



Water Quality Goal Comparison 1998 and 2013

<u>Water Quality Goal</u>	<u>1998</u>	<u>Potential Revision</u>	<u>Comments</u>
Disinfection			
Turbidity	<0.1 NTU	None	Common goal for granular filter plants.
Giardia	≥3 logs	≥5 logs	With UV this is achievable
Virus	≥4 logs	≥5 logs	UV will add less than 1 log inactivation, so the remaining 3 logs (after 2 log credit for conventional treatment) must be achieved through chlorine contact. Need to balance DBP goals.
Cryptosporidium	≥5 logs	≥6 logs	With UV this is achievable (UV designed for 3 log and conventional treatment provides 3 log)
Regrowth (Distribution System)			
BDOC	<300 $\mu\text{g/l}$	NA	No measurements available. Suggestion is to develop a baseline of data first before discussing a goal.
AOC	<500 $\mu\text{g/l}$	NA	Same as above.
Chloramine Decay rate	≤ current	≤ current	AWTF is collecting data in distribution system for nitrification parameters and should continue.
Ammonia	None set	0.2 to 0.4 mg/l	Lower is better for regrowth and nitrification

Chloramine residual leaving plant	None set	2.0 to 2.2 mg/l. >1.0 at all times	
Fluoride	None set	0.7 to 1.0 mg/l	Lower end of the range is preferred
DBPs			
THMs	<40 ug/l	<40 ug/l	This is half the regulatory level. Achievable with UV, but if UV is off line more chlorine contact time is needed.
HAAs	<30 ug/l	<30 ug/l	Same as above
TOC	30% removal	40% to 50% removal	Lime softening can achieve this most times, but depends on raw water quality.
Bromate	< 8 ug/l	< 8 ug/l	This is 80% of regulations. Less applicable unless future ozone is installed.
Corrosion Control			
pH	9.2	8.7 to 8.9	Lower pH is better for disinfection and THM DBPs
Alkalinity	40 mg/l as CaCO ₃	20 to 90 as CaCO ₃	Need to factor in pH, alkalinity and calcium into a calcium carbonate precipitation potential goal instead of individual goals. Higher alkalinity is generally better for distribution system water stability and corrosion.
Hardness	85 mg/l as CaCO ₃	50 to 150 mg/l as CaCO ₃	Depends on raw water quality.
Phosphate	None	0.6 to 0.8 mg/l	Helps with lead/copper corrosion control.
Taste and Odor			
	< 3 TON	< 3 TON	PAC dose is the main method to control taste and odor.