

D7. RELATIONSHIP BETWEEN REAL LOSSES EXPRESSED AS % OF SYSTEM INPUT

D7a. Real losses curve definition

Curve Definition					
Consumption litres/serv conn/day	Real losses in litres/service connection/day				
	50	100	200	500	1000
100	33.3	50.0	66.7	83.3	90.9
250	16.7	28.6	44.4	66.7	80.0
500	9.1	16.7	28.6	50.0	66.7
1000	4.8	9.1	16.7	33.3	50.0
2000	2.4	4.8	9.1	20.0	33.3
3000	1.6	3.2	6.3	14.3	25.0
5000	1.0	2.0	3.8	9.1	16.7
10000	0.5	1.0	2.0	4.8	9.1

D7b. Components of water balance in litres/service connection/day (Actual Results)

System Input Volume = 1,171	Total Consumption = 1,069	Billed Authorised Consumption = 1,010	Authorised Consumption = 1,043	Revenue Water = 1,010
		Unbilled Authorised Consumption = 33		Total Losses = 127
		Apparent Losses = 25		
		Real Losses = 102		

D7c. Current Real Losses as % of System Input Volume

Details	Calculation	Actual Result	Units
System Input Volume	from D7b	1,171	Litres/conn/day
Total Consumption	from D7b	1,069	Litres/conn/day
Annual Real Losses	from D7b	102	Litres/conn/day
ARL as % of System Input	$ARL / \text{System input volume} \times 100$	9	%

D7d. Potential Real Losses as % of System Input Volume

Details	Calculation	Actual Result	Units
Unavoidable Annual Real Losses (UARL)	from D3	43	Litres/conn/day
Target Loss Factor (TLF)	User defined for each system	3	Dimensionless
Target Annual Real Losses (TARL)	$TLF \times UARL$	129	Litres/conn/day
Current Annual Real Losses (CARL)	CARL from D5a	102	Litres/conn/day
Potential savings	$CARL - TARL$	-27	Litres/conn/day
Potential ARL as % of System Input	$TARL / (\text{System input volume} - \text{Potential savings}) \times 100$	11	%

D7e. Real Losses as a % of System Input Volume versus Consumption in litres/service connection/day for different values of Real Losses in litres/service connection/day

