

TABLE 2.10
 Technology/Process Option Evaluation—*Ex-situ* Vapor Treatment
 Page 1 of 1

General Response Action	Remedial Technologies	Process Options	Technical Implementability	Effectiveness	Cost	Comments
<i>Ex - Situ</i> (Post Collection Treatment of Vapor)	Physical	Adsorption with GAC ¹	Good	Demonstrated	Moderate	Retained. Some COPCs with low adsorption coefficients (e.g. acetone and vinyl chloride) may be present at concentrations exceeding discharge limits in process stream; exothermic reactions may result between carbon and acetone.
		Adsorption	Good	Demonstrated	High	Potentially applicable to reduce acetone concentrations in process stream without exothermic reactions.
		Membrane Separation	Innovative	Uncertain	High	Inability to handle fluctuations in concentrations; moisture sensitive; high cost.
	Chemical	Gas Scrubbing	Good	Poor	Moderate	Potentially applicable to remove acid exhaust from thermal treatment to comply with air emission requirements.
	Biological	Biofiltration	Good	Potential	Moderate to High	Flow rates limited; treatment of halogenated VOCs less effective.
	Thermal	Catalytic Oxidation ¹	Good	Good	Moderate	Retained. Probable community issues; possible generation of acid gas.
		High Energy Corona	Good – Innovative	Good	High	New technology may not be feasible due to lack of case study data.
		Internal Combustion Engine Oxidation	Good	Fair	Moderate	Possible incomplete combustion of chlorinated VOCs; engine performance problematic with halogenated compounds.
		Thermal Oxidation ¹	Good	Good	High	Retained. Probable community issues; possible generation of acid gas; may require gas scrubbing.

Effectiveness is the ability to perform as part of a comprehensive alternative that can meet RAOs under conditions and limitations that exist at the site. Technical Implementability encompasses the applicability/feasibility of performing the process option under the regulatory, technical, and schedule constraints of the project. Cost is for comparative purposes only, relative to other processes/technologies that perform similar functions.

COPCs Chemicals of Potential Concern GAC Granular activated carbon VOCs Volatile Organic Contaminants

¹ Detailed evaluation and comparative analysis of these *ex-situ* treatment technologies may be referenced in Appendix B.