BRIEF NOTE ON STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 03.12.2015)

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 **03.12.2015**, live storage available in these reservoirs is **81.109 BCM**, which is **51%** of total live storage capacity of these reservoirs. This storage is **78%** of the storage of corresponding period of last year and **75%** 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 03.12.2015, the total live storage available in these reservoirs is 11.88 BCM which is 66% 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 67% 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 **03.12.2015**, the total live storage available in these reservoirs is **11.30** BCM which is **60%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **78%** and average storage of last ten years during corresponding period was **73%** 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 03.12.2015, the total live storage available in these reservoirs is 13.00 BCM which is 48% 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 74% 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 **03.12.15**, the total live storage available in these reservoirs is **27.06** BCM which is

64% 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 59% 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 of States 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 03.12.2015, the total live storage available in these reservoirs is 17.86 BCM which is 35% of total live storage capacity of these reservoirs. The storage during corresponding period of last year was 55% 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 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, Indus, Narmada, Sabarmati and Rivers of Kutch. Close to Normal in Mahi and Cauvery & neighbouring EFRs. Deficient in Tapi, Godavari, Mahanadi & neighbouring East Flowing Rivers and West Flowing rivers of South 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 15 and reservoirs having storage more than average of last ten years are 22. 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 8. The number of reservoirs having storage less than or equal to 50% with respect to last year are 19 and having storage less than or equal to 50% with reference to average of last ten years are 23.

States having better storage (in %) than last year for corresponding period: Himachal Pradesh, Andhra Pradesh and Tripura.

States having equal storage (in %) to last year for corresponding period: NIL

States having lesser storage (in %) than last year for corresponding period: Punjab, Rajasthan, Jharkhand, Odisha, West Bengal, Gujarat, Maharashtra, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Chhattisgarh, AP&TG (2combined project in both states), Telangana, Karnataka, Kerala and Tamil Nadu.

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
 03.12.2015 is 81.109 BCM (51 percent of the live storage capacity at FRL). The current year's storage is nearly 78 percent of last year's storage and 75 percent of the average of last ten years.

3 Region wise storage status:-

		Filling position of 91 reservoirs w.r.t. FRL				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	-	2	-	_	2	H.P. PUNJAB RAJASTHAN	6 % -28 % -14 %	
EAST (Jharkhand,Odisha, Tripura & W.Bengal (15 Resv.)	-	-	1	6	-	1	2	5	JHARKHAND ODISHA W. BENGAL TRIPURA	-31 % -16 % -48 % 119 %	
WEST (Guj.& Mah.), (27 Resv.)	-	-	3	5	4	5	3	7	GUJARAT MAH.	-20 % -50 %	
CENTRAL (MP,UP,Uttarakhand & Chh.) (12 Resv)	-	-	2	2	3	2	2	1	U.P. UTTARAKHAND M.P. CHHATISGARH	-21 % -8 % 23 % -34 %	
SOUTH (Karnataka,TN,AP&TG,AP, TG, & Kerala), (31 Resv.)	2	2	1	3	2	6	3	12	AP&TG A,P TG KARNATAKA KERALA T.N.	-86 % 36 % -83 % -47 % -18 % -19 %	
Status of 91 reservoirs	2	2	9	16	11	14	10	27			

4 Basin wise storage position:

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

Close to normal: Mahi and Cauvery & neighbouring EFRS.

Deficient: Tapi, Godavari, Mahanadi & Neighbouring EFRS, and West Flowing rivers of south.

Highly deficient: Krishna.

5 Out of 91 reservoirs, 40 reservoirs reported more than 80% of normal storage & 51 reservoirs reported 80% or below of normal storage. Out of these 51 reservoirs 23 having storage upto 50% of normal

storage.

Name of reservoir	%	Name of reservoir	%	Name of reservoir	%
NAGARJUNA SAGAR	0	LOWER MANAIR	25	MAYURAKSHI	47
BHIMA(UJJANI)	0	SRISAILAM	25	TUNGABHADRA	47
HARANGI	8	ALMATTI	26	MULA	48
GIRNA	9	HEMAVATHY	30		
SALANADI	13	SHOLAYAR	38		
SRIRAMSAGAR	15	MAITHON	40		
JAYAKWADI(PAITHON)	20	ISAPUR	42		
YELDARI	21	MANIKDOH	42		
MALAPRABHA(RENUKA	24	BHANDARDARA	43		
PANCHET HILL	24	GHATAPRABHA	43		

28 reservors having storage 51% to 80% of normal								
storage.								
51%	61%	71%						
to	to	to						
60%	70%	80%						
6	12	10						

⁶ 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

WEEK ENDING :- 03.12.2015

CENTRAL WATER COMMISSION

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	28.096	15.911	56.63%	17.925	63.80%	15.335	54.58%	3.76
INDUS	14.730	9.968	67.67%	8.633	58.61%	9.829	66.73%	1.41
NARMADA	17.414	12.438	71.43%	13.916	79.91%	11.529	66.21%	7.88
TAPI	7.394	4.144	56.05%	5.027	67.99%	5.514	74.57%	-24.85
MAHI	4.012	2.468	61.52%	3.242	80.81%	2.917	72.71%	-15.39
SABARMATI	0.735	0.532	72.38%	0.413	56.19%	0.470	63.95%	13.19
RIVERS OF KUTCH	0.887	0.640	72.15%	0.224	25.25%	0.480	54.11%	33.33
GODAVARI	15.394	6.293	40.88%	9.514	61.80%	10.200	66.26%	-38.30
KRISHNA	32.831	7.601	23.15%	16.308	49.67%	23.759	72.37%	-68.01
MAHANADI & NEIGHBOURING EFRS	13.181	7.520	57.05%	10.973	83.25%	10.251	77.77%	-26.64
CAUVERY& NEIGHBOURING EFRS	8.359	5.198	62.18%	5.978	71.52%	5.763	68.94%	-9.80
WEST FLOWING RIVERS OF SOUTH	14.766	8.396	56.86%	11.694	79.20%	11.678	79.09%	-28.10
TOTAL	157.799	81.109		103.847		107.725		
PERCENTAGE								-24.71

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

	OOVERNMENT OF INDIA			WEE	K ENDING :-	03.12.2015		CLIVITAL			
			CURRENT	LIVE			STORAGE A	S % OF LIVE C FRL	APACITY AT	BENE	FITS
S. NO	NAME OF RESERVOIR	FRL (m)	RESERVOIR LEVEL (m)	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	506.18	6.229	5.038	03-12-2015	81	73	76	676	1200
*2	PONG DAM PUNJAB	423.67	415.22	6.157	4.015	03-12-2015	65	49	62	-	360
*3	THEIN	527.91	506.16	2.344	0.915	03-12-2015	39	46	54	348	600
	RAJASTHAN										
*4	MAHI BAJAJ SAGAR	280.75	278.25	1.711	1.381	02-12-2015	81	91	77	63	140
5	JHAKAM	359.50	355.05	0.132	0.091	02-12-2015	69	77	68	28	-
*6	RANA PRATAP SAGAR	352.81	347.04	1.436	0.443	03-12-2015	31	40	58	229	172
	EASTERN REGION										
	<u>JHARKHAND</u>	•									
7	TENUGHAT	269.14	258.71	0.821	0.367	02-12-2015	45	48	43	-	-
8	MAITHON	146.3	140.31	0.471	0.170	02-12-2015	36	77	90	342	-
*9	PANCHET HILL	124.97	121.24	0.184	0.041	02-12-2015	22	66	92	\$	80
10	KONAR	425.81	423.19	0.176	0.128	02-12-2015	73	92	80	\$	-
11	TILAIYA	368.81	367.95	0.142	0.114	02-12-2015	80	100	77	\$	4
	<u>ODISHA</u>										
*12	HIRAKUD	192.02	190.59	5.378	3.909	03-12-2015	73	86	90	153	307
*13	BALIMELA	462.08	457.47	2.676	1.894	02-12-2015	71	93	64	-	360
14	SALANADI	82.30	56.50	0.558	0.035	02-12-2015	6	48	49	42	-
*15	RENGALI	123.50	118.59	3.432	1.853	02-12-2015	54	83	75	3	200
*16	MACHKUND(JALPUT)	838.16	836.10	0.893	0.715	02-12-2015	80	92	87	-	115
*17	UPPER KOLAB	858.00	855.99	0.935	0.745	02-12-2015	80	89	63	89	320
*18	UPPER INDRAVATI	642.00	634.87	1.456	0.735	03-12-2015	50	87	75	128	600
	WEST BENGAL										
19	MAYURAKSHI	121.31	111.13	0.480	0.102	02-12-2015	21	23	45	227	-
20	KANGSABATI	134.14	124.01	0.914	0.229	02-12-2015	25	27	46	341	-
	TRIPURA										
21	GUMTI	93.55	92.50	0.312	0.263	01-12-2015	84	24	38	-	15
	WESTERN REGION	Ī									
	<u>GUJARAT</u>										
*22	UKAI	105.16	99.67	6.615	3.895	03-12-2015	59	69	75	348	300
23	SABARMATI(DHAROI)	189.59	187.40	0.735	0.532	03-12-2015	72	56	64	95	1
*24	KADANA	127.7	122.45	1.472	0.709	03-12-2015	48	75	68	200	120
25	SHETRUNJI	55.53	55.12	0.300	0.268	02-12-2015	89	40	74	36	-
26	BHADAR	107.89	105.58	0.188	0.103	30-11-2015	55	38	69	27	-
27	DAMANAGANGA	79.86	78.85	0.502	0.431	03-12-2015	86	81	92	51	1
28	DANTIWADA	184.1	180.21	0.399	0.269	03-12-2015	67	9	33	45	-
29	PANAM	127.41	122.70	0.697	0.287	03-12-2015	41	68	73	36	2
*30	SARDAR SAROVAR	121.92	117.61	1.566	0.877	03-12-2015	56	81	73	2120	1450
31	KARJAN	115.25	105.84	0.523	0.279	03-12-2015	53	83	91	51	3

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

				WEE	K ENDING :-	03.12.2015					
			CURRENT	LIVE			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
<u> </u>	MAHARASHTRA										
32	JAYAKWADI(PAITHON)	463.91	456.99	2.171	0.239	03-12-2015	11	28	56	227	-
*33	KOYANA	657.90	648.39	2.652	1.625	02-12-2015	61	91	91	-	1920
34	BHIMA(UJJANI)	496.83	490.69	1.517	0.000	02-12-2015	0	81	86	125	12
35	ISAPUR	441.00	431.70	0.965	0.269	02-12-2015	28	65	66	104	-
36	MULA	552.30	543.62	0.609	0.236	03-12-2015	39	70	81	139	-
37	YELDARI	461.77	450.93	0.809	0.090	03-12-2015	11	47	54	78	-
38	GIRNA	398.07	383.25	0.524	0.025	02-12-2015	5	41	54	79	-
39	KHADAKVASLA	582.47	581.31	0.056	0.041	02-12-2015	73	84	55	78	8
*40	UPPER VAITARNA	603.50	599.36	0.331	0.203	02-12-2015	61	76	92	-	61
41	UPPER TAPI	214.00	213.48	0.255	0.224	02-12-2015	88	97	96	45	-
*42	PENCH (TOTALADOH)	490.00	482.48	1.091	0.530	03-12-2015	49	45	63	127	160
43	UPPER WARDHA	342.50	340.68	0.564	0.412	03-12-2015	73	80	85	70	-
44	BHATSA	142.07	131.63	0.942	0.681	02-12-2015	72	83	86	29.378	15
45	DHOM	747.70	737.46	0.331	0.185	02-12-2015	56	86	81	36.2	2
46	DUDHGANGA	646.00	637.10	0.664	0.404	02-12-2015	61	96	93	2.441	24
	MANIKDOH (KUKADI)	711.25	692.62		0.070	02-12-2015	24	42	57	2.2	6
	BHANDARDARA CENTRAL REGION	342.50	340.68	0.304	0.119	03-12-2015	73	80	85	70	-
		•									
40	UTTAR PRADESH	000.40	000.47	0.707	0.404	00 40 0045		50	0.5		
	MATATILA	308.46	306.17	0.707		02-12-2015	57	53	65	-	30
-50	RIHAND UTTRAKHAND	268.22	259.02	5.649	1.869	03-12-2015	33	40	43	-	300
*54	RAMGANGA	205.20	254.40	0.400	4 405	02.40.0045	64	05	7.4	4007	400
	TEHRI	365.30	354.10 811.50	2.196	1.405	03-12-2015	64	85	74	1897	198
52	MADHYA PRADESH	830.00	011.50	2.615	1.883	02-12-2015	72	81	75	2351	1000
*52	GANDHI SAGAR	399.90	398.32	6.827	5.670	03-12-2015	83	68	49	220	115
	TAWA	355.40	352.53			02-12-2015	79	81	82	247	-
	BARGI	422.76	420.70			02-12-2015	83	89	79	157	90
	BANSAGAR	341.64	335.93			03-12-2015	55		53	488	425
	INDIRA SAGAR	262.13	258.60			03-12-2015	70	77	57	2380	1000
	BARNA	348.55	345.77			03-12-2015	61	63	63	546	-
00	CHHATTIS GARH	0.10.00	0.0	000	0.270	00 12 20 10	0.		00	0.0	
*59	MINIMATA BANGOI	359.66	349.41	3.046	1.379	02-12-2015	45	84	66		120
	MAHANADI	348.70	343.38			02-12-2015	45		77	319	
	SOUTHERN REGION	ī									
	A.P & TG										
*61	SRISAILAM	269.75	254.45	8.288	1.456	03-12-2015	18	0	71	0	770
*62	NAGARJUNA SAGAR	179.83	155.14	6.841	0.000	03-12-2015	0	44	63	895	810
	ANDHRA PRADESH										
63	SOMASILA	100.58	99.32	1.994	1.949	03-12-2015	98	66	72	168	0
	<u>TELANGANA</u>										
64	SRIRAMSAGAR	332.54	320.62	2.300	0.205	03-12-2015	9	27	61	411	27
65	LOWER MANAIR	280.42	268.96	0.621	0.104	02-12-2015	17	32	68	199	60

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

				WEE	K ENDING :-	03.12.2015					
					LIVE CURRENT LIVE	STORAGE A	S % OF LIVE C FRL	APACITY AT	BENE	EFITS	
S. NO	NAME OF RESERVOIR	FRL (m)	CURRENT RESERVOIR LEVEL (m)	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			I.							
66	KRISHNARAJA SAGRA	752.50	747.87	1.163	0.763	02-12-2015	66	94	81	79	-
*67	TUNGABHADRA	497.74	491.18	3.276	1.081	03-12-2015	33	74	70	529	72
68	GHATAPRABHA	662.95	647.03	1.391	0.437	02-12-2015	31	73	72	317	-
69	BHADRA	657.76	650.43	1.785	1.028	02-12-2015	58	90	91	106	39
70	LINGANAMAKKI	554.43	546.51	4.294	2.256	03-12-2015	53	80	82	-	55
71	NARAYANPUR	492.25	489.43	0.863	0.419	03-12-2015	49	75	89	425	-
72	MALAPRABHA(RENUKA)	633.83	624.10	0.972	0.151	02-12-2015	16	62	65	215	-
73	KABINI(Sancherla Tank)	696.16	691.11	0.444	0.187	02-12-2015	42	62	33	85	-
74	HEMAVATHY	890.63	876.04	0.927	0.175	02-12-2015	19	68	62	265	-
75	HARANGI	871.42	849.17	0.220	0.006	02-12-2015	3	34	36	53	-
76	SUPA	564.00	540.86	4.120	1.824	03-12-2015	44	71	71	-	-
77	VANIVILAS SAGAR	652.28	637.44	0.802	0.104	27-11-2015	13	10	20	123	-
*78	ALMATTI	519.60	510.70	3.105	0.600	03-12-2015	19	69	75	@	290
*79	GERUSOPPA	55.00	48.98	0.130	0.097	03-12-2015	75	75	85	83	240
	KERALA										
80	KALLADA(PARAPPAR)	115.82	113.82	0.507	0.441	02-12-2015	87	93	88	62	-
*81	IDAMALAYAR	169.00	152.40	1.018	0.571	02-12-2015	56	89	80	33	75
*82	IDUKKI	732.43	720.63	1.460	0.853	02-12-2015	58	78	74	-	780
*83	KAKKI	981.46	972.76	0.447	0.315	02-12-2015	70	77	87	23	300
*84	PERIYAR	867.41	868.18	0.173	0.173	02-12-2015	100	100	74	84	140
85	MALAPMUZHA	867.41	868.18	0.224	0.137	02-12-2015	100	100	74	84	140
	TAMIL NADU										
86	LOWER BHAWANI	278.89	271.87	0.792	0.400	02-12-2015	51	69	75	105	8
*87	METTUR(STANLEY)	240.79	232.48	2.647	1.581	02-12-2015	60	77	71	122	360
88	VAIGAI	279.20	277.64	0.172	0.137	02-12-2015	80	10	62	61	6
89	PARAMBIKULAM	556.26	551.20	0.380	0.276	02-12-2015	73	92	86	101	-
90	ALIYAR	320.04	319.55	0.095	0.092	02-12-2015	97	99	93	#	60
*91	SHOLAYAR	1002.79	978.87	0.143	0.046	02-12-2015	32	92	85	-	95
	TOTAL FOR 91 RESERVOIRS			157.799	81.109						
	PERCENTAGE						51	66	68		

Sd/-

\$ TOTAL CCA 342 TH. HA OF DVC SYSTEM

Director W. M., CWC

(At sl. 30th) 0.444 BCM, Live storage at FRL of Kabini reservoir is intrim

^{*} HYDEL POWER CAPACITY HAVING CAPACITY MORE THAN 60MW

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

^{@&#}x27; TOTAL CCA 425 TH. HA. OF NARAYANPUR AND ALMATTI

 $[\]dagger$ SABARMATI RESERVOIR IS SUPPLEMENTED WITH NARMADA WATER THROUGH PIPELINE.

SI. No. 19th 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 $\,$