHETRUNJI	55.53	53.82	0.300	0.182	27-10-2016	61	95	80	36	-
26	BHADAR	107.89	101.68	0.188	0.024	27-10-2016	13	79	76	27	-
27	DAMANAGANGA	79.86	80.05	0.502	0.486	26-10-2016	97	89	98	51	1
28	DANTIWADA	184.1	175.40	0.399	0.137	27-10-2016	34	83	50	45	-
29	PANAM	127.41	125.85	0.697	0.451	27-10-2016	65	47	73	36	2
*30	SARDAR SAROVAR	121.92	121.13	1.566	1.423	26-10-2016	91	86	84	2120	1450
31	KARJAN	115.25	109.07	0.523	0.349	26-10-2016	67	66	95	51	3

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 27.10.2016

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	462.83	2.171	1.775	27-10-2016	82	5	52	227	-
*33	KOYANA	657.90	658.65	2.652	2.595	26-10-2016	98	70	95	-	1920
34	BHIMA(UJJANI)	496.83	497.33	1.517	1.517	26-10-2016	100	14	83	125	12
35	ISAPUR	441.00	435.34	0.965	0.484	26-10-2016	50	36	70	104	-
36	MULA	552.30	552.28	0.609	0.608	27-10-2016	100	50	84	139	-
37	YELDARI	461.77	454.68	0.809	0.250	27-10-2016	31	15	55	78	-
38	GIRNA	398.07	397.22	0.524	0.474	26-10-2016	90	10	50	79	-
39	KHADAKVASLA	582.47	581.89	0.056	0.048	26-10-2016	86	25	59	78	8
*40	UPPER VAITARNA	603.50	603.49	0.331	0.331	27-10-2016	100	70	92	-	61
41	UPPER TAPI	214.00	214.00	0.255	0.255	26-10-2016	100	100	100	45	-
*42	PENCH (TOTALADOH)	490.00	482.77	1.091	0.545	26-10-2016	50	63	74	127	160
43	UPPER WARDHA	342.50	342.50	0.564	0.564	27-10-2016	100	92	92	70	-
44	BHATSA	142.07	140.98	0.942	0.912	26-10-2016	97	80	92	29.378	15
45	DHOM	747.70	747.65	0.331	0.330	26-10-2016	100	54	88	36.2	2
46	DUDHGANGA	646.00	646.00	0.664	0.664	26-10-2016	100	75	97	2.441	24
47	MANIKDOH (KUKADI)	711.25	706.61	0.288	0.210	26-10-2016	73	26	61	2.2	6
48	BHANDARDARA	342.50	342.50	0.304	0.304	27-10-2016	100	92	92	70	-
CENTRAL REGION											
UTTAR PRADESH											
49	MATATILA	308.46	307.15	0.707	0.502	26-10-2016	71	44	78	-	30
*50	RIHAND	268.22	265.03	5.649	4.270	27-10-2016	76	35	46	-	300
UTTRAKHAND											
*51	RAMGANGA	365.30	350.90	2.196	1.227	27-10-2016	56	64	71	1897	198
*52	TEHRI	830.00	823.45	2.615	2.344	27-10-2016	90	82	81	2351	1000
MADHYA PRADESH											
*53	GANDHI SAGAR	399.90	399.82	6.827	6.562	27-10-2016	96	90	59	220	115
54	TAWA	355.40	355.34	1.944	1.944	27-10-2016	100	100	98	247	-
*55	BARGI	422.76	422.35	3.180	3.091	27-10-2016	97	87	89	157	90
*56	BANSAGAR	341.64	341.58	5.166	5.166	27-10-2016	100	58	65	488	425
*57	INDIRA SAGAR	262.13	261.98	9.745	9.655	27-10-2016	99	80	75	2380	1000
58	BARNA	348.55	347.80	0.456	0.404	27-10-2016	89	70	73	546	-
CHHATTIS GARH											
*59	MINIMATA BANGOI	359.66	355.00	3.046	2.132	27-10-2016	70	48	66	-	120
60	MAHANADI	348.70	348.68	0.767	0.765	26-10-2016	100	47	71	319	10
SOUTHERN REGION											
A.P. & TG											
*61	SRISAILAM	269.75	268.04	8.288	5.134	27-10-2016	62	24	69	0	770
*62	NAGARJUNA SAGAR	179.83	164.90	6.841	1.664	27-10-2016	24	0	72	895	810
ANDHRA PRADESH											
63	SOMASILA	100.58	93.53	1.994	1.059	27-10-2016	53	21	59	168	0
TELANGANA											
64	SRIRAMSAGAR	332.54	332.54	2.300	2.300	27-10-2016	100	9	57	411	27
65	LOWER MANAIR	280.42	279.78	0.621	0.621	27-10-2016	100	18	61	199	60

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA CENTRAL WATER COMMISSION

WEEK ENDING :- 27.10.2016

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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
KARNATAKA											
66	KRISHNARAJA SAGRA	752.50	739.06	1.163	0.190	26-10-2016	16	56	86	79	-
*67	TUNGABHADRA	497.74	489.31	3.276	0.768	27-10-2016	23	55	81	529	72
68	GHATAPRABHA	662.95	660.52	1.391	1.217	27-10-2016	87	38	86	317	-
69	BHADRA	657.76	647.43	1.785	0.779	27-10-2016	44	62	91	106	39
70	LINGANAMAKKI	554.43	547.42	4.294	2.446	25-10-2016	57	53	86	-	55
71	NARAYANPUR	492.25	491.36	0.863	0.627	27-10-2016	73	54	86	425	-
72	MALAPRABHA(RENUKA)	633.83	627.57	0.972	0.350	27-10-2016	36	28	71	215	-
73	KABINI(Sancherla Tank)	696.16	690.90	0.444	0.178	26-10-2016	40	52	45	85	-
74	HEMAVATHY	890.63	875.13	0.927	0.154	26-10-2016	17	25	77	265	-
75	HARANGI	871.42	866.19	0.220	0.111	26-10-2016	50	32	64	53	-
76	SUPA	564.00	546.91	4.120	2.309	25-10-2016	56	44	72	-	-
77	VANIVILAS SAGAR	652.28	633.87	0.802	0.038	26-10-2016	5	11	16	123	-
*78	ALMATTI	519.60	518.98	3.105	2.842	27-10-2016	92	42	88	@	290
*79	GERUSOPPA	55.00	49.22	0.130	0.098	27-10-2016	75	71	84	83	240
KERALA											
80	KALLADA(PARAPPAR)	115.82	98.82	0.507	0.176	26-10-2016	35	51	84	62	-
*81	IDAMALAYAR	169.00	154.01	1.018	0.609	26-10-2016	60	53	79	33	75
*82	IDUKKI	732.43	715.67	1.460	0.645	26-10-2016	44	56	69	-	780
*83	KAKKI	981.46	968.95	0.447	0.266	26-10-2016	60	52	81	23	300
*84	PERIYAR	867.41	858.82	0.173	0.008	26-10-2016	5	40	56	84	140
85	MALAPMUZHA	115.06	108.28	0.224	0.094	26-10-2016	42	64	88	21	3
TAMIL NADU											
86	LOWER BHAWANI	278.89	264.47	0.792	0.145	26-10-2016	18	24	56	105	8
*87	METTUR(STANLEY)	240.79	219.86	2.647	0.528	26-10-2016	20	27	49	122	360
88	VAIGAI	279.20	264.73	0.172	0.005	26-10-2016	3	28	49	61	6
89	PARAMBIKULAM	556.26	543.07	0.380	0.128	26-10-2016	34	71	87	101	-
90	ALIYAR	320.04	303.86	0.095	0.009	26-10-2016	9	85	89	#	60
*91	SHOLAYAR	1002.79	971.39	0.143	0.013	26-10-2016	9	57	90	-	95
TOTAL FOR 91 RESERVOIRS				157.799	115.457						
PERCENTAGE							73	56	74		

Sd/-

* HYDEL POWER CAPACITY HAVING CAPACITY MORE THAN 60MW

Director

\$ TOTAL CCA 342 TH. HA OF DVC SYSTEM

W. M. , CWC

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