

BRIEF NOTE ON LIVE STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 10.11.2016)

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 **10.11.2016**, live storage available in these reservoirs is **110.097 BCM**, which is **70%** of total live storage capacity of these reservoirs. However, last year the live storage available in these reservoirs for the corresponding period was **85.271 BCM** and the average of last 10 years live storage was **112.304 BCM**. Thus, the live storage available in 91 reservoirs **as per 10.11.2016 Bulletin** is **129%** of the live storage of corresponding period of last year and **98%** 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 **10.11.2016**, the total live storage available in these reservoirs is **11.62 BCM** which is **65%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **74%** and average storage of last ten years during corresponding period was **75%** 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 **10.11.2016**, the total live storage available in these reservoirs is **15.70 BCM** which is **83%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **62%** and average storage of last ten years during corresponding period was **74%** 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 **10.11.2016**, the total live storage available in these reservoirs is **22.78 BCM** which is **84%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **54%** and average storage of last ten years during corresponding period was **76%** 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 **10.11.2016**, the total live storage available in these reservoirs is **37.11 BCM** which is **88%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **68%** and average storage of last ten years during corresponding period was **66%** 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 **10.11.2016**, the total live storage available in these reservoirs is **22.90 BCM** which is **44%** 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 **70%** 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 **64** and reservoirs having storage more than average of last ten years are **45**. 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 **7**. The number of reservoirs having storage less than or equal to 50% with respect to last year are **8** and having storage less than or equal to 50% with reference to average of last ten years are **17**.

STORAGE STATUS OF IMPORTANT RESERVOIRS IN THE COUNTRY

AS ON 10.11.2016

- 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 **10.11.2016** is **110.097** BCM (**70** percent of the live storage capacity at FRL).The current year's storage is nearly **129** percent of last year's storage and **98** percent of the average of last ten years.

3 Region wise storage status:-

REGION (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	-	-	-	2	2	-	-	H.P.	-21 %	
									PUNJAB	-9 %	
									RAJASTHAN	12 %	
EAST (Jharkhand,Odisha, Tripura & W.Bengal (15 Resv.)	3	2	5	1	1	1	2	-	JHARKHAND	15 %	
									ODISHA	11 %	
									W. BENGAL	31 %	
									TRIPURA	71 %	
WEST (Guj.& Mah.), (27 Resv.)	5	10	2	1	3	1	2	3	GUJARAT	12 %	
									MAH.	9 %	
CENTRAL (MP,UP,Uttarakhand & Chh.), (12 Resv)	1	5	2	1	1	1	1	-	U.P.	50 %	
									UTTARAKHAND	-4 %	
									M.P.	39 %	
									CHHATISGARH	17 %	
SOUTH (Karnataka,TN,AP&TG,AP, TG, & Kerala), (31 Resv.)	2	-	-	2	3	5	2	17	AP&TG	-41 %	
									A,P	-8 %	
									TG	81 %	
									KARNATAKA	-41 %	
									KERALA	-39 %	
									T.N.	-78 %	
Status of 91 reservoirs	13	17	9	5	10	10	7	20			

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, **57** reservoirs reported more than 80% of normal storage & **34** reservoirs reported 80% or below of normal storage. Out of these **34** reservoirs **17** having storage upto 50% of normal storage.

Name of reservoir	%	Name of reservoir	%
SHOLAYAR	0	PARAMBIKULAM	41
VAIGAI	5	BHADRA	43
PERIYAR	11	KALLADA(PARAPPAR)	44
TUNGABHADRA	16	MALAPRABHA(RENUKA)	47
BHADAR	16	MALAMPUZHA	48
ALIYAR	16		
LOWER BHAWANI	18		
HEMAVATHY	20		
KRISHNARAJA SAGRA	21		
METTUR(STANLEY)	23		
VANIVILAS SAGAR	26		
NAGARJUNA SAGAR	28		

17 reservoirs having storage 51% to 80% of normal storage.		
51% to 60%	61% to 70%	71% to 80%
1	5	11

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

18 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 :- 10.11.2016

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	23.099	82.21%	16.789	59.76%	16.858	60.00%	37.02
INDUS	14.730	8.789	59.67%	11.072	75.17%	10.931	74.21%	-19.60
NARMADA	17.414	16.329	93.77%	13.771	79.08%	13.397	76.93%	21.89
TAPI	7.394	6.721	90.90%	4.588	62.05%	5.675	76.75%	18.43
MAHI	4.012	3.766	93.87%	2.779	69.27%	3.051	76.05%	23.43
SABARMATI	0.735	0.702	95.51%	0.594	80.82%	0.508	69.12%	38.19
RIVERS OF KUTCH	0.887	0.330	37.20%	0.719	81.06%	0.547	61.67%	-39.67
GODAVARI	15.394	12.289	79.83%	6.645	43.17%	9.972	64.78%	23.24
KRISHNA	32.831	16.349	49.80%	9.086	27.68%	24.022	73.17%	-31.94
MAHANADI & NEIGHBOURING EFRS	13.181	11.193	84.92%	7.863	59.65%	10.211	77.47%	9.62
CAUVERY & NEIGHBOURING EFRS	8.359	2.188	26.18%	3.067	36.69%	5.396	64.55%	-59.45
WEST FLOWING RIVERS OF SOUTH	14.766	8.342	56.49%	8.298	56.20%	11.736	79.48%	-28.92
TOTAL	157.799	110.097		85.271		112.304		
PERCENTAGE								-1.97

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 10.11.2016

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	497.77	6.229	3.858	10-11-2016	62	87	82	676	1200
*2	PONG DAM	423.67	413.64	6.157	3.698	09-11-2016	60	75	72	-	360
<u>PUNJAB</u>											
*3	THEIN	527.91	512.11	2.344	1.233	10-11-2016	53	45	58	348	600
<u>RAJASTHAN</u>											
*4	MAHI BAJAJ SAGAR	280.75	281.45	1.711	1.711	10-11-2016	100	93	85	63	140
5	JHAKAM	359.50	359.55	0.132	0.132	10-11-2016	100	87	82	28	-
*6	RANA PRATAP SAGAR	352.81	350.42	1.436	0.987	10-11-2016	69	34	67	229	172
<u>EASTERN REGION</u>											
<u>JHARKHAND</u>											
7	TENUGHAT	269.14	260.13	0.821	0.422	10-11-2016	51	47	44	-	-
8	MAITHON	146.3	148.53	0.471	0.471	10-11-2016	100	40	88	342	-
*9	PANCHET HILL	124.97	127.32	0.184	0.184	10-11-2016	100	23	83	\$	80
10	KONAR	425.81	425.78	0.176	0.175	10-11-2016	99	77	87	\$	-
11	TILAIYA	368.81	370.46	0.142	0.142	10-11-2016	100	82	88	\$	4
<u>ODISHA</u>											
*12	HIRAKUD	192.02	191.94	5.378	4.759	09-11-2016	88	75	90	153	307
*13	BALIMELA	462.08	459.58	2.676	2.212	10-11-2016	83	71	64	-	360
14	SALANADI	82.30	70.96	0.558	0.237	02-11-2016	42	14	40	42	-
*15	RENGALI	123.50	123.08	3.432	3.302	10-11-2016	96	58	78	3	200
*16	MACHKUND(JALPUT)	838.16	837.19	0.893	0.798	10-11-2016	89	92	87	-	115
*17	UPPER KOLAB	858.00	856.54	0.935	0.797	10-11-2016	85	78	65	89	320
*18	UPPER INDRAVATI	642.00	639.02	1.456	1.138	10-11-2016	78	50	74	128	600
<u>WEST BENGAL</u>											
19	MAYURAKSHI	121.31	115.34	0.480	0.220	10-11-2016	46	21	44	227	-
20	KANGSABATI	134.14	129.98	0.914	0.579	10-11-2016	63	25	44	341	-
<u>TRIPURA</u>											
21	GUMTI	93.55	92.43	0.312	0.260	10-11-2016	83	90	49	-	15
<u>WESTERN REGION</u>											
<u>GUJARAT</u>											
*22	UKAI	105.16	103.90	6.615	5.996	10-11-2016	91	65	78	348	300
23	SABARMATI(DHAROI)	189.59	189.18	0.735	0.702	10-11-2016	96	81	69	95	1
*24	KADANA	127.7	127.71	1.472	1.472	10-11-2016	100	52	67	200	120
25	SHETRUNJI	55.53	53.77	0.300	0.179	10-11-2016	60	93	77	36	-
26	BHADAR	107.89	101.53	0.188	0.021	10-11-2016	11	69	71	27	-
27	DAMANAGANGA	79.86	79.80	0.502	0.475	10-11-2016	95	94	97	51	1
28	DANTIWADA	184.1	175.09	0.399	0.130	10-11-2016	33	78	45	45	-
29	PANAM	127.41	125.85	0.697	0.451	10-11-2016	65	44	72	36	2
*30	SARDAR SAROVAR	121.92	121.12	1.566	1.421	10-11-2016	91	74	82	2120	1450
31	KARJAN	115.25	109.32	0.523	0.355	10-11-2016	68	60	92	51	3

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 10.11.2016

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	462.77	2.171	1.752	10-11-2016	81	9	50	227	-
*33	KOYANA	657.90	657.56	2.652	2.465	09-11-2016	93	66	93	-	1920
34	BHIMA(UJJANI)	496.83	497.25	1.517	1.517	09-11-2016	100	5	80	125	12
35	ISAPUR	441.00	435.27	0.965	0.479	09-11-2016	50	36	69	104	-
36	MULA	552.30	552.08	0.609	0.597	10-11-2016	98	45	81	139	-
37	YELDARI	461.77	454.61	0.809	0.246	10-11-2016	30	15	54	78	-
38	GIRNA	398.07	397.13	0.524	0.470	09-11-2016	90	10	49	79	-
39	KHADAKVASLA	582.47	581.13	0.056	0.038	09-11-2016	68	48	55	78	8
*40	UPPER VAITARNA	603.50	603.40	0.331	0.328	09-11-2016	99	66	91	-	61
41	UPPER TAPI	214.00	214.00	0.255	0.255	09-11-2016	100	99	100	45	-
*42	PENCH (TOTALADOH)	490.00	481.88	1.091	0.500	09-11-2016	46	54	67	127	160
43	UPPER WARDHA	342.50	342.30	0.564	0.546	10-11-2016	97	85	89	70	-
44	BHATSA	142.07	139.74	0.942	0.879	09-11-2016	93	76	88	29.378	15
45	DHOM	747.70	747.89	0.331	0.331	09-11-2016	100	57	83	36.2	2
46	DUDHGANGA	646.00	645.56	0.664	0.664	09-11-2016	100	67	94	2.441	24
47	MANIKDOH (KUKADI)	711.25	706.49	0.288	0.208	09-11-2016	72	26	60	2.2	6
48	BHANDARDARA	342.50	342.30	0.304	0.303	10-11-2016	97	85	89	70	-
CENTRAL REGION											
UTTAR PRADESH											
49	MATATILA	308.46	305.20	0.707	0.317	09-11-2016	45	41	72	-	30
*50	RIHAND	268.22	264.90	5.649	4.218	09-11-2016	75	35	45	-	300
UTTRAKHAND											
*51	RAMGANGA	365.30	350.92	2.196	1.228	10-11-2016	56	64	72	1897	198
*52	TEHRI	830.00	821.20	2.615	2.254	10-11-2016	86	78	79	2351	1000
MADHYA PRADESH											
*53	GANDHI SAGAR	399.90	399.77	6.827	6.533	10-11-2016	96	90	59	220	115
54	TAWA	355.40	354.70	1.944	1.912	10-11-2016	98	93	93	247	-
*55	BARGI	422.76	421.70	3.180	2.926	10-11-2016	92	87	85	157	90
*56	BANSAGAR	341.64	341.26	5.166	5.109	10-11-2016	99	57	62	488	425
*57	INDIRA SAGAR	262.13	261.62	9.745	9.313	10-11-2016	96	76	70	2380	1000
58	BARNA	348.55	347.76	0.456	0.402	10-11-2016	88	69	71	546	-
CHHATTIS GARH											
*59	MINIMATA BANGOI	359.66	354.98	3.046	2.129	09-11-2016	70	46	63	-	120
60	MAHANADI	348.70	348.69	0.767	0.766	10-11-2016	100	48	74	319	10
SOUTHERN REGION											
A.P. & TG											
*61	SRISAILAM	269.75	267.07	8.288	4.691	10-11-2016	57	20	69	0	770
*62	NAGARJUNA SAGAR	179.83	162.67	6.841	1.240	10-11-2016	18	0	64	895	810
ANDHRA PRADESH											
63	SOMASILA	100.58	94.27	1.994	1.145	10-11-2016	57	21	62	168	0
TELANGANA											
64	SRIRAMSAGAR	332.54	332.17	2.300	2.300	10-11-2016	100	9	54	411	27
65	LOWER MANAIR	280.42	279.70	0.621	0.621	10-11-2016	100	17	60	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
KARNATAKA											
66	KRISHNARAJA SAGRA	752.50	739.50	1.163	0.209	09-11-2016	18	64	85	79	-
*67	TUNGABHADRA	497.74	485.99	3.276	0.386	10-11-2016	12	45	76	529	72
68	GHATAPRABHA	662.95	659.41	1.391	0.851	10-11-2016	61	38	81	317	-
69	BHADRA	657.76	646.05	1.785	0.677	10-11-2016	38	59	88	106	39
70	LINGANAMAKKI	554.43	546.98	4.294	2.351	10-11-2016	55	53	83	-	55
71	NARAYANPUR	492.25	490.80	0.863	0.563	10-11-2016	65	60	84	425	-
72	MALAPRABHA(RENUKA)	633.83	626.99	0.972	0.309	10-11-2016	32	27	67	215	-
73	KABINI(Sancherla Tank)	696.16	690.62	0.444	0.166	09-11-2016	37	47	44	85	-
74	HEMAVATHY	890.63	874.22	0.927	0.130	09-11-2016	14	22	71	265	-
75	HARANGI	871.42	861.49	0.220	0.077	09-11-2016	35	17	51	53	-
76	SUPA	564.00	546.15	4.120	2.243	10-11-2016	54	44	70	-	-
77	VANIVILAS SAGAR	652.28	633.76	0.802	0.037	10-11-2016	5	12	18	123	-
*78	ALMATTI	519.60	517.88	3.105	2.372	10-11-2016	76	32	80	@	290
*79	GERUSOPPA	55.00	48.66	0.130	0.095	10-11-2016	73	78	83	83	240
KERALA											
80	KALLADA(PARAPPAR)	115.82	100.42	0.507	0.197	10-11-2016	39	72	87	62	-
*81	IDAMALAYAR	169.00	154.30	1.018	0.616	10-11-2016	61	54	80	33	75
*82	IDUKKI	732.43	715.38	1.460	0.633	10-11-2016	43	57	71	-	780
*83	KAKKI	981.46	968.97	0.447	0.268	10-11-2016	60	60	84	23	300
*84	PERIYAR	867.41	859.19	0.173	0.013	10-11-2016	8	76	71	84	140
85	MALAPMUZHA	115.06	108.52	0.224	0.097	09-11-2016	43	67	90	21	3
TAMIL NADU											
86	LOWER BHAWANI	278.89	261.83	0.792	0.089	10-11-2016	11	33	62	105	8
*87	METTUR(STANLEY)	240.79	216.91	2.647	0.367	10-11-2016	14	43	60	122	360
88	VAIGAI	279.20	264.69	0.172	0.005	10-11-2016	3	40	63	61	6
89	PARAMBIKULAM	556.26	543.36	0.380	0.133	10-11-2016	35	69	86	101	-
90	ALIYAR	320.04	305.20	0.095	0.014	10-11-2016	15	81	93	#	60
*91	SHOLAYAR	1002.79	962.16	0.143	0.000	10-11-2016	0	48	87	-	95
TOTAL FOR 91 RESERVOIRS				157.799	110.097						
PERCENTAGE							70	54	71		

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