



Technical Cell

Gujarat Water Supply & Sewerage Board

Jalseva Bhavan Sector-10 A, Gandhinagar- 382010.

(N.H. Patel)

Chief Engineer

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Date: 6/9/2015
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To,

The Additional Secretary & CE, Sachivalaya, Gandhinagar

The Chairman, GWSSB, Gandhinagar

The Member Secretary, GWSSB, Gandhinagar

The CE(M&P), GWSSB, Gandhinagar

The CE, Zone-I,II,III,IV,V Vadodara,Ahmedabad,Rajkot,Bhuj,Junagadh

The CE, Material (civil)/, CE(Mech) GWSSB, Gandhinagar


The Project Director, Urban cell, GWSSB, Gandhinagar

Subject:- Proceeding of the meeting 120th Technical Scrutiny Committee.

I am sending herewith the proceeding of the 118th Technical Scrutiny Committee Meeting held in Board conference Room at Gandhinagar on Dt. 15/9/2015.

It is requested to convey your suggestions, if any as early as possible.

DA : As above


(N.H.patel)

Chief Engineer,
(Technical)

Copy respectfully forwarded to,

- Shri B.D.Vaghela,15- Meera Madhav Apartment, 40- Preetamnagar, Ahmedabad 382 306, (Mob- 9909510273)
- Shri R.B.Sheth,Consultant ,Vadodara(M-9978105553)
- Shri N.S.Bhadesia,5,Aandan villa,Petoleum University Road,Raisan,Gandhinagar:382007
- All Executive Engineer,(Tech.Cell & Moni Cell), HO,GWSSB,Gandhinagar

**Minutes of 120th Technical Scrutiny Committee meeting of GWSSB
held on Dt. 15-9-2015**

Date of Meeting	:	15-9-2015
Venue	:	GWSSB, Board conference Room, Gandhinagar
Participants	:	Shri Mahesh singh, Member Secretary, Shri Ravi Solanki, Additional Secretary & CE Shri N.H. Patel, C.E. Tech.Cell, GWSSB, Shri D.G.Chodhri,C.E. Zone II &M&P Shri.B.B. Patel, CE, Zone-I, Vadodara, GWSSB Shri R.N.Patel, CE ,Zone- III, Rajkot,GWSSB Shri A.S.Rathava,CE,Zone-IV, Kattch,GWSSB Shri N.M.Patel, CE, Zone-V, Junagadh,GWSSB Shri R.G.Ramchandani,SE ,Moni Cell ,GWSSB Shri K.K.Patel SE, Vadodara,GWSSB. Shri B.H.Joshi,SE.Palanpur,GWSSB. Shri J.P.Parmar,SE,Urban cell GWSSB. Shri B.L. Vaghela,SE(M), Junagadh GWSSB. Shri D.K.Pandya,S.Geohydrolosist Shri M.C.Mehta , Consultant of GWSSB Shri R.B.Sheth , Consultant of GWSSB Shri Pranab Kumar Mohapatra, Consultant of GWSSB Shri B.D.Vaghela, Consultant of GWSSB. Shri B.B. Singh & Team,TCEL

Member Secretary, GWSSB welcomed all the members and asked concerned officers to brief the committee about their schemes.

Agenda NO. 1: Method of Population forecasting for design of water supply scheme.

At present all the water supply projects are prepared on the basis of population growth of 30 years as 50% increase on the base year population.

Trend of population growth is continuously changing and the prevailing method is being implemented almost since the existing of board.

It had been observed that in rural areas Surat & Gandhinagar district there is negative trend of population growth and in the rural areas of Kachchh, Banaskantha and Dahod the decadal increase ranges from 21 to 30%.

In the above situation the water supply schemes are under designed or over designed.

A example of population growth of rural area of Gujarat was worked out by three methods of population forecast out of which geometric progression system proved to be appropriate.

Rate of water supply in rural areas is considered as 100 lpcd which does not include any other demand for offices, schools, institution, bus stops, railway stations, hospitals etc.

As per Indian Standard code -1172 of drinking water it is suggested to consider the other demand also over and above the per capita standards.

It was discussed that practically water connections are given to schools, hospitals, institution etc from regional water supply scheme and demand of which is not considered in preparation of the water supply projects.

The detail work out of about 25% was made for the above water requirement but with the caution consideration it was decided to consider 15% water requirement for above requirement.

It was observed that 15% of Unaccounted for Water is considered in preparation of water supply projects, it was discussed at length and ultimately it was decided to consider only 10% for Unaccounted for Water.

It was also discussed to work out standard multiplying factor for group of districts. Hence multiplying factor of 1.35 to 2.0 for population projection of 30 years was decided for various groups of districts (Annexed)

In some districts such as Dahod the actual multiplying factor is 2.79 but the caution decision was taken to consider factor of 2.0 as upper limit.

.Hence it is approved that while designing the RWSS now onwards the multiplying factor shall be adopted as per **Annexure -- A** for different districts falling in particular cluster i.e. ranging from 1.35 to 2.

Whereas it was also decided that while designing of the Urban Projects the population projection shall be adopted the population computed by best suitable method from all the three methods namely Arithmetical increase method, Incremental increase method and Geometrical increase method. **(Sample calculation of working out best suitable method is Annexed)**

Agenda NO. 2: Single bid tender policy

Since few previous meetings of TPC-1 as well as TPC-2, it has come to the notice that some of tenders which are put before the TPC-1 or TPC-2 for consideration and approval are either single bid or in many cases during technical evaluation only single agency has qualified and hence in that case also tender becomes single bid. The committee therefore was of the opinion that in order to have a healthy competition a policy must be framed for such Single bid tenders.

In R & B, Irrigation, SSNNL & CPWD department there is no circular or guideline for approval of single bid tender. In general practice the R & B, Irrigation, SSNNL, CPWD the single bid tender is first rejected and second attempt is made or in some cases it is approved by one step higher authority.

After detailed discussion on the agenda committee unanimously came to the following conclusion regarding the policy for single bid tender in GWSSB.

For single bid tender in first attempt the bid shall be out-right reject in preliminary stage itself and second attempt shall be made.

The tenders in which more than one bidder has participated during preliminary stage but only one agency is technically qualified during the prequalification, then in such case also the tender is to be considered as Single Bid and the tender is to be rejected without further opening of the financial bid and second attempt shall be made.

In case of second attempt if the bid is single in nature then the nature of work, urgency of the project with appropriate justification shall be considered and shall be put before the TPC for consideration and approval of the single bid in second attempt.

Agenda No.	District	Name of Scheme	Estimated cost (Rs. in lacs)	
			Net	Gross
3.	Mehsana	Narmda and N.C.D-5 based Gozariya Rurban water supply scheme	588.42	693.46

The CE, Zone-II, Ahmedabad, GWSSB briefed the committee about this project, its coverage and design concept *after detailed discussions the committee has approved the project.*

1. The diameter/Type /class of the pipe should be proposed as per considering Velocity and Head of pipe section and as per guidelines of 112/Ath TSC.
2. All RCC/Brick masonry Pump Room Replace by Prefabricated Pump Room.

Agenda No.	District	Name of Scheme	Estimated cost (Rs. in lacs)	
			Net	Gross
4	Chhota Udepur	Blanket recharging project, Taluko Kwant	1060.55	1249.86

The CE. Zone-I, Vadodara, briefed the committee about this project, its coverage and design concept *after detailed discussions the committee has approved the project.* 33


I. In Future possibility of Hydrofacturing Check for Recharging

Agenda NO	District	Name of Scheme	Estimated cost (Rs. in lacs)	
			Net	Gross
5.	Morbi	Morbi Town based on Machhu Dame-2 water supply scheme	13061.00	13844.00

The CE, Zone-3, Rajkot, briefed the committee about this project, its coverage and design concept *after detailed discussions the committee has approved the project.*

1. The diameter/Type /class of the pipe should be proposed as per considering Velocity and Head of pipe section and as per guidelines of 112/Ath TSC.

Above meeting was adjourned after vote of thanks by Hon. Chairman of the committee.


(N.H. Patel)
Chief Engineer.
(Technical)

ANNEXURE-A.

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Statement showing suggested method of population projection and computing water demand

Sr.No	District	Population in 2001	Population in 2011	% increase	Multipl ying factor for 30 years	Commo n multipl ying factor	Add 15% for other deman d	Add 10% for NRW	Total	Suggest ed multipl ying factor
1	Gandhinagar	867195	791126	-8.77	0.76					
2	Surat	1349238	1232109	-8.68	0.76					
3	Ahmadabad	1152986	1151178	-0.16	1.00					
4	Baruch	1018096	1026060	0.78	1.02					
5	Rajkot	1544019	1590508	3.01	1.09					
6	Navsari	893110	920535	3.07	1.09	1.1	0.165	0.11	1.375	1.35
7	Valsad	1029392	1070177	3.96	1.12					
8	Amreli	1080960	1127555	4.31	1.13					
9	Vadodara	1995580	2099855	5.23	1.17					
10	Junagadh	1736645	1836670	5.76	1.18					
11	Mahesana	1426175	1520734	6.63	1.21	1.2	0.18	0.12	1.5	1.5
12	Anand	1348901	1457758	8.07	1.26					
13	Porbandar	275460	299775	8.83	1.29					
14	The Dangs	186729	203604	9.04	1.30	1.3	0.195	0.13	1.625	1.6
15	Kheda	1617766	1776276	9.8	1.32					
16	Bhavnagar	1534592	1697964	10.65	1.35					
17	Sabarkantha	1857402	2064869	11.17	1.37					
18	Jamnagar	1068022	1189054	11.33	1.38					
19	Tapi	650119	727535	11.91	1.40	1.4	0.21	0.14	1.75	1.75

[Signature]
A.E. TechCell

Sr.No	District	Population n 2001	Population n 2011	% increase	Multipl ying factor for 30 years	Commo n multipl ying factor	Add 15% for other deman d	Add 10% for NRW	Total	Suggest ed multipl ying factor
20	Patan	944281	1062653	12.54	1.43					
21	Surendranagar	1112700	1259352	13.18	1.45					
22	Narmada	462298	528425	14.3	1.49	1.5	0.225	0.15	1.875	1.85
23	Panchmahals	1771915	2055949	16.03	1.56	1.56	0.2343	0.1562	1.95	
24	Banaskantha	2228743	2705591	21.4	1.79	1.79	0.2684	0.1789	2.24	
25	Kachchh	1108333	1363836	23.05	1.86	1.86	0.2795	0.1863	2.33	
26	Dahod	1480110	1935461	30.76	2.24	2.24	0.3354	0.2236	2.79	2.0

Abdul...
SE. Tech Cell.

Annexure-B

Methods of population forecasting

- Arithmetic increase method
- Incremental increase method
- Geometric increase method

Process of selection of the population forecast method

Population forecast shall be calculated with all three methods with the available data excluding latest available data.

Forecast to be made for the latest year for which data is already available.

Result of forecast by all the three methods to be compared and method by which results are nearer to the available data is the suitable method.

Future forecast shall be done as per the best suitable method.

Example of Gujarat State:

Arithmetic increase method

Year	Total Population of in crores	Arithmetic increase
1951	1.62	
1961	2.06	0.44
1971	2.66	0.60
1981	3.41	0.75
1991	4.1	0.69
2001	5.07	0.97
	Average	0.69
2011	5.76	5.07+0.69
2011	6.04	Actual

Difference between projected and actual= (-) 0.28

0 increase method

Year	Total Population of in crores	Arithmetic increase	Incremental increase
1951	1.62		
1961	2.06	0.44	
1971	2.66	0.60	0.16
1981	3.41	0.75	0.15
1991	4.1	0.69	-0.06
2001	5.07	0.97	0.28
	Average	0.69	0.13
2011	5.89	5.07+0.69+0.13	
2011	6.04	Actual	

Difference between projected and actual= (-) 0.15

Geometric increase method

Year	Total Population of in crores	% growth
1951	1.62	
1961	2.06	27.16
1971	2.66	29.13
1981	3.41	28.20
1991	4.1	20.23
2001	5.07	23.66
	Average	25.68
2011	6.37	5.07x1.2568
2011	6.04	Actual

Difference between projected and actual= (+) 0.33

Out of three methods first two methods projections are under estimated hence could not be treated as reliable.

Geometric increase method gives results of projections slightly overestimated and could be considered for planning.