

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

Best Performance Standard (BPS) x.x.xx

Date: September 29, 2010

Class	Non-Catalytic Thermal Oxidizers for VOC Control
Category	All
Best Performance Standard	<p style="text-align: center;">SCENARIO 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 may be employed without damage or loss of performance due to contamination.</p> <p><u>Contaminated air stream ≤ 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 2.1% 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 >2.1% LEL to ≤ 3.2% LEL:</u></p> <p>Regenerative Thermal oxidizer (concentrators and hot gas by-pass systems are allowed. If a concentrator is employed, a hot gas by-pass system is required)</p> <p><u>Contaminated air stream >2.3% LEL to ≤ 32% LEL:</u></p> <p>In addition to the Regenerative Thermal Oxidizer option, a Recuperative Thermal Oxidizer with a concentrator is allowed. 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. If a concentrator will not be utilized, a Regenerative Thermal Oxidizer is required.</p> <p><u>Contaminated air stream >32% LEL:</u></p> <p>Recuperative Thermal Oxidizer</p>

SCENARIO B: DIRTY AIR STREAMS

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

Contaminated air stream \leq 32% LEL:

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.

Contaminated air stream $>$ 32% LEL:

Recuperative Thermal Oxidizer

SCENARIO C: DIRTIEST AIR STREAMS

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

Contaminated air stream \leq 32 % LEL:

Direct Fired 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.

Contaminated air stream $>$ 32 % LEL:

Direct Fired Thermal Oxidizer

GHG Control Measures	Percentage Achieved GHG Emission Reductions Relative to Baseline Emissions
Clean Air Streams With VOC Contamination levels of \leq 0.23% LEL	
Regenerative Thermal Oxidizer with a Concentrator (hot gas by-pass system is allowed)	32 %
Clean Air Streams With VOC Contamination Levels of $>$ 0.23% LEL to 2.1% LEL	
Regenerative Thermal Oxidizer with a Concentrator and a Hot Gas By-Pass System	37 %
Clean Air Streams With VOC Contamination Levels of $>$2.1% LEL to \leq 3.2% LEL	
Regenerative Thermal oxidizer (concentrators and hot gas by-pass systems are allowed but not required)	23 %
Clean Air Streams With VOC Contamination Levels of $>$2.3% LEL to \leq 32% LEL	
Regenerative Thermal Oxidizer option (A Recuperative Thermal Oxidizer with a concentrator is allowed)	50 %
Clean Air Streams With VOC Contamination Levels of $>$32% LEL	
Recuperative Thermal Oxidizer without a concentrator	50 %
Dirty Air Streams With VOC Contamination Levels of \leq 32% LEL	
Recuperative Thermal Oxidizer with a Concentrator	32 %
Dirty Air Streams With VOC Contamination Levels of $>$ 32% LEL	
Recuperative Thermal Oxidizer without a concentrator	50 %
Dirtiest Air Streams With VOC Contamination Levels of \leq 32% LEL	
Direct Fired Thermal Oxidizer With a Concentrator	23 %
Dirtiest Air Streams With VOC Contamination Levels of $>$ 32% LEL	
Direct Fired Thermal Oxidizer Without a Concentrator	50 %

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	TBD