# BRIEF NOTE ON STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 13.04.2016)

## 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 13.04.2016, live storage available in these reservoirs is 35.839 BCM, which is 23% of total live storage capacity of these reservoirs. This storage is 67% of the storage of corresponding period of last year and 77% of storage of average of last ten years.

As per Table-01, 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 13.04.2016, the total live storage available in these reservoirs is 4.15 BCM which is 23% 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 30% 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 13.04.2016, the total live storage available in these reservoirs is 6.40 BCM which is 34% of total live storage capacity of these reservoirs. The storage during corresponding period of last year was 46% and average storage of last ten years during corresponding period was 35% 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 13.04.2016, the total live storage available in these reservoirs is 4.79 BCM which is 18% 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 40% 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 13.04.2016, the total live storage available in these reservoirs is 12.95 BCMwhich

is 31% of total live storage capacity of these reservoirs. The storage during corresponding period of last year was 39% and average storage of last ten years during corresponding period was 26% 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 13.04.2016, the total live storage available in these reservoirs is 7.55 BCM which is 15% of total live storage capacity of these reservoirs. The storage during corresponding period of last year was 24% and average storage of last ten years during corresponding period was 25% 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.
- Table on page 4: IMD has divided India in 36 meteorological sub-divisions. The data in respect of reservoir storage as compared with observed rainfall in sub-divisions having rainfall less than 80% of normal is given in the table.
- Table on page 5-7 of the bulletin. The numbers of reservoirs having storagemore than last year are 19 and reservoirs having storage more than average of last ten years are 17. The numbers of reservoirs having storage less than 20% with respect to last year is 9 and having storage less than 20% with reference to average of last ten years is 6. The number of reservoirs having storage less than or equal to 50% with respect to last year are 35 and having storage less than or equal to 50% with reference to average of last ten years are 34.

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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
  13.04.2016 is 35.839 BCM (23 percent of the live storage capacity at FRL). The current year's storage is nearly 67 percent of last year's storage and 77 percent of the average of last ten years.

3 Region wise storage status:-

75000		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	rage		
NORTH (HP,Punjab & Rajasthan), (6 Resv.)	1	1	1	1	1	-	-	6	H.P. PUNJAB RAJASTHAN	-21 % -48 % -10 %		
EAST (Jharkhand,Odisha, Tripura & W.Bengal ( 15 Resv.)	1		-	-	-	-	2	13	JHARKHAND ODISHA W. BENGAL TRIPURA	-30 % -3 % 4 % 543 %		
WEST (Guj.& Mah.), (27 Resv.)	-	-	-	-	-	-	1	26	GUJARAT MAH.	-51 % -60 %		
CENTRAL (MP,UP,Uttarakhand & Chh.), (12 Resv)	,	,	-	-	-	-	3	9	U.P. UTTARAKHAND M.P. CHHATISGARH	-6 % -64 % 51 % -23 %		
SOUTH (Karnataka,TN,AP&TG,AP, TG, & Kerala), ( 31 Resv.)	-	-	-	1	1	-	1	28	AP&TG A,P TG KARNATAKA KERALA T.N.	-80 % -6 % -52 % -29 % -2 % -53 %		
Status of 91 reservoirs	0	0	0	1	1	0	7	82		00 /0		

#### 4 Basin wise storage position:

Better than normal: Ganga, Sabarmati and Narmada.

Close to normal: Rivers of Kutch, Mahanadi & Neighbouring EFRS and West Flowing rivers of south.

Deficient: Indus, Tapi, Mahi, Godavari and Cauvery & neighbouring EFRS

Highly deficient: Krishna.

5 Out of 91 reservoirs, 31 reservoirs reported more than 80% of normal storage & 60 reservoirs reported 80% or below of normal storage. Out of these 60 reservoirs 34 having storage upto 50% of normal

storage.

Name of reservoir	%	Name of reservoir	%	Name of reservoir	%
NAGARJUNA SAGAR	0	PERIYAR	31	UPPER TAPI	43
BHIMA(UJJANI)	0	ISAPUR	31	BARNA	44
JAYAKWADI(PAITHON)	0	DUDHGANGA	32	MALAMPUZHA	44
GIRNA	0	VAIGAI	32	JHAKAM	45
YELDARI	2	MAITHON	37	MANIKDOH	46
SALANADI	18	PANAM	39	HARANGI	46
LOWER BHAWANI	25	SRISAILAM	39	BHADRA	47
BHANDARDARA	26	MATATILA	39	MALAPRABHA(RENUKA)	47
PANCHET HILL	28	KARJAN	39	PENCH (TOTALADOH)	48
TEHRI	29	RAMGANGA	40	PONG DAM	50
ALIYAR	31	LOWER MANAIR	40		
MULA	31	UKAI	40		·

26 reservors									
having storage 51%									
to 80% of normal									
storage.									
51%	61%	71%							
to	to	to							
60%	70%	80%							
12	2	12							

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

26 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

OOVERNIVILIATI OF HADIA					CLIVITY		COMM	JUIOIN
	WEEK E	NDING :-	13.04.201	6				
NAME OF BASIN	LIVE CAP. AT FRL	_	YEAR'S RAGE	LAST Y STOR	_		YEARS' ORAGE	% DEPARTURE W.R.T. AVE. OF 10 YEARS'
GANGA	28.096	8.465	30.13%	10.917	38.86%	7.232	25.74%	17.05
INDUS	14.730	3.273	22.22%	5.451	37.01%	4.430	30.07%	-26.12
NARMADA	17.414	4.939	28.36%	5.774	33.16%	4.493	25.80%	9.93
TAPI	7.394	1.219	16.49%	2.452	33.16%	3.006	40.65%	-59.45
MAHI	4.012	0.970	24.18%	1.823	45.44%	1.647	41.05%	-41.11
SABARMATI	0.735	0.196	26.67%	0.118	16.05%	0.195	26.53%	0.51
RIVERS OF KUTCH	0.887	0.117	13.19%	0.100	11.27%	0.132	14.88%	-11.36
GODAVARI	15.394	3.078	19.99%	5.068	32.92%	4.550	29.56%	-32.35
KRISHNA	32.831	2.639	8.04%	6.914	21.06%	7.321	22.30%	-63.95
MAHANADI & NEIGHBOURING EFRS	13.181	4.658	35.34%	7.055	53.52%	5.528	41.94%	-15.74
CAUVERY& NEIGHBOURING EFRS	8.359	1.872	22.40%	2.244	26.85%	2.924	34.98%	-35.98
WEST FLOWING RIVERS OF SOUTH	14.766	4.413	29.89%	5.570	37.72%	5.266	35.66%	-16.19
TOTAL	157.799	35.839		53.486		46.724		
PERCENTAGE								-23.30

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

	OOVERNIMENT OF INDIA			WEE	K ENDING :-	13.04.2016		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	479.47	6.229	1.858	11-04-2016	30	33	26	676	1200
*2	PONG DAM PUNJAB	423.67	395.86	6.157	0.945	12-04-2016	15	32	31	-	360
*3	THEIN	527.91	496.03	2.344	0.470	13-04-2016	20	62	38	348	600
	RAJASTHAN										
*4	MAHI BAJAJ SAGAR	280.75	267.20	1.711	0.399	13-04-2016	23	31	27	63	140
5	JHAKAM	359.50	338.00	0.132	0.010	13-04-2016	8	19	17	28	-
*6	RANA PRATAP SAGAR	352.81	347.19	1.436	0.465	13-04-2016	32	26	34	229	172
	EASTERN REGION										
	<u>JHARKHAND</u>										
7	TENUGHAT	269.14	256.44	0.821	0.294	13-04-2016	36	42	34	-	-
8	MAITHON	146.3	137.41	0.471	0.082	13-04-2016	17	32	45	342	-
*9	PANCHET HILL	124.97	120.55	0.184	0.024	13-04-2016	13	23	47	\$	80
10	KONAR	425.81	418.46	0.176	0.063	13-04-2016	36	64	47	\$	-
11	TILAIYA	368.81	365.05	0.142	0.030	13-04-2016	21	45	27	\$	4
	<u>ODISHA</u>										
*12	HIRAKUD	192.02	186.90	5.378	2.056	13-04-2016	38	35	41	153	307
*13	BALIMELA	462.08	450.65	2.676	1.019	13-04-2016	38	56	30	-	360
14	SALANADI	82.30	54.05	0.558	0.022	12-04-2016	4	40	22	42	-
*15	RENGALI	123.50	115.46	3.432	1.078	13-04-2016	31	66	37	3	200
*16	MACHKUND(JALPUT)	838.16	831.60	0.893	0.426	13-04-2016	48	46	48	-	115
	UPPER KOLAB	858.00	850.90	0.935	0.343	13-04-2016	37	55	34	89	320
*18	UPPER INDRAVATI	642.00	632.63	1.456	0.551	13-04-2016	38	54	38	128	600
	WEST BENGAL										
	MAYURAKSHI	121.31	110.19	0.480		13-04-2016	17	15	23	227	-
20	KANGSABATI TRIPURA	134.14	122.74	0.914	0.181	13-04-2016	20	24	16	341	-
21	GUMTI	93.55	89.70	0.312	0.148	13-04-2016	47	0	7	-	15
	WESTERN REGION										
	<u>GUJARAT</u>										
*22	UKAI	105.16	92.86	6.615	1.164	13-04-2016	18	33	42	348	300
23	SABARMATI(DHAROI)	189.59	182.51	0.735	0.196	13-04-2016	27	16	27	95	1
*24	KADANA	127.7	118.31	1.472	0.427	13-04-2016	29	63	56	200	120
25	SHETRUNJI	55.53	49.62	0.300	0.045	13-04-2016	15	16	21	36	-
26	BHADAR	107.89	101.80	0.188	0.025	13-04-2016	13	20	24	27	-
27	DAMANAGANGA	79.86	70.65	0.502	0.145	13-04-2016	29	30	48	51	1
28	DANTIWADA	184.1	169.92	0.399	0.047	12-04-2016	12	4	6	45	-
29	PANAM	127.41	118.15	0.697	0.134	13-04-2016	19	48	50	36	2
*30	SARDAR SAROVAR	121.92	114.66	1.566	0.455	13-04-2016	29	71	50	2120	1450
31	KARJAN	115.25	96.80	0.523	0.127	13-04-2016	24	46	61	51	3

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

				WEE	K ENDING :-	13.04.2016				1	
							STORAGE A	S % OF LIVE C FRL	APACITY AT	BENEFITS	
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	l		I.							
32	JAYAKWADI(PAITHON)	463.91	454.78	2.171	0.000	13-04-2016	0	11	27	227	-
*33	KOYANA	657.90	635.38	2.652	0.685	13-04-2016	26	56	51	_	1920
34	BHIMA(UJJANI)	496.83	487.83	1.517	0.000	13-04-2016	0	16	27	125	12
35	ISAPUR	441.00	428.58	0.965	0.112	13-04-2016	12	27	36	104	-
36	MULA	552.30	537.34	0.609	0.064	12-04-2016	11	18	34	139	-
37	YELDARI	461.77	447.86	0.809	0.003	06-04-2016	0	11	23	78	-
38	GIRNA	398.07	380.23	0.524	0.000	13-04-2016	0	16	21	79	-
39	KHADAKVASLA	582.47	579.49	0.056	0.020	12-04-2016	36	73	36	78	8
*40	UPPER VAITARNA	603.50	596.22	0.331	0.122	13-04-2016	37	43	50	-	61
41	UPPER TAPI	214.00	209.78	0.255	0.055	13-04-2016	22	82	50	45	-
*42	PENCH (TOTALADOH)	490.00	472.38	1.091	0.150	13-04-2016	14	18	29	127	160
43	UPPER WARDHA	342.50	336.49	0.564	0.154	13-04-2016	27	36	38	70	-
44	BHATSA	142.07	116.88	0.942	0.396	13-04-2016	42	43	47	29.378	15
45	DHOM	747.70	731.73	0.331	0.107	13-04-2016	32	59	39	36.2	2
46	DUDHGANGA	646.00	621.55	0.664	0.102	12-04-2016	15	53	47	2.441	24
	MANIKDOH (KUKADI)	711.25	683.35	0.288	0.021	13-04-2016	7	25	16	2.2	6
48	BHANDARDARA  CENTRAL REGION	342.50	336.49	0.304	0.036	13-04-2016	27	36	38	70	-
40	UTTAR PRADESH	200.40	202.24	0.707	0.445	00 04 0040	40	20	44		20
	MATATILA RIHAND	308.46	302.21	0.707	0.115	06-04-2016	16	36	41	-	30
50	UTTRAKHAND	268.22	257.07	5.649	1.178	12-04-2016	21	21	19	-	300
*54	RAMGANGA	265.20	220.02	2 106	0.246	12.04.2016	16	63	20	1897	100
	TEHRI	365.30 830.00	330.02 748.00	2.196 2.615	0.346 0.144	13-04-2016 13-04-2016	16 6	63 23	39 19	2351	198 1000
32	MADHYA PRADESH	630.00	746.00	2.015	0.144	13-04-2010	0	23	19	2331	1000
*53	GANDHI SAGAR	399.90	393.28	6.827	3.167	13-04-2016	46	40	20	220	115
	TAWA	355.40	340.25			13-04-2016	14	33	25	247	-
	BARGI	422.76	415.75			13-04-2016	47	37	31	157	90
	BANSAGAR	341.64	333.76			13-04-2016	42	65	32	488	425
	INDIRA SAGAR	262.13	251.36			13-04-2016	26	26	19	2380	1000
	BARNA	348.55	339.63			13-04-2016	8	24		546	-
	CHHATTIS GARH										
*59	MINIMATA BANGOI	359.66	348.11	3.046	1.227	13-04-2016	40	79	52	-	120
60	MAHANADI	348.70	342.27	0.767	0.275	13-04-2016	36	35	47	319	10
_ ;	SOUTHERN REGION										
	A.P & TG										
*61	SRISAILAM	269.75	241.48	8.288	0.622	13-04-2016	8	30	19	0	770
*62	NAGARJUNA SAGAR	179.83	154.44		0.000	13-04-2016	0	4	23	895	810
	ANDHRA PRADESH										
63	SOMASILA	100.58	91.15	1.994	0.807	13-04-2016	40	15	43	168	0
	<u>TELANGANA</u>										
64	SRIRAMSAGAR	332.54	319.31	2.300	0.142	13-04-2016	6	16	12	411	27
65	LOWER MANAIR	280.42	267.77	0.621	0.078	13-04-2016	13	22	31	199	60

## WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

**GOVERNMENT OF INDIA** 

#### CENTRAL WATER COMMISSION

				WEE	K ENDING :-	13.04.2016						
			CURRENT	LIVE			STORAGE A	STORAGE AS % OF LIVE CAPACITY AT FRL			BENEFITS	
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	
	KARNATAKA							•				
66	KRISHNARAJA SAGRA	752.50	739.17	1.163	0.194	13-04-2016	17	37	26	79		
*67	TUNGABHADRA	497.74	481.45	3.276	0.112	13-04-2016	3	2	4	529	72	
68	GHATAPRABHA	662.95	634.16	1.391	0.075	13-04-2016	5	16	10	317		
69	BHADRA	657.76	641.24	1.785	0.373	13-04-2016	21	47	45	106	39	
70	LINGANAMAKKI	554.43	539.74	4.294	1.153	13-04-2016	27	29	32	-	55	
71	NARAYANPUR	492.25	486.94	0.863	0.203	13-04-2016	24	22	36	425		
72	MALAPRABHA(RENUKA)	633.83	620.96	0.972	0.040	13-04-2016	4	12	9	215		
73	KABINI(Sancherla Tank)	696.16	687.28	0.444	0.048	13-04-2016	11	53	14	85		
74	HEMAVATHY	890.63	873.27	0.927	0.105	13-04-2016	11	14	15	265		
75	HARANGI	871.42	851.99	0.220	0.016	13-04-2016	7	10	16	53		
76	SUPA	564.00	530.04	4.120	1.097	13-04-2016	27	43	35	-		
77	VANIVILAS SAGAR	652.28	635.11	0.802	0.060	13-04-2016	7	5	14	123		
*78	ALMATTI	519.60	507.60	3.105	0.219	13-04-2016	7	9	10	@	290	
*79	GERUSOPPA	55.00	48.42	0.130	0.094	13-04-2016	72	94	85	83	240	
	KERALA											
80	KALLADA(PARAPPAR)	115.82	107.25	0.507	0.308	13-04-2016	61	46	37	62		
*81	IDAMALAYAR	169.00	138.96	1.018	0.289	13-04-2016	28	41	33	33	75	
*82	IDUKKI	732.43	710.64	1.460	0.456	13-04-2016	31	47	34	-	780	
*83	KAKKI	981.46	962.58	0.447	0.205	13-04-2016	46	43	43	23	300	
*84	PERIYAR	867.41	859.31	0.173	0.015	13-04-2016	9	15	28	84	140	
85	MALAPMUZHA	867.41	859.31	0.224	0.024	13-04-2016	9	15	28	84	140	
	TAMIL NADU											
86	LOWER BHAWANI	278.89	261.23	0.792	0.079	13-04-2016	10	19	40	105	8	
*87	METTUR(STANLEY)	240.79	221.08	2.647	0.604	13-04-2016	23	36	44	122	360	
88	VAIGAI	279.20	268.55	0.172	0.019	13-04-2016	11	11	30	61	6	
89	PARAMBIKULAM	556.26	539.77	0.380	0.075	13-04-2016	20	19	39	101		
90	ALIYAR	320.04	305.39	0.095	0.015	13-04-2016	16	77	52	#	60	
*91	SHOLAYAR	1002.79	962.21	0.143	0.019	13-04-2016	14	1	4	<u> </u>	95	
	TOTAL FOR 91 RESERVOIRS			157.799	35.839							

Sd/-

30

\$ 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