APPENDIX C2: EXAMPLE COST-EFFECTIVENESS CURVES FOR POC CONTROLS

Figure C2-1 provides summary cost effectiveness curves for thermal oxidation systems for precursor organic compound (POC) control. The curves can be used to determine what minimum POC mass rate must be emitted with a given overall exhaust stream flow rate at various operating scenarios for it to be cost-effective to apply a thermal oxidation system as BACT 1. For example, the owner of a coating operation that wants to run 24 hours per day, 5 days a week, and 50 weeks per year, with an emission exhaust stream of 9,000 scfm, would be required to install a thermal oxidation system or an equivalently effective control for BACT 1 (greater than 98.5% POC destruction) if POC mass emissions have the potential to exceed 15,000 pounds per year.

Technically, the emissions potential would have to exceed 15,000/0.985 or about 15,200 pounds per year. (Obviously, even greater adjustments would have to be made if the POC capture efficiency were less than 100%). Furthermore, it is advised to recognize the accuracy limitations of the chart as well as the even greater variations in site and application specific control costs. Nevertheless, for the general application under discussion here of 15,200 pounds POC and higher emitted per year, the cost to control would be less than $17,500 per ton of POC removed and thus deemed cost-effective (see Policy and Implementation Procedure). Thermal oxidation for POC control is considered to be a good benchmark for cost analysis because alternative controls such as carbon adsorption are often less costly. Please note that these cost curves are only general cost guidelines to be used only in the absence of site specific application information.