

**San Joaquin Valley
Unified Air Pollution Control District**

Best Performance Standard (BPS) x.x.xx

Date: January 20, 2011

Class	VOC Control Devices
Category	Non-Catalytic Thermal Oxidizers for VOC Control
Best Performance Standard	<p style="text-align: center;">GROUP A: CLEAN AIR STREAMS</p> <p>A clean air stream is an air stream that is either clean or cleanable to the level that a regenerative type thermal oxidizer and/or a concentrator may be employed without damage or loss of performance due to contamination.</p> <p><u>Contaminated air stream \leq 0.23% Lower Explosive Limit (LEL):</u></p> <p>Regenerative Thermal Oxidizer with a Concentrator (hot gas by-pass system is allowed, but not required). A concentrator is not required for influent contaminated air streams with flow rates of less than 15,000 scfm, humidity levels of 80% or greater, temperatures of over 100 degrees F, air streams with VOC's that will not adsorb at a rate of at least 95% by weight or for air streams with VOC's that would damage or significantly diminish the performance of the adsorption material.</p> <p><u>Contaminated air stream $>$ 0.23% LEL to \leq 2.3% LEL:</u></p> <p>Regenerative Thermal Oxidizer with a Concentrator and a Hot Gas By-Pass System. Neither a concentrator or a hot gas by-pass system is required for influent contaminated air streams with flow rates of less than 15,000 scfm, humidity levels of 80% or greater, temperatures of over 100 degrees F, air streams with VOC's that will not adsorb at a rate of at least 95% by weight or for air streams with VOC's that would damage or significantly diminish the performance of the adsorption material.</p> <p><u>Contaminated air stream $>$ 2.3% LEL to \leq 3.2% LEL:</u></p> <p>Recuperative Thermal Oxidizer with a Concentrator. A concentrator is not required for influent contaminated air streams with flow rates of less than 15,000 scfm, humidity levels of 80% or greater, temperatures of over 100 degrees F, air streams with VOC's that will not adsorb at a rate of at least 95% by weight or for air streams with VOC's that would damage or significantly diminish the performance of the adsorption material.</p> <p><u>Contaminated air stream $>$ 3.2% LEL to \leq 32% LEL:</u></p> <p>Regenerative Thermal Oxidizer without a concentrator and with a Hot Gas Bypass System.</p> <p><u>Contaminated air stream $>$ 32% LEL to \leq 45% LEL:</u></p> <p>Recuperative Thermal Oxidizer</p> <p><u>Contaminated air stream $>$ 45% LEL:</u></p> <p>Direct Fired Thermal Oxidizer</p>

GROUP B: DIRTY AIR STREAMS

A dirty air stream is an air stream that cannot be cleaned such that a regenerative thermal oxidizer and/or a concentrator could be employed without damage or loss of performance due to contamination

Contaminated air stream \leq 45% LEL:

Recuperative Thermal Oxidizer

Contaminated air stream $>$ 45% LEL:

Direct Fired Thermal Oxidizer

GROUP C: DIRTIEST AIR STREAMS

The dirtiest air streams are air streams that are not cleanable such that regenerative or recuperative thermal oxidizers and/or concentrators could be employed without damage or loss of performance due to contamination.

All Air Streams:

Direct Fired Thermal Oxidizer

GHG Control Measures	Percentage Achieved GHG Emission Reductions Relative to Baseline Emissions
Clean Air Streams With VOC Contamination levels of ≤ 0.23% LEL	
Regenerative Thermal Oxidizer with a Concentrator (hot gas by-pass system is allowed)	37%
Clean Air Streams With VOC Contamination Levels of > 0.23% LEL to ≤ 2.3% LEL	
Regenerative Thermal Oxidizer with a Concentrator and a Hot Gas By-Pass System	30%
Clean Air Streams With VOC Contamination Levels of > 2.3% LEL to ≤ 3.2% LEL	
Recuperative Thermal Oxidizer with a Concentrator	50%
Clean Air Streams With VOC Contamination Levels of > 3.2% LEL to ≤ 32% LEL	
Regenerative Thermal Oxidizer without a concentrator and with a Hot Gas Bypass System	50 %
Clean Air Streams With VOC Contamination Levels of > 32% LEL to ≤ 45% LEL	
Recuperative Thermal Oxidizer	50%
Clean Air Streams With VOC Contamination Levels of > 45% LEL	
Direct Fired Thermal Oxidizer	50%
Dirty Air Streams With VOC Contamination Levels of ≤ 45% LEL	
Recuperative Thermal Oxidizer	33%
Dirty Air Streams With VOC Contamination Levels of > 45% LEL	
Direct Fired Thermal Oxidizer	50%
Dirtiest Air Streams (All VOC Contamination Levels)	
Direct Fired Thermal Oxidizer	0%

District Project Number	N-1102809
Evaluating Engineer	Mark Schonhoff
Lead Engineer	Arnaud Marjollet
Public Notice: Start Date	9/29/2010
Public Notice: End Date	10/20/2010
Determination Effective Date	1/20/2011