

## Administration, Conservation Credits, and Waivers for Proposed Production Fees

The HTGCD has draft legislation that includes production fees as a revenue source that will supplant some portion of the current connection fees. Production fees are based on predictable and actual aquifer withdrawal rather than on one-time, growth-based connection fees.

Production fees are commonly legislated through Chapter 36 of the Water Code and are widely used to fund GCDs across the state.

The Board would like to explore management options for these proposed production fees especially in the cases of exemplary conservation efforts and for normal non-revenue consumption. These uses are referred to as *Unbilled Authorized Consumption* which consist of loss during repairs such as meter replacement, water treatment, line flushing, and emergency use. And some consideration may be given to *Unbilled Real Losses* that are a result of main or branch breaks and emergency repairs.

All utilities have some loss in the course of providing water to customers across a geographic area. As of today, the TWDB reports a statewide average loss of 24.76% -or- 1,033 gallons/mile of line/day of produced water<sup>1</sup>. PWSs in the District report an average line loss of 13.65% with a high of 28.25% and a low of -2.75%. These variables are due to age of system, density of service, miles of pipe, soil conditions, and most importantly – an active dedication to infrastructure maintenance.

Leak Rates from Holes of Known Sizes

Area of leak square inches	Gallons per minute (gpm)					
	Pressure pounds per square inch (psi)					
	10	20	40	60	80	100
0.005	0.5	0.8	1.1	1.3	1.5	1.7
0.010	1.1	1.5	2.2	2.6	3.1	3.4
0.025	2.7	3.8	5.4	6.6	7.6	8.5
0.050	5.4	7.6	11	13	15	17
0.075	8.1	11	16	20	23	26
0.100	11	15	22	26	31	34
0.200	22	31	43	53	61	68
0.300	32	46	65	79	92	102
0.400	43	61	86	106	122	136
0.500	54	76	108	132	153	171
0.600	65	92	129	159	183	205
0.700	76	107	151	185	214	239
0.800	86	122	173	211	244	273
0.900	97	137	194	238	275	307
1.000	108	153	216	264	305	341
1.100	119	168	237	291	336	375
1.200	129	183	259	317	366	409
1.300	140	198	280	343	397	443
1.400	151	214	302	370	427	478
1.500	162	229	324	396	458	512
1.600	173	244	345	423	488	546
1.700	183	259	367	449	519	580
1.800	194	275	388	476	549	614
1.900	205	290	410	502	580	648
2.000	216	305	431	528	610	682
2.500	270	381	539	661	763	853
3.000	324	458	647	793	915	1,023
4.000	431	610	863	1,057	1,220	1,364

The above table is based on the following formula:

Flow = 2.8 x Area x Square Root of (148 x Pressure)

Flow – gallons per minute (gpm), Area – square inches, Pressure – pounds per square inch (psi)

<sup>1</sup>Water Loss Audit Historical Data: Summary of Water Loss Audits Reports (accessed 3/30/2021)

<https://www3.twdb.texas.gov/apps/reports/WLA/SummaryAuditsByCategory>