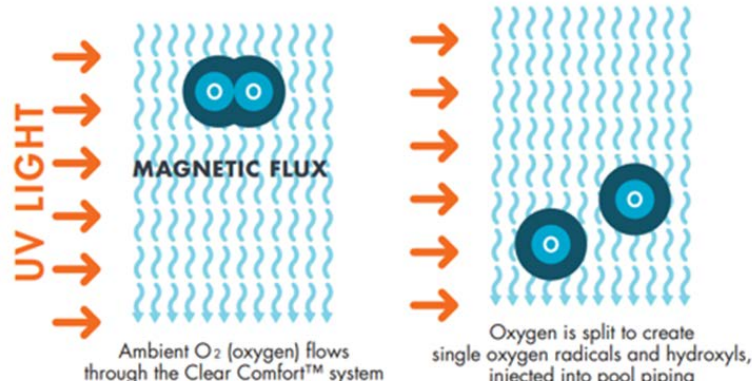


**Advanced oxidation secondary pool-water disinfection**

Date reviewed: 10/01/2017

Description of Technology		Energy Saving Opportunity		
<p>Advanced oxidation methods are employed to provide secondary water disinfection by using UV light in a process to split O<sub>2</sub> and allow for the formation of disinfecting hydroxyl molecules. By using magnets to assist in the formation of hydroxyl molecules, this technology reduces the UV lighting power consumption necessary to provide the proper amount of secondary disinfection to the pool water.</p>		Sector(s):	Residential	
		<input checked="" type="checkbox"/>	Commercial & Industrial	
		Applicability Criteria:	Commercial pools, spas, water parks that require secondary UV disinfection.	
		Efficiency Improvement:	Electricity Savings	
		Energy (%) Savings Potential:	Up to approximately 90% in UV lighting power only	
		Demand (%) Reduction Potential:	None	
Strengths		Weakness		
<ul style="list-style-type: none"> <li>Simple implementation.</li> <li>Reduces chlorine consumption.</li> <li>Potential to impact HVAC system energy consumption with air quality changes from chemical savings.</li> </ul>		<ul style="list-style-type: none"> <li>Secondary filtration is not required in all commercial pool spaces.</li> <li>UV light power consumption in secondary filtration is small relative to primary filtration and pumping systems.</li> </ul>		
Third Party Analysis/ Previous MTAC Reviews		Suppliers Known to MTAC	MTAC Status	
NSF 50 - Standard for commercial pool spaces		Clear Comfort	Acknowledged to have energy savings potential and referred to individual PA for their own EE program consideration	
Market Development Issues		 <p>The diagram illustrates the process of oxygen splitting. On the left, 'UV LIGHT' is represented by five orange arrows pointing right. In the center, 'MAGNETIC FLUX' is represented by blue wavy lines. Below this, text states: 'Ambient O<sub>2</sub> (oxygen) flows through the Clear Comfort™ system'. On the right, another set of five orange arrows points right, with text below stating: 'Oxygen is split to create single oxygen radicals and hydroxyls, injected into pool piping'. The background of the diagram features blue wavy lines.</p>		
Cost:	\$10,000-\$30,000			
Market Risk and Barriers:	None			
Time to Market:	Currently on market			
Simple Pay-back: (Years)	Varies			