BRIEF NOTE ON LIVE STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 19.04.2018)

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 161.993 BCM which is about 63% of the live storage capacity of 257.812 BCM which is estimated to have been created in the country. As per reservoir storage bulletin dated 19.04.2018, live storage available in these reservoirs is 38.989 BCM, which is 24% of total live storage capacity of these reservoirs. However, last year the live storage available in these reservoirs for the corresponding period was 46.297 BCM and the average of last 10 years live storage was 43.394 BCM. Thus, the live storage available in 91 reservoirs as per 19.04.2018 Bulletin is 84% of the live storage of corresponding period of last year and 90% 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 19.04.2018, the total live storage available in these reservoirs is 3.59 BCM which is 20% of total live storage capacity of these reservoirs. The storage during corresponding period of last year was 25% and average storage of last ten years during corresponding period was 27% 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 reservoirs under CWC monitoring having total live storage capacity of 18.83 BCM. As per Reservoir Storage Bulletin dated 19.04.2018, the total live storage available in these reservoirs is 7.41 BCM which is 39% 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 33% of live storage capacity of these reservoirs. Thus, storage during current year is less than the corresponding period of last year but is 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 31.26 BCM. As per Reservoir Storage Bulletin dated 19.04.2018, the total live storage available in these reservoirs is 8.02 BCM which is 26% 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 30% 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 19.04.2018, the total live storage available in these reservoirs is 12.07 BCM which is 29% of total live storage capacity of these reservoirs. The storage during corresponding period of last year was 41% and average storage of last ten years during corresponding period was 28% 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 19.04.2018, the total live storage available in these reservoirs is 7.90 BCM which is 15% of total live storage capacity of these reservoirs. The storage during corresponding period of last year was 11% and average storage of last ten years during corresponding period was 21% 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 8, better than normal storage is available in Mahi, Mahanadi & Neighbouring East Flowing Rivers, Rivers of Kutch and West Flowing Rivers of South. Close to Normal in Ganga, Narmada, Sabarmati and Godavari. Deficient in Indus, Tapi, Krishna and Cauvery & neighbouring EFRs basin and NIL in Highly Deficient.
- Table on page 9-11 of the bulletin. The numbers of reservoirs having storage more than last year are 44 and reservoirs having storage more than average of last ten years are 42. The numbers of reservoirs having storage less than 20% with respect to last year is 4 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 14 and having storage less than or equal to 50% with reference to average of last ten years are 17.

States having better storage (in %) than last year for corresponding period; Rajasthan, West Bengal, Tripura, Maharashtra, Uttarakhand, AP&TG (Two combined projects in both states), Andhra Pradesh Karnataka, Kerala and Tamil Nadu.

States having equal storage (in %) to last year for corresponding period: States having lesser storage (in %) than last year for corresponding period: Himachal Pradesh,Punjab, Jharkhand, Odisha, Gujarat, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, and Telangana.

Disclaimer: The Data contained in this Bulletin is as received from the State Government/Project Authorities.

STORAGE STATUS OF IMPORTANT RESERVOIRS IN THE COUNTRY

percent of last year's storage and

AS ON 19.04.2018

90 percent of the average of last ten years.

- 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 19.04.2018 is 38.989 BCM (24 percent of the live storage capacity at FRL). The current year's storage

3 Region wise storage status:-

84

is nearly

Region wise storage status:											
		Filling	positio	n of 91	reserv	oirs w	.r.t. FR	<u>L</u>			
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	-	-	-	-	6	H.P. PUNJAB RAJASTHAN	-38 % -46 % 28 %	
EAST (Jharkhand,Odisha, Tripura & W.Bengal (15 Resv.)	-	-	-	-	1	2	5	7	JHARKHAND ODISHA W. BENGAL TRIPURA	14 % 11 % 124 % 236 %	
WEST (Guj.& Mah.), (27 Resv.)	1	-	1	-	-	2	7	17	GUJARAT MAH.	-37 % 13 %	
CENTRAL (MP,UP,Uttarakhand & Chh.), (12 Resv)	-	-	-	-	-	2	2	8	U.P. UTTARAKHAND M.P. CHHATISGARH	-22 % -36 % 11 % 7 %	
SOUTH (Karnataka,TN,AP&TG,AP, TG, & Kerala), (31 Resv.)	-	-	1	1	-	-	1		AP&TG A,P TG KARNATAKA KERALA T.N.	-61 % -54 % -32 % -9 % 24 % -62 %	
Status of 91 reservoirs	0	0	2	1	1	6	15	66		- 1111	

4 Basin wise storage position:

Better than normal: Mahi, Mahanadi & Neighbouring EFRS, Rivers of Kutch and West Flowing Rivers of South .

Close to normal: Ganga, Narmada, Sabarmati and Godavari, .

Deficient: Indus, Tapi, Krishna and Cauvery & neighbouring EFRS.

Highly deficient: NIL

5 Out of 91 reservoirs, 55 reservoirs reported more than 80% of normal storage & 36 reservoirs reported 80% or below of normal storage. Out of these 36 reservoirs 17 having storage upto 50% of normal

storage.

Name of reservoir	%	Name of reservoir
SHOLAYAR	0	
SARDAR SAROVAR	0	
ALIYAR	0	
YELDARI	0	
ISAPUR	0	
VANIVILAS SAGAR	8	
NAGARJUNA SAGAR	13	
PARAMBIKULAM	20	
METTUR(STANLEY)	32	
KRISHNARAJA SAGRA	38	
BHADRA	40	
TAWA	40	
VAIGAI	43	
PENCH (TOTALADOH)	43	
SOMASILA	46	
BALIMELA	49	
PONG DAM	50	

upto 50% of normal									
19 reservors									
having storage 51%									
to 80% of normal									
storage	storage.								
51%	51% 61%								
to	to	to							
60%	70%	80%							
7	9	3							

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

23 reservoirs

WEEKLY REPORT - BASINWISE

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 19.04.2018

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	7.747 27	7.57%	12.291	43.75%	7.863	27.99%	-1.48	
INDUS	14.730	2.432 16	6.51%	3.405	23.12%	4.021	27.30%	-39.52	
NARMADA	21.608	4.671 21	1.62%	6.149	28.46%	4.742	21.95%	-1.50	
TAPI	7.394	1.617 21	1.87%	3.513	47.51%	2.705	36.58%	-40.22	
MAHI	4.012	1.623 40	0.45%	1.724	42.97%	1.537	38.31%	5.60	
SABARMATI	0.735	0.129 17	7.55%	0.219	29.80%	0.159	21.63%	-18.87	
RIVERS OF KUTCH	0.887	0.204 23	3.00%	0.062	6.99%	0.110	12.40%	85.45	
GODAVARI	15.394	3.615 23	3.48%	4.759	30.91%	3.994	25.95%	-9.49	
KRISHNA	32.831	4.589 13	3.98%	2.595	7.90%	5.948	18.12%	-22.85	
MAHANADI & NEIGHBOURING EFRS	13.181	6.273 47	7.59%	7.062	53.58%	5.235	39.72%	19.83	
CAUVERY& NEIGHBOURING EFRS	8.359	1.164 13	3.93%	0.705	8.43%	2.433	29.11%	-52.16	
WEST FLOWING RIVERS OF SOUTH	14.766	4.925 33	3.35%	3.813	25.82%	4.647	31.47%	5.98	
TOTAL	161.993	38.989		46.297	·	43.394	•		
PERCENTAGE								-10.15	

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

	GOVERNMENT OF INDIA			19.04.2018		WIWIIOOION					
			CURRENT	LIVE			STORAGE AS	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
	NORTHERN REGION										
	HIMACHAL PRADESH										
*1	GOBIND SAGAR(BHAKRA)	512.06	470.01	6.229	1.158	19-04-2018	19	15	25	676	1200
*2	PONG DAM PUNJAB	423.67	394.30	6.157	0.786	19-04-2018	13	18	26	-	360
*3	THEIN	527.91	496.53	2.344	0.488	19-04-2018	21	58	38	348	600
	RAJASTHAN										
*4	MAHI BAJAJ SAGAR	280.75	269.95	1.711	0.594	18-04-2018	35	35	26	63	140
5	JHAKAM	359.50	347.10	0.132	0.040	19-04-2018	30	29	17	28	-
*6	RANA PRATAP SAGAR	352.81	347.61	1.436	0.525	19-04-2018	37	29	31	229	172
	EASTERN REGION	i									
	<u>JHARKHAND</u>										
7	TENUGHAT	269.14	258.21	0.821	0.350	16-04-2018	43	46	36	-	-
8	MAITHON	146.3	144.19	0.471	0.329	16-04-2018	70	72	44	342	-
*9	PANCHET HILL	124.97	121.87	0.184	0.058	16-04-2018	32	57	49	\$	80
10	KONAR	425.81	417.15	0.176	0.050	16-04-2018	28	30	47	\$	-
11	TILAIYA	368.81	364.39	0.142	0.017	16-04-2018	12	29	22	\$	4
	<u>ODISHA</u>										
*12	HIRAKUD	192.02	186.94	5.378	2.073	19-04-2018	39	40	35	153	307
*13	BALIMELA	462.08	443.76	2.676	0.360	18-04-2018	13	42	27	-	360
14	SALANADI	82.30	70.55	0.558	0.228	19-04-2018	41	29	26	42	-
*15	RENGALI	123.50	118.73	3.432	1.899	18-04-2018	55	73	36	3	200
*16	MACHKUND(JALPUT)	838.16	832.01	0.893	0.450	18-04-2018	50	31	46	-	115
*17	UPPER KOLAB	858.00	850.11	0.935	0.285	18-04-2018	30	48	33	89	320
*18	UPPER INDRAVATI	642.00	631.98	1.456	0.497	18-04-2018	34	43	34	128	600
	WEST BENGAL										
	MAYURAKSHI	121.31	115.40	0.480	0.222	16-04-2018	46	25	22	227	-
20	KANGSABATI	134.14	127.86	0.914	0.422	16-04-2018	46	31	20	341	-
	TRIPURA										
21	GUMTI WESTERN REGION	93.55	90.25	0.312	0.168	17-04-2018	54	40	16	-	15
	GUJARAT	•									
*22	UKAI	105.16	91.98	6.615	1.451	19-04-2018	22	49	38	348	300
	SABARMATI(DHAROI)	189.59	180.96			19-04-2018	18	30	22		1
	KADANA	127.7	122.25			19-04-2018	47	56	53		120
	SHETRUNJI	55.53	49.87			19-04-2018	16	17		36	-
	BHADAR	107.89	102.98		0.049	19-04-2018	22	3		27	
	DAMANAGANGA	79.86	72.75			19-04-2018	40	31	41	51	1
	DANTIWADA	184.1	174.35		0.114	19-04-2018	29	1	4	45	
	PANAM	127.41	122.90			19-04-2018	42	38	43	36	
	SARDAR SAROVAR	138.68	104.71			19-04-2018	0	19		2120	1450
	KARJAN	115.25	105.90			19-04-2018	53	37		51	3

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 19.04.2018												
			CURRENT	LIVE			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	
	MAHARASHTRA			I.	I						<u> </u>	
32	JAYAKWADI(PAITHON)	463.91	460.35	2.171	0.985	19-04-2018	45	34	18	227	_	
	KOYANA	657.90	644.68	2.652	1.467	19-04-2018	55	26	45	-	1920	
34	BHIMA(UJJANI)	496.83	492.74	1.517	0.366	19-04-2018	24	13	18	125	12	
35	ISAPUR	441.00	425.49	0.965	0.000	18-04-2018	0	19	30	104	_	
36	MULA	552.30	542.89	0.609	0.211	19-04-2018	35	33	30	139	-	
37	YELDARI	461.77	447.58	0.809	0.000	19-04-2018	0	9	14	78	-	
38	GIRNA	398.07	386.31	0.524	0.093	19-04-2018	18	34	18	79	-	
39	KHADAKVASLA	582.47	581.71	0.056	0.046	19-04-2018	82	95	46	78	8	
*40	UPPER VAITARNA	603.50	595.73	0.331	0.110	19-04-2018	33	44	46	-	61	
41	UPPER TAPI	214.00	210.30	0.255	0.073	19-04-2018	29	38	44	45	-	
*42	PENCH (TOTALADOH)	490.00	471.39	1.091	0.126	19-04-2018	12	12	27	127	160	
43	UPPER WARDHA	342.50	338.02	0.564	0.234	19-04-2018	41	42	35	70	-	
44	BHATSA	142.07	119.82	0.942	0.445	19-04-2018	47	48	43	29.378	15	
45	DHOM	747.70	736.25	0.331	0.115	19-04-2018	35	33	31	36.2	2	
46	DUDHGANGA	646.00	632.05	0.664	0.281	19-04-2018	42	36	39	2.441	24	
47	MANIKDOH (KUKADI)	711.25	693.92	0.288	0.061	19-04-2018	21	7	7	2.2	6	
48	BHANDARDARA CENTRAL REGION	744.91	734.03	0.304	0.151	19-04-2018	50	42	36	63.74	46	
40	MATATILA	308.46	202.28	0.707	0.178	10.04.2010	25	37	45		30	
	RIHAND	268.22	303.28 256.61	5.649	1.025	18-04-2018 19-04-2018	25 18	43	22	-	300	
30	UTTRAKHAND	200.22	250.01	3.049	1.025	19-04-2010	10	40	22	_	300	
*51	RAMGANGA	365.30	334.51	2.196	0.499	19-04-2018	23	17	37	1897	198	
	TEHRI	830.00	755.50	2.615	0.499	19-04-2018	11	12	16	2351	1000	
52	MADHYA PRADESH	000.00	700.00	2.010	0.233	13 04 2010		12	10	2001	1000	
*53	GANDHI SAGAR	399.90	387.27	6.827	1.219	19-04-2018	18	58	25	220	115	
	TAWA	355.40	338.33	1.944		19-04-2018	9	24	23	247	-	
	BARGI	422.76	417.60	3.180		19-04-2018	59	37	33	157	90	
	BANSAGAR	341.64	334.59	5.166		19-04-2018	46	60	37	488	425	
*57	INDIRA SAGAR	262.13	250.66	9.745	2.304	18-04-2018	24	32	21	2380	1000	
58	BARNA	348.55	339.78	0.456	0.040	19-04-2018	9	31	16	546	-	
	CHHATTIS GARH											
*59	MINIMATA BANGOI	359.66	352.21	3.046	1.735	18-04-2018	57	62	54	-	120	
60	MAHANADI	348.70	343.28	0.767	0.338	18-04-2018	44	44	40	319	10	
;	SOUTHERN REGION											
	A.P & TG	•										
*61	SRISAILAM	269.75	244.45	8.288	0.751	19-04-2018	9	9	15	0	770	
*62	NAGARJUNA SAGAR	179.83	156.36	6.841	0.146	19-04-2018	2	0	16	895	810	
	ANDHRA PRADESH											
63	SOMASILA	100.58	85.43	1.994	0.375	19-04-2018	19	14	41	168	0	
	<u>TELANGANA</u>											
64	SRIRAMSAGAR	332.54	320.62	2.300	0.205	19-04-2018	9	20	13	411	27	
65	LOWER MANAIR	280.42	269.26	0.621	0.111	19-04-2018	18	25	26	199	60	

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

				WEE	K ENDING :-	19.04.2018						
								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	736.95	1.163	0.110	19-04-2018	9	10	25	79	-	
*67	TUNGABHADRA	497.74	481.65	3.276	0.120	19-04-2018	4	2	7	529	72	
68	GHATAPRABHA	662.95	643.28	1.391	0.321	18-04-2018	23	11	10	317	-	
69	BHADRA	657.76	639.11	1.785	0.265	18-04-2018	15	8	38	106	39	
70	LINGANAMAKKI	554.43	538.15	4.294	0.963	19-04-2018	22	14	27	-	55	
71	NARAYANPUR	492.25	487.29	0.863	0.229	19-04-2018	27	15	30	425	-	
72	MALAPRABHA(RENUKA)	633.83	621.99	0.972	0.071	18-04-2018	7	4	8	215	-	
73	KABINI(Sancherla Tank)	696.16	687.92	0.444	0.068	19-04-2018	15	1	13	85	-	
74	HEMAVATHY	890.63	873.43	0.927	0.108	19-04-2018	12	5	11	265	-	
75	HARANGI	871.42	856.08	0.220	0.038	19-04-2018	17	15	15	53	-	
76	SUPA	564.00	537.67	4.120	1.595	19-04-2018	39	35	31	-	-	
77	VANIVILAS SAGAR	652.28	631.64	0.802	0.009	17-04-2018	1	3	14	123	-	
*78	ALMATTI	519.60	508.74	3.105	0.341	19-04-2018	11	0	9	@	290	
*79	GERUSOPPA	55.00	50.97	0.130	0.107	19-04-2018	82	92	84	83	240	
	<u>KERALA</u>											
80	KALLADA(PARAPPAR)	115.82	110.27	0.507	0.368	19-04-2018	73	19	35	62	-	
*81	IDAMALAYAR	169.00	139.74	1.018	0.304	19-04-2018	30	29	30	33	75	
*82	IDUKKI	732.43	712.62	1.460	0.525	19-04-2018	36	20	31	-	780	
*83	KAKKI	981.46	964.66	0.447	0.223	19-04-2018	50	28	39	23	300	
*84	PERIYAR	867.41	860.13	0.173	0.027	19-04-2018	16	7	24	84	140	
85	MALAPMUZHA	115.06	102.50	0.224	0.031	19-04-2018	14	12	21	21	3	
	TAMIL NADU											
86	LOWER BHAWANI	278.89	265.36	0.792	0.168	19-04-2018	21	9	26	105	8	
*87	METTUR(STANLEY)	240.79	215.02	2.647	0.279	19-04-2018	11	6	33	122	360	
88	VAIGAI	279.20	268.44	0.172	0.018	19-04-2018	10	3	24	61	6	
89	PARAMBIKULAM	556.26	536.30	0.380	0.024	19-04-2018	6	4	32	101	-	
90	ALIYAR	320.04	299.74	0.095	0.000	19-04-2018	0	21	48	#	60	
*91	SHOLAYAR	1002.79	955.48	0.143	0.000	19-04-2018	0	0	3	-	95	
	TOTAL FOR 91 RESERVOIRS			161.993	38.989							
	PERCENTAGE						24	29	27			

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

[†] SABARMATI RESERVOIR IS SUPPLEMENTED WITH NARMADA WATER THROUGH PIPELINE.