Site/Infrastructure Planning

Siting, Licensing, & Permitting

Client

Intermountain Power

Location

Delta, UT, USA

Intermountain Power Plant Unit 3 Environmental Permitting

Project Description

CH2M HILL prepared air quality permitting documents in support of adding a third coal-fired generating unit to the Intermountain Power Project (IPP) in Millard County, Utah. The Intermountain Power Service Corporation is proposing to expand the existing two-unit IPP facility by adding one additional 950-MW unit designated as Unit 3. Unit 3 will be a pulverized coal (PC) boiler design, with a new boiler, turbine, generator, auxiliary equipment, fuel handling system, emissions control equipment, fly ash collection, transport, and disposal equipment, and a limestone handling system.

CH2M HILL's work consisted of preparation of a process description for the proposed addition of Unit 3, preparation of detailed emissions information, a request for permit limits, a regulatory applicability review, a Best Available Control Technology (BACT) analysis, a Maximum Achievable Control Technology (MACT) analysis for applicable hazardous air pollutants (HAPs), modeling to demonstrate the impacts of the proposed unit on Class I and Class II areas, a summary of ambient air quality monitoring information, a compliance plan, and a fugitive dust control plan.

The addition of Unit 3 is subject to Prevention of Significant Deterioration (PSD) regulations for carbon monoxide (CO), total particulate matter (PM), particulate matter less than 10 microns in diameter (PM10), volatile organic compounds (VOCs), sulfur dioxide (SO2), nitrogen oxide (NOX), lead (Pb), sulfuric acid mist (H2SO4), hydrogen fluorides (HF), total reduced sulfur (TRS), and reduced sulfur compounds (RSCs).

The BACT analysis conducted by CH2M HILL resulted in a very rigorous emissions control design for Unit 3 that included low-NOX burners, selective catalytic reduction, a forced oxidation wet limestone flue gas desulfurization system, and a fabric filter baghouse. These state-of-the-art emission controls will make the new unit one of the cleanest PC-fired power plants in the nation.

CH2M HILL's modeling analyses demonstrated that the IPP will meet all National Ambient Air Quality Standards (NAAQS) and the Class I and Class II PSD increments in the vicinity of the plant. Unit 3 will also be required to meet the applicable New Source Performance Standards (NSPS) defined in federal regulations 40 Code of Federal Regulations (CFR) 60 Subpart D(a).

The Utah Department of Air Quality approved the NOI, and issued an Approval Order for construction of the plant in 2004.