

1.0 INTRODUCTION

National emission standards for hazardous air pollutants (NESHAP) are under development for combustion processes in the chemical recovery area of kraft and soda pulp mills under authority of Section 112(d) of the Clean Air Act (CAA) as amended in 1990. This technical support document (TSD) provides technical information and analyses used in the development of this NESHAP. Effluent guideline limitations and a separate NESHAP covering pulp and paper manufacturing processes are being developed concurrently under the authority of the Clean Water Act and the CAA, respectively; the technical information and analyses for these regulations are found in separate documents. The U. S. Environmental Protection Agency (EPA) is coordinating these efforts to produce air and water regulations for the pulp and paper industry. The remainder of this chapter describes the scope and organization of this TSD.

1.1 SCOPE OF THE TECHNICAL SUPPORT DOCUMENT

This TSD presents the technical information and the analyses used in the development of the NESHAP for combustion processes in the chemical recovery area of kraft and soda pulp mills. The chemical recovery combustion processes included in this NESHAP are (1) recovery furnaces (including associated smelt dissolving tanks and black liquor oxidation systems) and (2) lime kilns.

1.2 ORGANIZATION OF THE TECHNICAL SUPPORT DOCUMENT

This TSD is organized into six chapters. Chapter 2.0 describes the processes and equipment associated with the chemical recovery cycle at kraft and soda pulp mills, identifies the hazardous air pollutants (HAP's) emitted and the emission

sources, and quantifies baseline HAP emissions. Chapter 3.0 describes the emission control techniques that can be used to reduce HAP emissions from chemical recovery combustion processes, including add-on control systems and equipment changes. Chapter 4.0 presents model plants and control and enhanced monitoring options for chemical recovery combustion processes. Chapter 5.0 discusses the environmental and energy impacts on the model process units from the application of the HAP control options presented in Chapter 4.0. Finally, Chapter 6.0 presents the model process unit control and enhanced monitoring costs for the application of the control options. Appendix A lists the evolution of this technical support document. Appendix B summarizes the available HAP emissions data and discusses the test methods and monitoring methods that could be used to demonstrate compliance with proposed standards for chemical recovery combustion sources at kraft and soda pulp mills.