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1.1 INTRODUCTION

Paramount Petroleum Corporation is proposing to construct and operate a new state of the art 7.5 megawatt (MW) Cogeneration Plant and emissions control equipment at its refinery. The new equipment will provide steam and electricity to run the refinery and therefore allow Paramount to significantly reduce smog forming emissions and increase efficiencies relative to its current reliance on its existing gas fired boilers. With this project, Paramount will reduce the demand on the local electricity grid in an amount sufficient to supply electricity for approximately 5,000 homes. The Paramount refinery is located at 14700 Downey Avenue, Paramount, California, 90723.

1.2 AGENCY AUTHORITY

The California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., requires that the environmental impacts of proposed projects be evaluated and that feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects be identified and implemented. The proposed cogeneration project constitutes a "project" as defined by CEQA. To fulfill the purpose and intent of CEQA, the South Coast Air Quality Management District (SCAQMD) is the lead agency for this project and has prepared this Negative Declaration to address the potential environmental impacts associated with the Paramount refinery cogeneration project.

The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment (Public Resources Code §21067). The proposed project requires discretionary approval from the SCAQMD and, therefore, it is subject to the requirements of CEQA (Public Resources Code, §21000 et seq.). Since the SCAQMD has the greatest responsibility for supervising or approving the project as a whole, it was determined that the SCAQMD would be the most appropriate public agency to act as lead agency (CEQA Guidelines §15051(b)).

To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this Negative Declaration to address the potential environmental impacts associated with the Paramount Cogeneration project. A Negative Declaration for a project subject to CEQA is prepared when an analysis of the project identifies potentially significant effects; but revisions in the project plans or proposals made by, or agreed to by the applicant would avoid the significant effects or mitigate the effects to a point where clearly no significant effects would occur (CEQA Guidelines §15070(b)).

This document constitutes the Final Negative Declaration for the Paramount Cogeneration project. The Draft Negative Declaration for the Paramount Cogeneration Project was released for a 21-day public review and comment period beginning on November 27, 2001 and ending on

December 17, 2001. No public comment letters were received during the comment period so there was no requirement to prepare any responses. No changes to the analyses or the project description have been made to the Final Negative Declaration. The only changes made were to recognize that the document is now final and not in draft form. The Final Negative Declaration can be obtained by contacting the SCAQMD's Public Information Center at (909) 396-2039 or by accessing http://www/aqmd.gov/ceqa/nonaqmd.html.

1.3 PROJECT LOCATION

The Paramount refinery is located in the City of Paramount. The City is located east of the Los Angeles River and is approximately 16.5 miles southeast of downtown Los Angeles. The City of Paramount is bounded by the cities of South Gate, Downey, Bellflower, Long Beach, Compton, and Lynwood. The Paramount refinery is bounded by Lakewood Boulevard, Somerset Boulevard, Downey Avenue and Contreras Avenue. The refinery is located immediately west of the City of Bellflower municipal boundary lines, and approximately one-quarter mile south of the City of Downey boundary line (see Figures 1 and 2).

Regional access to the refinery is provided by Interstates 605 and 710 which run north-south approximately 2.25 miles east and west of the refinery, respectively. State Route 91 runs east-west and is located approximately two miles south of the refinery. Interstate 105 is located about three-quarters of a mile north of the refinery.

Primary truck access to the refinery is provided by Andry Drive, which is accessible from Somerset and Lakewood Boulevards. The main entrance to the administrative offices at the refinery is at Downey Avenue. Lakewood Boulevard serves as the City's eastern boundary for both the City and project site. Somerset Boulevard and Downey Avenue, two of the City's major thoroughfares, define the southern and western edges of the project site. The Los Angeles Department of Water and Power (DWP) easement and the Union Pacific railroad (UPRR), separate the project site from multiple-family residential uses to the southwest.

The proposed project will involve the addition of cogeneration equipment in the central portion of the refinery (see Figure 3).

1.4 PROJECT DESCRIPTION

The proposed project includes a 7.5 megawatt (MW) gas turbine with a selective catalytic reduction system, aqueous ammonia storage and transfer equipment, and modification of the permit conditions for three existing boilers (Boilers 7, 8, and 9).

The gas turbine is an internal combustion engine that operates with rotary rather than reciprocating motion. The gas turbine will be composed of three major components: compressor, combustor, and power turbine. In the compressor section, ambient air will be drawn in, compressed, and directed to the combustor.

Figure 1 goes here

Figure 2 goes here

Figure 3 goes here

The combustion process in the gas turbine will be a lean-premix stage combustion with a maximum fired capacity of 90 million British thermal units per hour (mmBtu/hr). Fuel and air will be mixed in an initial stage resulting in a uniform, lean, unburned fuel/air mixture which is delivered to a secondary stage where the combustion reaction takes place. Hot gases from the combustion section are diluted with additional air from the compressor section and directed to the power turbine section at temperatures up to 2,600 Fahrenheit (^{o}F).

Energy from the hot exhaust gases, which expand in the power turbine section, is recovered in the form of shaft horsepower. More than 50 percent of the shaft horsepower is needed to drive the internal compressor and the balance of recovered shaft horsepower is available to drive an external load, i.e., operate the turbine and generate electricity.

The heat content of the exhaust gases exiting the turbine will be recovered in a Heat Recovery Steam Generator (HRSG) to generate process steam. Supplemental natural gas firing will be used when needed to augment steam generation. The steam will be used in the various refinery processes and replaces steam produced by existing boilers at the refinery (Boilers 7, 8, and 9).

The cogeneration cycle will consist of a simple cycle gas turbine with an HRSG. In the cogeneration cycle, the steam generated by the HRSG is expected to be at about 200 pounds per square inch (gauge) (psig) and used in various refinery processes. The system is expected to generate about 29,500 pounds per hour (lbs/hr) of steam without supplement firing. A supplemental duct burner (about 50 mmBtu/hr) will be used when needed to augment steam generation. Typically, the actual duty will be much less than 50 mmBtu/hr.

Selective catalytic reduction (SCR), which is considered best available control technology (BACT), will be installed to control nitrogen oxide (NOx) emissions by injecting aqueous ammonia (NH3) into the exhaust gas stream upstream of a catalyst. The aqueous ammonia to be used for the proposed project will consist of 19 percent ammonia. NOx, NH3, and oxygen react on the surface of the catalyst to form nitrogen and water. The catalyst will be made from a noble metal with control efficiencies expected to be about 90 percent or more. The SCR manufacturer has guaranteed a maximum NOx concentration of 2.5 parts per million (ppm). The SCR installation will also incorporate a carbon monoxide (CO) catalytic oxidation module along with the NOx reduction catalyst for simultaneous CO/NOx control. The CO catalyst will be made of precious metal (e.g., platinum, palladium, or rhodium). The manufacturer has guaranteed a maximum CO concentration of six ppm.

Paramount is considering including a zero ammonia slip technology as part of the SCR unit. The zero slip technology has proven very effective under test conditions at reducing ammonia slip associated with the SCR to below one ppm without an increase in NOx.

The proposed project also includes an ammonia storage and transfer system. A new 238 barrel (about 10,000 gallons) aqueous ammonia above ground storage tank and ammonia truck unloading facility will be included as part of the proposed project. A containment dike will be built around the ammonia storage tank, which has been designed to contain 110 percent of the

tank volume in the event of an accidental release. Aqueous ammonia will be stored on site and injected into the exhaust stream upstream of the catalyst. The proposed project includes the installation of a new truck unloading rack, ammonia storage tank, and ammonia vaporizer to support the operation of the SCR. A containment area to be used during the unloading of ammonia from the tanker truck to the aboveground tanks will be built to contain the entire capacity of a 150 barrel tanker truck in the event of an accidental release during transfer of ammonia.

In addition to the proposed new equipment, Paramount is proposing to modify the Permit to Operate for Boilers 7, 8, and 9. These three boilers currently produce steam for use in the various refinery processes. Once installed, the cogeneration facility will produce the steam for the refinery currently produced by Boilers 7, 8, and 9. Boilers 7, 8, and 9 will not be continuously operated when the cogeneration unit is operated; however, they will remain available for service. Paramount is proposing to modify the Permits for Boilers 7, 8, and 9 to allow the equipment to operate when the cogeneration facility is not producing sufficient process steam.

Construction is scheduled to begin when all permits and approvals are obtained (estimated to be fourth quarter of 2001). Construction activities are expected to last about four months and require a maximum of approximately 35 workers. Construction activities are anticipated to take place five days per week, Monday through Friday, from 6:00 a.m. to 5:00 p.m.

It is anticipated that the equipment can be operated with existing staffing. The project could operate up to 24 hours per day for 365 days per year.

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