# BRIEF NOTE ON STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 11.02.2016)

#### 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 11.02.2016, live storage available in these reservoirs is 56.584 BCM, which is 36% of total live storage capacity of these reservoirs. This storage is 78% of the storage of corresponding period of last year and 76% of storage of average of last ten years.

The overall storage position is **less than the** corresponding period of last year in the country as a whole and is also **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 11.02.2016, the total live storage available in these reservoirs is 6.90 BCM which is 38% of total live storage capacity of these reservoirs. The storage during corresponding period of last year was 36% and average storage of last ten years during corresponding period was 42% 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.

# 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 11.02.2016, the total live storage available in these reservoirs is 9.59 BCM which is 51% 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 58% 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.

#### 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 11.02.2016, the total live storage available in these reservoirs is 8.59 BCM which is 32% of total live storage capacity of these reservoirs. The storage during corresponding period of last year was 52% and average storage of last ten years during corresponding period was 58% of live storage capacity of these reservoirs. Thus, storage during current year is less than the storage of last year and is also less 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 11.02.2016, the total live storage available in these reservoirs is 18.67 BCM

which is 44% 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 40% of live storage capacity of these reservoirs. Thus, storage during current year is less than the storage of last year but is 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 11.02.2016, the total live storage available in these reservoirs is 12.83 BCM which is 25% 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 46% 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.

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 Ganga, Narmada, Sabarmati and Rivers of Kutch. Close to Normal in Indus, Mahanadi & neighbouring East Flowing Rivers, West Flowing rivers of South and Cauvery & neighbouring EFRs. Deficient in Tapi, Mahi and Godavari, and Highly Deficient in Krishna basin.
- Table on page 5-7 of the bulletin. The numbers of reservoirs having storage more than last year are **18** and reservoirs having storage more than average of last ten years are **16**. 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 **21** and having storage less than or equal to 50% with reference to average of last ten years are **26**.

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#### STORAGE STATUS OF IMPORTANT RESERVOIRS IN THE COUNTRY

- 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 11.02.2016 is 56.584 BCM ( 36 percent of the live storage capacity at FRL ). The current year's storage is nearly 78 percent of last year's storage and 76 percent of the average of last ten years.

3 Region wise storage status:-

<b></b>		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.)	1	1	1	1	1	1	1	4	H.P. PUNJAB RAJASTHAN	-4 % -37 % -9 %	
EAST (Jharkhand,Odisha, Tripura & W.Bengal ( 15 Resv.)	1		-	-	4	2	2	7	JHARKHAND ODISHA W. BENGAL TRIPURA	-37 % -9 % -34 % 247 %	
WEST (Guj.& Mah.), (27 Resv.)	-	-	-	-	-	5	4	18	GUJARAT MAH.	-33 % -56 %	
CENTRAL (MP,UP,Uttarakhand & Chh.), (12 Resv)	,	,	-	-	1	1	4	6	U.P. UTTARAKHAND M.P. CHHATISGARH	-10 % -24 % 33 % -31 %	
SOUTH (Karnataka,TN,AP&TG,AP, TG, & Kerala), ( 31 Resv.)	-	1	1	-	2	2	5	20	AP&TG A,P TG KARNATAKA KERALA T.N.	-82 % 13 % -77 % -39 % -6 % -28 %	
Status of 91 reservoirs	0	1	1	0	7	11	16	55	-		

#### 4 Basin wise storage position:

Better than normal: Ganga, Narmada, Sabarmati and Rivers of Kutch.

Close to normal: Indus, Mahanadi & Neighbouring EFRS, Cauvery & neighbouring EFRS and West Flowing rivers of south.

**Deficient:** Tapi, Mahi and Godavari.

Highly deficient: Krishna.

5 Out of 91 reservoirs, 34 reservoirs reported more than 80% of normal storage & 57 reservoirs reported 80% or below of normal storage. Out of these 57 reservoirs 26 having storage upto 50% of normal

storage.

Name of reservoir	%	Name of reservoir	%	Name of reservoir	%
NAGARJUNA SAGAR	0	SRISAILAM	27	NARAYANPUR	42
BHIMA(UJJANI)	0	TUNGABHADRA	27	MAITHON	44
SHOLAYAR	0	MANIKDOH	27	PANAM	48
GIRNA	7	MULA	31	MAYURAKSHI	49
JAYAKWADI(PAITHON)	9	SARDAR SAROVAR	33	DUDHGANGA	50
SALANADI	13	BHANDARDARA	36	HEMAVATHY	50
YELDARI	17	MALAPRABHA(RENUKA	36		
SRIRAMSAGAR	22	ALMATTI	38		
PANCHET HILL	22	HARANGI	40		
LOWER MANAIR	25	ISAPUR	40		

31 reservors								
having storage 51%								
to 80% of normal								
storage.								
51%	61%	71%						
to	to	to						
60%	70%	80%						
6	8	17						

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

27 reservoirs.

# WEEKLY REPORT - BASINWISE

# GOVERNMENT OF INDIA

# CENTRAL WATER COMMISSION

	WEEK EN	NDING :-	11.02.201	6				
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	11.652	41.47%	13.943	49.63%	10.932	38.91%	6.59
INDUS	14.730	5.599	38.01%	4.952	33.62%	6.076	41.25%	-7.85
NARMADA	17.414	7.569	43.47%	8.902	51.12%	7.193	41.31%	5.23
TAPI	7.394	3.031	40.99%	3.920	53.02%	4.338	58.67%	-30.13
MAHI	4.012	1.586	39.53%	2.425	60.44%	2.164	53.94%	-26.71
SABARMATI	0.735	0.336	45.71%	0.232	31.56%	0.311	42.31%	8.04
RIVERS OF KUTCH	0.887	0.342	38.56%	0.151	17.02%	0.281	31.68%	21.71
GODAVARI	15.394	4.722	30.67%	7.301	47.43%	7.508	48.77%	-37.11
KRISHNA	32.831	4.992	15.21%	9.427	28.71%	14.845	45.22%	-66.37
MAHANADI & NEIGHBOURING EFRS	13.181	6.619	50.22%	9.114	69.14%	8.232	62.45%	-19.59
CAUVERY& NEIGHBOURING EFRS	8.359	3.261	39.01%	3.630	43.43%	4.039	48.32%	-19.26
WEST FLOWING RIVERS OF SOUTH	14.766	6.875	46.56%	8.886	60.18%	8.563	57.99%	-19.71
TOTAL	157.799	56.584		72.883		74.482		
PERCENTAGE								-24.03

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

	GOVERNMENT OF INDIA			14/55	K ENDING :	44 00 0040		CENTRAL V	VATER COM	MISSIO	N
					K ENDING :-	11.02.2016	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	492.99	6.229	3.252	11-02-2016	52	44	46	676	1200
*2	PONG DAM PUNJAB	423.67	403.26	6.157	1.897	10-02-2016	31	24	40	-	360
*3	THEIN	527.91	495.51	2.344	0.450	11-02-2016	19	31	30	348	600
	RAJASTHAN										
*4	MAHI BAJAJ SAGAR	280.75	272.60	1.711	0.823	10-02-2016	48	58	46	63	140
5	JHAKAM	359.50	346.15	0.132	0.035	10-02-2016	27	36	31	28	-
*6	RANA PRATAP SAGAR	352.81	347.00	1.436	0.439	11-02-2016	31	31	42	229	172
	EASTERN REGION										
	JHARKHAND										
7	TENUGHAT	269.14	257.66		0.331	11-02-2016	40	46	42		-
8	MAITHON	146.3	140.07		0.161	11-02-2016	34	59	78		-
	PANCHET HILL	124.97	120.94		0.034	11-02-2016	18	42	84	•	80
	KONAR	425.81	421.14		0.099	11-02-2016	56	78	65		-
11	TILAIYA	368.81	365.30	0.142	0.036	11-02-2016	25	83	49	\$	4
*40	<u>ODISHA</u>	400.00	400.40	F 070	2.000	40.00.0040	64			450	207
	HIRAKUD BALIMELA	192.02 462.08	189.48 454.52		3.286	10-02-2016 10-02-2016	61 56	60 77	68 52		307 360
	SALANADI	82.30	454.52 55.60		1.502 0.029	10-02-2016	50	45	41	42	360
	RENGALI	123.50	117.84		1.665	10-02-2016	49	45 74	58		200
	MACHKUND(JALPUT)	838.16	834.66		0.613	10-02-2016	69	79	70		115
	UPPER KOLAB	858.00	854.60		0.622	10-02-2016	67	74	53		320
	UPPER INDRAVATI	642.00	634.38		0.695	11-02-2016	48	76	61	128	600
	WEST BENGAL								-		
19	MAYURAKSHI	121.31	110.64	0.480	0.092	11-02-2016	19	20	39	227	_
	KANGSABATI	134.14	123.95			11-02-2016	25	27	32		_
	TRIPURA										
21	GUMTI	93.55	91.05	0.312	0.201	10-02-2016	64	3	19	-	15
	WESTERN REGION	-									
	<u>GUJARAT</u>										
*22	UKAI	105.16	97.16	6.615	2.882	11-02-2016	44	54	60	348	300
23	SABARMATI(DHAROI)	189.59	184.91	0.735	0.336	10-02-2016	46	32	42	95	1
*24	KADANA	127.7	119.91	1.472	0.525	10-02-2016	36	68	61	200	120
25	SHETRUNJI	55.53	53.37	0.300	0.157	10-02-2016	52	27	53	36	-
26	BHADAR	107.89	102.99	0.188	0.041	10-02-2016	22	28	37	27	-
27	DAMANAGANGA	79.86	75.35	0.502	0.290	11-02-2016	58	58	72	51	1
28	DANTIWADA	184.1	175.73	0.399	0.144	10-02-2016	36	4	13	45	-
29	PANAM	127.41	120.55	0.697	0.203	10-02-2016	29	56	61	36	2
*30	SARDAR SAROVAR	121.92	113.97	1.566	0.358	11-02-2016	23	73	69	2120	1450
31	KARJAN	115.25	102.41	0.523	0.211	11-02-2016	40	67	77	51	3

GOVERNMENT OF INDIA

# CENTRAL WATER COMMISSION

				WEE	K ENDING :-	11.02.2016					
			CURRENT	I IVE			STORAGE A	S % OF LIVE C FRL	APACITY AT	BENE	EFITS
S. NO	NAME OF RESERVOIR	FRL (m)	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										
32	JAYAKWADI(PAITHON)	463.91	456.02	2.171	0.078	11-02-2016	4	24	42	227	-
*33	KOYANA	657.90	642.75	2.652	1.164	10-02-2016	44	73	72	-	1920
34	BHIMA(UJJANI)	496.83	489.32	1.517	0.000	10-02-2016	0	54	63	125	12
35	ISAPUR	441.00	430.20	0.965	0.197	10-02-2016	20	45	51	104	-
36	MULA	552.30	538.94	0.609	0.100	11-02-2016	16	45	54	139	-
37	YELDARI	461.77	449.44	0.809	0.048	10-02-2016	6	23	36	78	-
38	GIRNA	398.07	382.61	0.524	0.013	10-02-2016	2	23	34	79	-
39	KHADAKVASLA	582.47	580.67	0.056	0.033	10-02-2016	59	70	48	78	8
*40	UPPER VAITARNA	603.50	597.13	0.331	0.144	10-02-2016	44	67	75	-	61
41	UPPER TAPI	214.00	211.76	0.255	0.136	10-02-2016	53	96	74	45	-
*42	PENCH (TOTALADOH)	490.00	477.42	1.091	0.307	10-02-2016	28	25	42	127	160
43	UPPER WARDHA	342.50	337.89	0.564	0.227	11-02-2016	40	48	55	70	-
44	BHATSA	142.07	124.37	0.942	0.529	10-02-2016	56	62	65	29.378	15
45	DHOM	747.70	733.42	0.331	0.127	10-02-2016	38	67	52	36.2	2
46	DUDHGANGA	646.00	630.18	0.664	0.242	10-02-2016	36	74	73	2.441	24
47	MANIKDOH (KUKADI)	711.25	685.18	0.288	0.028	10-02-2016	10	40	35	2.2	6
48	BHANDARDARA CENTRAL RECION	342.50	337.89	0.304	0.073	11-02-2016	40	48	55	70	-
	CENTRAL REGION	•									
	UTTAR PRADESH	000.40				40.00.0040					
	MATATILA	308.46	303.92		0.219	10-02-2016	31	28	41	-	30
"50	RIHAND UTTRAKHAND	268.22	258.23	5.649	1.574	11-02-2016	28	31	30	-	300
*54	RAMGANGA	205.20	242.02	2.400	0.000	44.00.0046	40	70	50	4007	400
		365.30 830.00	342.82		0.880	11-02-2016	40	72	53	1897	198
"52	TEHRI MADHYA PRADESH	830.00	782.80	2.615	0.968	11-02-2016	37	49	48	2351	1000
*50	GANDHI SAGAR	200.00	30F 30	6 927	4.052	11 02 2016	59	49	32	220	115
	TAWA	399.90 355.40	395.29 344.64		4.053	11-02-2016 11-02-2016	32	49	39	247	115
	BARGI	422.76	418.25			11-02-2016	63	62	52	157	90
	BANSAGAR	341.64	334.43			11-02-2016	45	77	41	488	425
	INDIRA SAGAR	262.13	254.83			11-02-2016	44	46	32	2380	1000
	BARNA	348.55	342.19			11-02-2016	25	37	33	546	-
00	CHHATTIS GARH	0.0.00	0.20	0.100	0.1.12	02 20 .0		0.	00	0.0	
*59	MINIMATA BANGOI	359.66	348.85	3.046	1.312	09-02-2016	43	83	60	_	120
60	MAHANADI	348.70	343.10			11-02-2016	43	74	69	319	10
	SOUTHERN REGION										
	A.P & TG	•									
*61	SRISAILAM	269.75	250.88	8.288	1.127	11-02-2016	14	0	50	0	770
	NAGARJUNA SAGAR	179.83	155.23		0.000	11-02-2016	0	17	32	895	810
	ANDHRA PRADESH		,,,_0	,			· ·				
63	SOMASILA	100.58	95.48	1.994	1.299	11-02-2016	65	38	58	168	0
	TELANGANA										
64	SRIRAMSAGAR	332.54	319.92	2.300	0.170	11-02-2016	7	20	34	411	27
65	LOWER MANAIR	280.42	268.36	0.621	0.090	11-02-2016	14	37	58	199	60

#### WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

				WEE	K ENDING :-	11.02.2016					
			CURRENT	10/5			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	743.95	1.163	0.452	10-02-2016	39	75	59	79	-
*67	TUNGABHADRA	497.74	484.51	3.276	0.271	11-02-2016	8	33	30	529	72
68	GHATAPRABHA	662.95	642.11	1.391	0.281	10-02-2016	20	28	26	317	-
69	BHADRA	657.76	648.51	1.785	0.864	10-02-2016	48	75	78	106	39
70	LINGANAMAKKI	554.43	543.90	4.294	1.775	11-02-2016	41	56	57	-	55
71	NARAYANPUR	492.25	488.13	0.863	0.298	11-02-2016	35	72	82	425	-
72	MALAPRABHA(RENUKA)	633.83	622.15	0.972	0.076	10-02-2016	8	20	22	215	-
73	KABINI(Sancherla Tank)	696.16	690.38	0.444	0.157	10-02-2016	35	73	40	85	-
74	HEMAVATHY	890.63	874.41	0.927	0.136	10-02-2016	15	20	29	265	-
75	HARANGI	871.42	851.44	0.220	0.014	10-02-2016	6	8	16	53	-
76	SUPA	564.00	538.75	4.120	1.671	11-02-2016	41	61	54	-	-
77	VANIVILAS SAGAR	652.28	637.21	0.802	0.098	11-02-2016	12	9	17	123	-
*78	ALMATTI	519.60	509.09	3.105	0.383	11-02-2016	12	29	33	@	290
*79	GERUSOPPA	55.00	54.09	0.130	0.125	11-02-2016	96	94	84	83	240
	KERALA										
80	KALLADA(PARAPPAR)	115.82	114.10	0.507	0.449	10-02-2016	89	77	71	62	-
*81	IDAMALAYAR	169.00	149.32	1.018	0.500	10-02-2016	49	68	59	33	75
*82	IDUKKI	732.43	718.08	1.460	0.742	10-02-2016	51	66	57	-	780
*83	KAKKI	981.46	971.21	0.447	0.294	10-02-2016	66	72	70	23	300
*84	PERIYAR	867.41	862.60	0.173	0.069	10-02-2016	40	28	33	84	140
85	MALAPMUZHA	867.41	862.60	0.224	0.036	10-02-2016	40	28	33	84	140
	TAMIL NADU										
86	LOWER BHAWANI	278.89	269.37	0.792	0.296	10-02-2016	37	46	53	105	8
*87	METTUR(STANLEY)	240.79	224.63	2.647	0.854	10-02-2016	32	42	47	122	360
88	VAIGAI	279.20	272.48	0.172	0.053	10-02-2016	31	9	33	61	6
89	PARAMBIKULAM	556.26	547.44	0.380	0.205	10-02-2016	54	52	66	101	-
90	ALIYAR	320.04	311.81	0.095	0.046	10-02-2016	48	75	51	#	60
*91	SHOLAYAR	1002.79	963.97	0.143	0.000	10-02-2016	0	0	10	-	95
	TOTAL FOR 91 RESERVOIRS			157.799	56.584						

Sd/-

46

36

47

\$ TOTAL CCA 342 TH. HA OF DVC SYSTEM

PERCENTAGE

Director W. M. , CWC

 $<sup>^{\</sup>star}$  HYDEL POWER CAPACITY HAVING CAPACITY MORE THAN 60MW

<sup>#</sup> TOTAL CCA 101 TH. HA OF PARAMBIKULAM & ALIYAR

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

 $<sup>\</sup>dagger$  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