BRIEF NOTE ON LIVE STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 08.12.2016)

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 **08.12.2016**, live storage available in these reservoirs is **100.326BCM**, which is **64%** of total live storage capacity of these reservoirs. However, last year the live storage available in these reservoirs for the corresponding period was **79.828 BCM** and the average of last 10 years live storage was **102.884 BCM**. Thus, the live storage available in 91 reservoirs **as per 08.12.2016 Bulletin** is **126%** 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 **08.12.2016**, the total live storage available in these reservoirs is **9.95 BCM** which is **55%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **64%** and average storage of last ten years during corresponding period was **65%** 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 reservoirsunder CWC monitoring having total live storage capacity of 18.83 BCM. As per Reservoir Storage Bulletin dated **08.12.2016**, the total live storage available in these reservoirs is **15.26 BCM** which is **81%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **60%** 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 **08.12.2016**, the total live storage available in these reservoirs is **20.61 BCM** which is **76%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **47%** and average storage of last ten years during corresponding period was **71%** 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 **08.12.2016**, the total live storage available in these reservoirs is **34.23 BCM** which is **81%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **63%** and average storage of last ten years during corresponding period was **60%** 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(2combined 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 **08.12.2016**, the total live storage available in these reservoirs is **20.27 BCM** which is **39%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **35%** and average storage of last ten years during corresponding period was **65%** 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. 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 5-7 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 **44**. The numbers of reservoirs having storage less than 20% with respect to last year is **6** 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 **17**.

STORAGE STATUS OF IMPORTANT RESERVOIRS IN THE COUNTRY

AS ON 08.12.2016

- 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 08.12.2016 is 100.326 BCM (64 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:-

	l	Filling	positio								
REGION (States), (Monitoring No. of Reservoirs)	100%	91%- 99%	81%- 90%	71%- 80%	61%- 70%	51%- 60%	41%- 50%	40% & below	Departure fr		
NORTH (HP,Punjab & Rajasthan), (6 Resv.)	1	1	1	1	1	2	2	-	H.P. PUNJAB RAJASTHAN	-21 % -17 % 11 %	
EAST (Jharkhand,Odisha, Tripura & W.Bengal (15 Resv.)	3	2	3	2	2	1	1	1 1	JHARKHAND ODISHA W. BENGAL TRIPURA	19 % 15 % 29 % 65 %	
WEST (Guj.& Mah.), (27 Resv.)	1	5	8	4	3	1	2	3	GUJARAT MAH.	6 % 9 %	
CENTRAL (MP,UP,Uttarakhand & Chh.), (12 Resv)	-	3	3	2	2	1	1	-	U.P. UTTARAKHAND M.P. CHHATISGARH	55 % -7 % 42 % 15 %	
SOUTH (Karnataka,TN,AP&TG,AP, TG, & Kerala), (31 Resv.)	1	1	-	1	1	6	4	17	AP&TG A,P TG KARNATAKA KERALA T.N.	-45 % -30 % 77 % -42 % -39 % -82 %	
Status of 91 reservoirs	5	12	15	9	8	11	10	21			

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, 58 reservoirs reported more than 80% of normal storage & 33 reservoirs reported 80% or below of normal storage. Out of these 33 reservoirs 17 having storage upto 50% of normal

storage.

VANIVILAS SAGAR

otorago:			_
Name of reservoir	%	Name of reservoir	9
SHOLAYAR	0	PARAMBIKULAM	
VAIGAI	4	MALAPRABHA(RENUKA	
ALIYAR	11	BHADRA	Γ
TUNGABHADRA	13	KALLADA(PARAPPAR)	
BHADAR	16	NARAYANPUR	
PERIYAR	16		
LOWER BHAWANI	18		
KRISHNARAJA SAGRA	18		
METTUR(STANLEY)	19		
HEMAVATHY	22		
NAGAR ILINA SAGAR	22	1	

23

16 reservors								
having storage 51%								
to 80% of normal								
storage.								
51%	61%	71%						
to	to	to						
60%	70%	80%						
4	4	8						

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

19 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: 08 12 2016

WEEK ENDING :- 08.12.2016												
NAME OF BASIN	LIVE CAP. AT FRL	_	THIS YEAR'S STORAGE		LAST YEAR'S STORAGE		YEARS' ORAGE	% DEPARTURE W.R.T. AVE. OF 10 YEARS'				
GANGA	28.096	21.688	77.19%	15.751	56.06%	15.757	56.08%	37.64				
INDUS	14.730	7.540	51.19%	9.657	65.56%	9.464	64.25%	-20.33				
NARMADA	17.414	14.382	82.59%	12.021	69.03%	11.651	66.91%	23.44				
TAPI	7.394	5.998	81.12%	4.038	54.61%	5.262	71.17%	13.99				
MAHI	4.012	3.287	81.93%	2.397	59.75%	2.792	69.59%	17.73				
SABARMATI	0.735	0.604	82.18%	0.517	70.34%	0.448	60.95%	34.82				
RIVERS OF KUTCH	0.887	0.266	29.99%	0.613	69.11%	0.475	53.55%	-44.00				
GODAVARI	15.394	11.895	77.27%	6.230	40.47%	9.476	61.56%	25.53				
KRISHNA	32.831	13.824	42.11%	7.383	22.49%	21.335	64.98%	-35.21				
MAHANADI & NEIGHBOURING EFRS	13.181	10.948	83.06%	7.490	56.82%	9.693	73.54%	12.95				
CAUVERY& NEIGHBOURING EFRS	8.359	1.942	23.23%	5.326	63.72%	5.495	65.74%	-64.66				
WEST FLOWING RIVERS OF SOUTH	14.766	7.952	53.85%	8.405	56.92%	11.036	74.74%	-27.94				
TOTAL	157.799	100.326		79.828		102.884						
PERCENTAGE								-2.49				

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

	GOVERNMENT OF INDIA			WEE	K ENDING :-	08.12.2016		CENTRALV	VATER COM	/IIVII55IU	N
					-		STORAGE A	S % OF LIVE C	APACITY AT	BENE	FITS
S. NO	NAME OF RESERVOIR	FRL (m)	CURRENT RESERVOIR LEVEL (m)	LIVE CAPACITY AT FRL (BCM)	CURRENT LIVE STORAGE (BCM)	DATE	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										
	HIMACHAL PRADESH										
*1	GOBIND SAGAR(BHAKRA)	512.06	493.56	6.229	3.317	08-12-2016	53	79	74	676	1200
*2	PONG DAM	423.67	411.08	6.157	3.210	08-12-2016	52	63	59	-	360
	PUNJAB										
*3	THEIN	527.91	508.14	2.344	1.013	08-12-2016	43	37	52	348	600
	RAJASTHAN										
*4	MAHI BAJAJ SAGAR	280.75	280.00	1.711	1.620	08-12-2016	95	78	74	63	140
5	JHAKAM	359.50	357.05	0.132	0.108	08-12-2016	82	68	66	28	-
*6	RANA PRATAP SAGAR	352.81	348.67	1.436	0.686	08-12-2016	48	29	57	229	172
	EASTERN REGION	Ī									
	<u>JHARKHAND</u>										
	TENUGHAT	269.14	260.30	0.821	0.429	08-12-2016	52	44	43		-
8	MAITHON	146.3	148.61	0.471	0.471	08-12-2016	100	34	86	342	-
*9	PANCHET HILL	124.97	127.25		0.184	08-12-2016	100	22	85	\$	80
	KONAR	425.81	425.44	0.176	0.169	08-12-2016	96	71	80	\$	-
11	TILAIYA ODISHA	368.81	369.53	0.142	0.142	08-12-2016	100	77	80	\$	4
*12	HIRAKUD	192.02	191.74	5.378	4.645	08-12-2016	86	73	85	153	307
	BALIMELA	462.08	459.21	2.676		07-12-2016	80	70	61	-	360
	SALANADI	82.30	69.32		0.203	07-12-2016	36	6	41	42	
	RENGALI	123.50	122.31	3.432		07-12-2016	94	53	70	3	200
	MACHKUND(JALPUT)	838.16	836.42		0.739	07-12-2016	83	87	84	-	115
	UPPER KOLAB	858.00	856.36		0.780	07-12-2016	83	80	61	89	320
	UPPER INDRAVATI	642.00	638.95		1.131	07-12-2016	78	50	70	128	600
	WEST BENGAL										
19	MAYURAKSHI	121.31	115.34	0.480	0.220	08-12-2016	46	21	44	227	_
20	KANGSABATI	134.14	129.92	0.914	0.574	08-12-2016	63	25	44	341	-
	TRIPURA										
21	GUMTI	93.55	91.05	0.312	0.201	07-12-2016	64	83	39	-	15
	WESTERN REGION	•									
	<u>GUJARAT</u>										
*22	UKAI	105.16	102.63	6.615	5.306	07-12-2016	80	57	72	348	300
23	SABARMATI(DHAROI)	189.59	188.18	0.735	0.604	08-12-2016	82	70	61	95	1
*24	KADANA	127.7	126.95	1.472	1.114	08-12-2016	76	47	66	200	120
25	SHETRUNJI	55.53	53.57	0.300	0.168	08-12-2016	56	88	73	36	-
26	BHADAR	107.89	101.19	0.188	0.018	08-12-2016	10	50	61	27	-
27	DAMANAGANGA	79.86	79.05	0.502	0.440	07-12-2016	88	84	90	51	1
28	DANTIWADA	184.1	172.46	0.399	0.080	08-12-2016	20	64	36	45	-
29	PANAM	127.41	125.75	0.697	0.445	08-12-2016	64	40	68	36	2
*30	SARDAR SAROVAR	121.92	120.49	1.566	1.307	07-12-2016	83	52	78	2120	1450
31	KARJAN	115.25	108.30	0.523	0.331	07-12-2016	63	52	85	51	3

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

				WEEK ENDING :- 08.12.2016							
			OURDE: T				STORAGE A	S % OF LIVE C FRL	APACITY AT	BENE	FITS
S. NO	NAME OF RESERVOIR	FRL (m)	CURRENT RESERVOIR LEVEL (m)	LIVE CAPACITY AT FRL (BCM)	CURRENT LIVE STORAGE (BCM)	DATE	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			I.					I.		
32	JAYAKWADI(PAITHON)	463.91	462.56	2.171	1.680	08-12-2016	77	11	47	227	-
*33	KOYANA	657.90	654.58	2.652	2.138	07-12-2016	81	60	88	-	1920
34	BHIMA(UJJANI)	496.83	496.98	1.517	1.517	07-12-2016	100	0	75	125	12
35	ISAPUR	441.00	435.08	0.965	0.466	07-12-2016	48	26	63	104	-
36	MULA	552.30	551.84	0.609	0.584	07-12-2016	96	36	75	139	-
37	YELDARI	461.77	454.35	0.809	0.232	07-12-2016	29	10	49	78	-
38	GIRNA	398.07	396.66	0.524	0.447	07-12-2016	85	5	45	79	-
39	KHADAKVASLA	582.47	581.25	0.056	0.040	07-12-2016	71	66	59	78	8
*40	UPPER VAITARNA	603.50	602.99	0.331	0.315	07-12-2016	95	60	88	-	61
41	UPPER TAPI	214.00	213.86	0.255	0.245	07-12-2016	96	85	95	45	-
*42	PENCH (TOTALADOH)	490.00	480.91	1.091	0.453	07-12-2016	42	48	60	127	160
43	UPPER WARDHA	342.50	341.38	0.564	0.467	08-12-2016	83	70	79	70	-
44	BHATSA	142.07	136.99	0.942	0.808	07-12-2016	86	71	82	29.378	15
45	DHOM	747.70	744.59	0.331	0.314	07-12-2016	95	53	76	36.2	2
46	DUDHGANGA	646.00	643.71	0.664	0.603	07-12-2016	91	59	88	2.441	24
	MANIKDOH (KUKADI)	711.25	705.09	0.288	0.187	07-12-2016	65	24		2.2	6
48	BHANDARDARA CENTRAL RECION	342.50	341.38	0.304	0.299	08-12-2016	83	70	79	70	-
	CENTRAL REGION	•									
40	UTTAR PRADESH	000.40	205 50	0.707	0.044	07.40.0040	40	0.4			00
	MATATILA	308.46	305.50	0.707	0.344	07-12-2016	49	64		-	30
"50	RIHAND UTTRAKHAND	268.22	264.35	5.649	3.982	05-12-2016	70	33	41	-	300
*54		205.20	250.44	0.400	4 204	00.40.0040		64	74	4007	400
	RAMGANGA TEHRI	365.30	350.44	2.196	1.201	08-12-2016	55	64		1897	198
52	MADHYA PRADESH	830.00	815.45	2.615	2.027	08-12-2016	78	70	73	2351	1000
*52	GANDHI SAGAR	399.90	399.49	6.827	6.367	08-12-2016	93	82	55	220	115
	TAWA	355.40	352.87		1.583	08-12-2016	81	75		247	-
	BARGI	422.76	420.55		2.604	08-12-2016	82	82		157	
	BANSAGAR	341.64	340.57		4.691	08-12-2016	91	54		488	425
	INDIRA SAGAR	262.13	260.25		8.194	08-12-2016	84	68		2380	1000
	BARNA	348.55	347.14		0.363	08-12-2016	80	58		546	-
	CHHATTIS GARH										
*59	MINIMATA BANGOI	359.66	354.87	3.046	2.113	08-12-2016	69	45	64		120
60	MAHANADI	348.70	348.65				99	46		319	
5	SOUTHERN REGION										
	A.P & TG	•									
*61	SRISAILAM	269.75	265.48	8.288	4.033	08-12-2016	49	18	63	0	770
	NAGARJUNA SAGAR	179.83	160.17		0.788	08-12-2016	12	0			810
	ANDHRA PRADESH										
63	SOMASILA	100.58	93.43	1.994	1.048	08-12-2016	53	99	75	168	0
	TELANGANA										
64	SRIRAMSAGAR	332.54	332.02	2.300	2.299	08-12-2016	100	8	54	411	27
65	LOWER MANAIR	280.42	279.59	0.621	0.616	08-12-2016	99	16	65	199	60

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

				WEE	K ENDING :-	08.12.2016					
							STORAGE A	S % OF LIVE C FRL	APACITY AT	BENE	FITS
S. NO	NAME OF RESERVOIR	FRL (m)	CURRENT RESERVOIR LEVEL (m)	LIVE CAPACITY AT FRL (BCM)	CURRENT LIVE STORAGE (BCM)	DATE	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	738.46	1.163	0.165	07-12-2016	14	67	78	79	-
*67	TUNGABHADRA	497.74	484.54	3.276	0.272	08-12-2016	8	30	63	529	72
68	GHATAPRABHA	662.95	655.11	1.391	0.866	07-12-2016	62	30	66	317	-
69	BHADRA	657.76	631.55	1.785	0.601	08-12-2016	34	58	87	106	39
70	LINGANAMAKKI	554.43	546.31	4.294	2.217	08-12-2016	52	52	77	-	55
71	NARAYANPUR	492.25	488.75	0.863	0.354	08-12-2016	41	44	83	425	-
72	MALAPRABHA(RENUKA)	633.83	625.35	0.972	0.201	07-12-2016	21	15	58	215	-
73	KABINI(Sancherla Tank)	696.16	689.72	0.444	0.130	07-12-2016	29	39	30	85	-
74	HEMAVATHY	890.63	873.24	0.927	0.104	07-12-2016	11	17	51	265	-
75	HARANGI	871.42	858.34	0.220	0.054	06-12-2016	25	2	28	53	-
76	SUPA	564.00	545.60	4.120	2.196	08-12-2016	53	44	65	-	-
77	VANIVILAS SAGAR	652.28	633.62	0.802	0.035	01-12-2016	4	13	19	123	-
*78	ALMATTI	519.60	516.50	3.105	1.875	08-12-2016	60	19	68	@	290
*79	GERUSOPPA	55.00	50.45	0.130	0.104	08-12-2016	80	76	83	83	240
	KERALA										
80	KALLADA(PARAPPAR)	115.82	100.89	0.507	0.202	08-12-2016	40	91	86	62	-
*81	IDAMALAYAR	169.00	154.20	1.018	0.613	08-12-2016	60	56	76	33	75
*82	IDUKKI	732.43	714.42	1.460	0.594	08-12-2016	41	59	70	-	780
*83	KAKKI	981.46	967.95	0.447	0.255	08-12-2016	57	72	84	23	300
*84	PERIYAR	867.41	859.62	0.173	0.020	08-12-2016	12	100	73	84	140
85	MALAPMUZHA	115.06	108.19	0.224	0.093	08-12-2016	42	57	77	21	3
	TAMIL NADU										
86	LOWER BHAWANI	278.89	262.24	0.792	0.097	08-12-2016	12	54	69	105	8
*87	METTUR(STANLEY)	240.79	216.36	2.647	0.340	08-12-2016	13	63	67	122	360
88	VAIGAI	279.20	264.35	0.172	0.004	08-12-2016	2	75	59	61	6
89	PARAMBIKULAM	556.26	540.44	0.380	0.086	08-12-2016	23	74	83	101	-
90	ALIYAR	320.04	303.70	0.095	0.009	08-12-2016	9	99	89	#	60
*91	SHOLAYAR	1002.79	956.21	0.143	0.000	08-12-2016	0	30	76	-	95
	TOTAL FOR 91 RESERVOIRS			157.799	100.326						
	PERCENTAGE						64	51	65		

Sd/-

\$ TOTAL CCA 342 TH. HA OF DVC SYSTEM

Director W. M. , CWC

 $^{^{\}star}$ HYDEL POWER CAPACITY HAVING CAPACITY MORE THAN 60MW

[#] TOTAL CCA 101 TH. HA OF PARAMBIKULAM & ALIYAR

 $^{@^{\}scriptscriptstyle |}$ TOTAL CCA 425 TH. HA. OF NARAYANPUR AND ALMATTI

 $[\]dagger$ 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