BRIEF NOTE ON LIVE STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 03.11.2016)

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 03.11.2016, live storage available in these reservoirs is 113.034 BCM, which is 72% of total live storage capacity of these reservoirs. However, last year the live storage available in these reservoirs for the corresponding period was 86.941 BCM and the average of last 10 years live storage was 114.312 BCM. Thus, the live storage available in 91 reservoirs as per 03.11.2016 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 03.11.2016, the total live storage available in these reservoirs is 12.06 BCM which is 67% of total live storage capacity of these reservoirs. The storage during corresponding period of last year was 77% 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 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 **03.11.2016**, the total live storage available in these reservoirs is **15.77 BCM** which is **84%** 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 **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 03.11.2016, the total live storage available in these reservoirs is 23.14 BCM which is 85% of total live storage capacity of these reservoirs. The storage during corresponding period of last year was 56% 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 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 03.11.2016, the total live storage available in these reservoirs is 37.80 BCM which is 89% 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 68% 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 03.11.2016, the total live storage available in these reservoirs is 24.26 BCM which is 47% of total live storage capacity of these reservoirs. The storage during corresponding period of last year was 32% 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 64 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 7. The number of reservoirs having storage less than or equal to 50% with respect to last year are 9 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 03.11.2016

- 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
 03.11.2016 is 113.034 BCM (72 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:-

DECION (0(a)	l	Filling	positio	n of 91	reserv	oirs w	.r.t. FR	L			
REGION (States), (Monitoring No. of Reservoirs)	100%	91%- 99%	81%- 90%	71%- 80%	61%- 70%	51%- 60%	41%- 50%	40% & below	Departure fr stor		
NORTH (HP,Punjab & Rajasthan), (6 Resv.)	2	ı	ı	1	2	1	-	-	H.P. PUNJAB RAJASTHAN	-20 % -5 % 13 %	
EAST (Jharkhand,Odisha, Tripura & W.Bengal (15 Resv.)	4	2	4	1	1	1	2	-	JHARKHAND ODISHA W. BENGAL TRIPURA	16 % 11 % 27 % 53 %	
WEST (Guj.& Mah.), (27 Resv.)	5	9	3	3	2	-	2	3	GUJARAT MAH.	11 % 9 %	
CENTRAL (MP,UP,Uttarakhand & Chh.), (12 Resv)	2	4	2	1	1	2	-	-	U.P. UTTARAKHAND M.P. CHHATISGARH	51 % -4 % 38 % 14 %	
SOUTH (Karnataka,TN,AP&TG,AP, TG, & Kerala), (31 Resv.)	1	1	2	2	-	6	3	16	AP&TG A,P TG KARNATAKA KERALA T.N.	-38 % -8 % 63 % -37 % -39 % -74 %	
Status of 91 reservoirs	14	16	11	8	6	10	7	19		, , ,	

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

NAGARJUNA SAGAR

5 Out of 91 reservoirs, 59 reservoirs reported more than 80% of normal storage & 32 reservoirs reported 80% or below of normal storage. Out of these 32 reservoirs 17 having storage upto 50% of normal

storage.

storage.			
Name of reservoir	%	Name of reservoir	Ī
SHOLAYAR	0	PARAMBIKULAM	Ī
VAIGAI	4	KALLADA(PARAPPAR)	I
PERIYAR	8	BHADRA	Ī
ALIYAR	13	MALAMPUZHA	Ī
BHADAR	17	MALAPRABHA(RENUKA	1
HEMAVATHY	19		
KRISHNARAJA SAGRA	20		
LOWER BHAWANI	21		
TUNGABHADRA	22		
VANIVILAS SAGAR	27		
METTUR(STANLEY)	28]	

31

15 reservors									
having storage 51%									
to 80% of normal									
storage.									
51%									
to	to	to							
60%	70%	80%							
1	5	9							

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

17 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 EN	IDING :-	03.11.201	6				
NAME OF BASIN	LIVE CAP	. AT FRL	_	/EAR'S RAGE	LAST Y STOR	_	LAST 10 AVG. ST	YEARS' ORAGE	% DEPARTURE W.R.T. AVE. OF 10 YEARS'
GANGA	28.0	96	23.526	83.73%	17.033	60.62%	17.115	60.92%	37.46
INDUS	14.7	730	9.085	61.68%	11.382	77.27%	11.107	75.40%	-18.20
NARMADA	17.4	114	16.725	96.04%	14.169	81.37%	13.758	79.01%	21.57
TAPI	7.3	94	6.894	93.24%	4.790	64.78%	5.853	79.16%	17.79
MAHI	4.0	12	3.766	93.87%	2.911	72.56%	3.115	77.64%	20.90
SABARMATI	0.7	35	0.725	98.64%	0.629	85.58%	0.540	73.47%	34.26
RIVERS OF KUTCH	0.8	87	0.343	38.67%	0.764	86.13%	0.580	65.39%	-40.86
GODAVARI	15.3	394	12.344	80.19%	6.714	43.61%	10.200	66.26%	21.02
KRISHNA	32.8	331	17.786	54.17%	9.730	29.64%	24.738	75.35%	-28.10
MAHANADI & NEIGHBOURING EFRS	13.1	181	11.229	85.19%	8.102	61.47%	10.337	78.42%	8.63
CAUVERY& NEIGHBOURING EFRS	8.3	59	2.171	25.97%	2.525	30.21%	5.167	61.81%	-57.98
WEST FLOWING RIVERS OF SOUTH	14.7	766	8.440	57.16%	8.192	55.48%	11.802	79.93%	-28.49
TOTAL	157.	799	113.034		86.941		114.312		
PERCENTAGE									-1.12

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

	GOVERNMENT OF INDIA			WEE	K ENDING :-	03.11.2016		CENTRALV	VATER COM	/IIVII55IU	IN
					-		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	498.52	6.229	3.956	03-11-2016	64	89	84	676	1200
*2	PONG DAM	423.67	414.35	6.157	3.835	03-11-2016	62	76	73	-	360
	PUNJAB										
*3	THEIN	527.91	512.90	2.344	1.294	03-11-2016	55	50	58	348	600
	RAJASTHAN										
*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	351.23	1.436	1.132	02-11-2016	79	47	72	229	172
	EASTERN REGION	•									
	<u>JHARKHAND</u>										
	TENUGHAT	269.14	260.60		0.441	25-10-2016	54	47	44		-
8	MAITHON	146.3	148.43		0.471	02-11-2016	100	40	89	342	-
*9	PANCHET HILL	124.97	127.27		0.184	02-11-2016	100	23	84	\$	80
	KONAR	425.81	425.82		0.176	02-11-2016	100	78	87	\$	-
11	TILAIYA ODISHA	368.81	370.67	0.142	0.142	02-11-2016	100	87	88	\$	4
*12	HIRAKUD	192.02	192.00	5.378	4.814	02-11-2016	90	79	91	153	307
	BALIMELA	462.08	459.46			03-11-2016	82	73	62		360
	SALANADI	82.30	70.96		0.237	02-11-2016	42	14	40	42	
	RENGALI	123.50	123.02			03-11-2016	96	59	78		200
	MACHKUND(JALPUT)	838.16	837.34	0.893	0.814	03-11-2016	91	93	88	-	115
	UPPER KOLAB	858.00	856.62		0.804	03-11-2016	86	79	64	89	320
	UPPER INDRAVATI	642.00	639.22		1.157	03-11-2016	79	52	76	128	600
	WEST BENGAL										
19	MAYURAKSHI	121.31	115.52	0.480	0.227	02-11-2016	47	21	45	227	_
20	KANGSABATI	134.14	129.98	0.914	0.579	02-11-2016	63	25	46	341	-
	TRIPURA										
21	GUMTI	93.55	92.30	0.312	0.254	02-11-2016	81	91	53	-	15
	WESTERN REGION										
	<u>GUJARAT</u>										
*22	UKAI	105.16	104.19	6.615	6.167	02-11-2016	93	68	81	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	80.00	0.502	0.483	02-11-2016	96	95	99	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	120.83	1.566	1.368	01-11-2016	87	78	80	2120	1450
31	KARJAN	115.25	109.18	0.523	0.374	30-10-2016	72	65	94	51	3

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

				WEE	K ENDING :-	03.11.2016					
			CHDDENT				STORAGE A	GE AS % OF LIVE CAPACITY AT FRL		BENE	EFITS
S. NO	NAME OF RESERVOIR	SERVOIR FRL RESERVOIR CAPACI (m) LEVEL FRI	LIVE CAPACITY AT FRL (BCM)	CAPACITY AT STORAGE (BCM)		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.	ı	
32	JAYAKWADI(PAITHON)	463.91	462.80	2.171	1.765	03-11-2016	81	4	51	227	
*33	KOYANA	657.90	658.27	2.652	2.549	03-11-2016	96	68	94	-	1920
34	BHIMA(UJJANI)	496.83	497.33	1.517	1.517	02-11-2016	100	12	82	125	12
35	ISAPUR	441.00	435.32	0.965	0.483	02-11-2016	50	36	70	104	
36	MULA	552.30	552.17	0.609	0.602	03-11-2016	99	48	83	139	
37	YELDARI	461.77	454.64	0.809	0.248	03-11-2016	31	15	55	78	-
38	GIRNA	398.07	397.18	0.524	0.472	02-11-2016	90	10	50	79	
39	KHADAKVASLA	582.47	581.47	0.056	0.043	02-11-2016	77	36	55	78	
*40	UPPER VAITARNA	603.50	603.46	0.331	0.330	02-11-2016	100	69	92	-	61
41	UPPER TAPI	214.00	214.00	0.255	0.255	02-11-2016	100	100	100	45	-
*42	PENCH (TOTALADOH)	490.00	482.23	1.091	0.517	03-11-2016	47	58	70	127	160
43	UPPER WARDHA	342.50	342.46	0.564	0.560	03-11-2016	99	88	90	70	
44	BHATSA	142.07	140.33	0.942	0.908	02-11-2016	96	78	91	29.378	15
45	DHOM	747.70	747.48	0.331	0.329	02-11-2016	99	53	85	36.2	2
46	DUDHGANGA	646.00	645.68	0.664	0.664	02-11-2016	100	72	96	2.441	24
	MANIKDOH (KUKADI)	711.25	706.56	0.288	0.209	02-11-2016	73	26	60	2.2	
48	BHANDARDARA CENTRAL REGION	342.50	342.46	0.304	0.304	03-11-2016	99	88	90	70	•
	CENTRAL REGION	•									
	UTTAR PRADESH	000.40			0.404						0.0
	MATATILA	308.46	306.14	0.707	0.401	02-11-2016	57	38	75	-	30
"50	RIHAND	268.22	265.03	5.649	4.270	03-11-2016	76	35	45	-	300
+54	UTTRAKHAND	005.00	050.05	0.400	4.004	00.44.0040	50	0.4	70	4007	400
	RAMGANGA	365.30	350.85	2.196	1.224	03-11-2016	56	64	72	1897	
52	TEHRI MADHYA PRADESH	830.00	822.35	2.615	2.299	03-11-2016	88	81	80	2351	1000
*50	GANDHI SAGAR	200.00	200.81	6 927	6 560	02 11 2016	96	90	61	220	115
	TAWA	399.90 355.40	399.81 355.09	6.827 1.944	6.560	03-11-2016 03-11-2016	100	90		247	
	BARGI	422.76	422.05	3.180	1.944 3.022	03-11-2016	95	87		157	
	BANSAGAR	341.64	341.58	5.166	5.166	03-11-2016	100	58		488	
	INDIRA SAGAR	262.13	261.91	9.745	9.613	03-11-2016	99	78	72		
	BARNA	348.55	347.80	0.456	0.404	03-11-2016	89	69		546	
	CHHATTIS GARH										
*59	MINIMATA BANGOI	359.66	355.00	3.046	2.132	02-11-2016	70	46	65		120
	MAHANADI	348.70	348.66	0.767	0.763	03-11-2016	99	48	73	319	
	SOUTHERN REGION										
	A.P & TG	-									
*61	SRISAILAM	269.75	267.58	8.288	4.931	03-11-2016	59	22	69	0	770
	NAGARJUNA SAGAR	179.83	163.86	6.841	1.464	03-11-2016	21	0			
	ANDHRA PRADESH										
63	SOMASILA	100.58	93.87	1.994	1.099	03-11-2016	55	21	60	168	C
	TELANGANA										
64	SRIRAMSAGAR	332.54	332.38	2.300	2.300	03-11-2016	100	9	60	411	27
65	LOWER MANAIR	280.42	279.36	0.621	0.599	03-11-2016	96	17	64	199	60

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

				WEE	K ENDING :-	03.11.2016					
			OUDDEST	10.75			STORAGE A	S % OF LIVE C FRL	APACITY AT	BENE	EFITS
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	739.15	1.163	0.193	03-11-2016	17	56	85	79	-
*67	TUNGABHADRA	497.74	487.75	3.276	0.564	03-11-2016	17	49	79	529	72
68	GHATAPRABHA	662.95	660.51	1.391	1.210	03-11-2016	87	38	83	317	-
69	BHADRA	657.76	646.76	1.785	0.736	03-11-2016	41	59	89	106	39
70	LINGANAMAKKI	554.43	547.21	4.294	2.396	03-11-2016	56	53	84	-	55
71	NARAYANPUR	492.25	491.27	0.863	0.617	03-11-2016	71	53	85	425	-
72	MALAPRABHA(RENUKA)	633.83	627.23	0.972	0.328	03-11-2016	34	28	70	215	-
73	KABINI(Sancherla Tank)	696.16	690.59	0.444	0.165	03-11-2016	37	46	45	85	-
74	HEMAVATHY	890.63	874.16	0.927	0.128	03-11-2016	14	21	73	265	-
75	HARANGI	871.42	861.17	0.220	0.076	03-11-2016	35	22	56	53	-
76	SUPA	564.00	546.56	4.120	2.278	03-11-2016	55	44	71	-	-
77	VANIVILAS SAGAR	652.28	633.83	0.802	0.037	02-11-2016	5	11	17	123	-
*78	ALMATTI	519.60	518.40	3.105	2.588	03-11-2016	83	37	85	@	290
*79	GERUSOPPA	55.00	49.27	0.130	0.098	03-11-2016	75	72	86	83	240
	KERALA										
80	KALLADA(PARAPPAR)	115.82	99.55	0.507	0.187	03-11-2016	37	63	86	62	-
*81	IDAMALAYAR	169.00	154.22	1.018	0.614	03-11-2016	60	53	80	33	75
*82	IDUKKI	732.43	715.40	1.460	0.634	03-11-2016	43	56	71	-	780
*83	KAKKI	981.46	968.93	0.447	0.265	03-11-2016	59	55	83	23	300
*84	PERIYAR	867.41	858.92	0.173	0.009	03-11-2016	5	59	64	84	140
85	MALAPMUZHA	115.06	108.34	0.224	0.095	02-11-2016	42	64	90	21	3
	TAMIL NADU										
86	LOWER BHAWANI	278.89	262.43	0.792	0.100	03-11-2016	13	24	59	105	8
*87	METTUR(STANLEY)	240.79	217.69	2.647	0.406	03-11-2016	15	29	54	122	360
88	VAIGAI	279.20	264.42	0.172	0.004	03-11-2016	2	30	56	61	6
89	PARAMBIKULAM	556.26	543.29	0.380	0.132	03-11-2016	35	69	87	101	-
90	ALIYAR	320.04	304.28	0.095	0.011	03-11-2016	12	82	91	#	60
*91	SHOLAYAR	1002.79	964.02	0.143	0.000	03-11-2016	0	50	88	-	95
	TOTAL FOR 91 RESERVOIRS			157.799	113.034						

Sd/-

72

 $\$ TOTAL CCA 342 TH. HA OF DVC SYSTEM

PERCENTAGE

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