DOCKETED	
Docket Number:	08-AFC-07C
Project Title:	GWF Tracy (Compliance)
TN #:	239819
Document Title:	Petition to Amend (PTA) the Commission Decision
Description:	Petition to Amend (PTA) the Commission Decision to install and operate the wet compression system for the existing combustion turbines to augment power production on hot days.
Filer:	Anwar Ali
Organization:	MRP San Joaquin Energy LLC
Submitter Role:	Applicant
Submission Date:	9/23/2021 10:25:47 AM
Docketed Date:	9/23/2021

MRP San Joaquin Energy, LLC

September 7, 2021

Mr. Anwar Ali
Compliance Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA. 95814

Reference: MRP- San Joaquin Energy, LLC. Tracy Combined Cycle Power Plant
AFC No. 08-AFC-07

Subject: Petition to Amend Package for Tracy Combined Cycle Power Plant –
Wet Compression Project

Dear Mr. Ali,

Enclosed please find the Petition to Amend Package for Tracy Combined Cycle Power Plant Wet Compression Project in accordance with Title 20, California Code of Regulations, § 1769 Post Certification Petition for Changes in Project Design, Operation or Performance. This petition is submitted as a response to your email request to Jon Boyer on August 5, 2021.

If you have any questions regarding this report, please contact Jon Boyer at (760) 912-3007 or e-mail: jboyer@mrpgenco.com.

Sincerely,

Claude Couvillion
Vice President of Operations

Petition for Post-Certification Amendment
Wet Compression Project

MRP San Joaquin Energy, LLC
Tracy Combined-Cycle Power Plant
08-AFC-07

September 7, 2021

MRP San Joaquin Energy, LLC
14950 W Schulte Road
Tracy, CA 95377
(209) 248-6841

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1.0 INTRODUCTION

MRP San Joaquin Energy, LLC (MRP) owns and operates the Tracy Combined-Cycle Power Plant (TCCP) in San Joaquin County near Tracy, California. MRP hereby requests an amendment to the certification for the TCCP (AFC No. 08-AFC-07) pursuant to Title 20, California Code of Regulations, Section 1769(a)(1).

The requested amendment would allow for installation and operation of a wet compression system for the existing combustion turbines to augment power production on hot days when power output would otherwise be reduced from the TCCP. The planned Wet Compression project will upgrade the existing two (2) General Electric 7EA natural gas turbines with a wet compression and peak fire performance and efficiency enhancement package that will increase the summer season generation from the facility and improve the facility heat rate. As explained below, wet compression is expected to increase the output by as much as 12 MW per gas turbine during warm weather and during heat storm events, 24 MW total for TCCP, by mitigating the thermal ambient de-rate during those time when ambient conditions most significantly challenge electric reliability.

The proposed project will not result in an increase in the TCCP's hourly or annual emissions above permitted limits. TCCP is not requesting any revisions to its hourly, daily, or annual emission or operational limits to accommodate the project. MRP expects the San Joaquin Valley Air Pollution Control District (SJVAPCD) to issue a Determination of Compliance (DOC) for the proposed modifications to the Permit to Operate, which may result in the modifications of the SJVAPCD's conditions for the TCCP. Any modifications resulting from the SJVAPCD's DOC will be incorporated into the TCCP's certification, consistent with applicable Commission's regulations. The environmental impact assessment presented in Section 5 and Appendix A and B hereto concludes no significant environmental impacts are associated with the implementation of the actions specified in this Petition to Amend, and that the project, as modified, will comply with all applicable laws, ordinances, regulations, and standards (LORS).

Accordingly, MRP respectfully requests that the requested modification be approved at the staff level as Staff Approved project Change (SAPC) pursuant Title 20, California Code of Regulations, Section 1769(a)(1).

1.1 Background

On March 24, 2010, the CEC issued a certification for the TCCP, a 330 megawatt (MW) combined cycle generating facility. The TCCP is located in an unincorporated portion of San Joaquin County, immediately southwest of the City of Tracy and approximately 20 miles southwest of Stockton. The TCCP is located on an approximately 16.4-acre site within a larger, 40-acre parcel. The 16.4-acre site sitting on a 40-acre parcel is bounded by the Delta-Mendota Canal to the southwest, agricultural property to the south an east, and the Union Pacific Railroad to the north. Immediately north of the railroad are the Owens-Brockway glass container manufacturing plant and the Nutting-Rice warehouse. The power plant site is accessed via an existing 3,300-foot-long, asphalt-paved service road that runs southward from W. Schulte Road.

The TCCP has a major maintenance outage planned for April 2022 which occurs approximately every 10 years. MRP plans to install the wet compression system during the scheduled major outage between April 2, and May 29, 2022, with commissioning expected in late-May or early-June 2022 to help support grid reliability for the Summer and Fall of 2022.

1.2 20 CCR Section 1769 Information Requirements

The following sections contain the information required pursuant to Title 20, California Code of Regulations (CCR), Section 1769(a)(1).

2.0 DESCRIPTION OF PROPOSED CHANGES

This section addresses the requirements of Title 20, CCR, Section 1769(a)(1)(A).

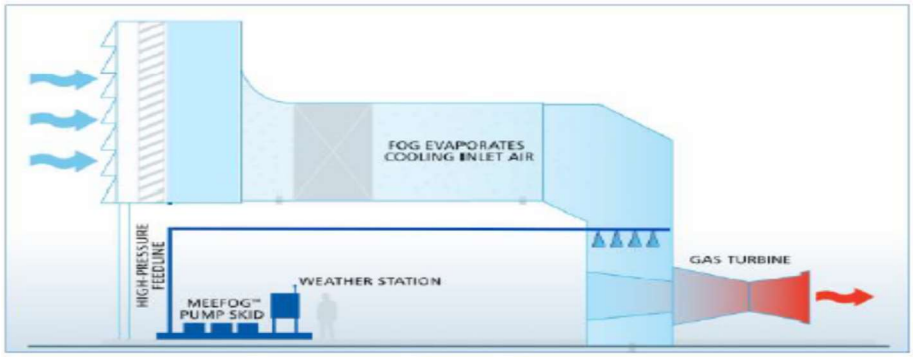
2.1 Wet Compression Overview: Description of the Proposed Modification

TCCP is a power generation facility consisting of two natural gas-fired combustion turbine generators (CTGs), each equipped with dry low NOx combustors, a selective catalytic reduction (SCR) system, and an oxidation catalyst. A dry extractive continuous emissions monitoring system (CEMS) is installed on each CTG's exhaust stack to measure oxygen (O2), carbon monoxide (CO), and nitrogen oxides (NOx). The facility is designed to be able to operate 24 hours per day, 7 days per week, but is operated and dispatched in response to changes to market electrical demand.

Wet Compression is a water-based injection system installed in the gas turbine inlet and is used to provide additional power output by creating an increased mass flow similar to evaporation coolers or fogging (see Figure 1). Wet Compression is accomplished by spraying more fog than is required to fully saturate the inlet air. The excess fog droplets are carried into the gas turbine compressor where they evaporate and produce an intercooling effect. The injected water

reduces the temperature of the air prior to compression, which reduces the work required to be performed by the compressor. Nearly 50-65 percent of the turbine output is used to drive the compressor; therefore, a reduction in the workload to the compressors results in a net increase in the power available. The wet compression system also results in a reduction in compressor discharge temperature which in turn results in lower combustion temperature and lower turbine exhaust temperature for the same fuel flow rate. Turbine output is controlled by turbine exhaust temperature so that for the same design controlling exhaust temperature, additional mass flow of fuel and water can be added. This results in an increase in power from the combustion turbine. In addition to the increase in generation and improvement in heat rates, the wet compression system is expected to result in no significant changes in NOx emissions from the combustion turbine which will be fully controlled within limits by the SCR system.

Figure 1: Wet Compression Diagram



Typical MeeFog Installation for wet compression

The cooling effect can only be accomplished when ambient temperatures exceed 60 ^{o}F. Wet compression would typically operate at temperatures greater than exceed 90 ^{o}F, when the plant is de-rated due to ambient conditions. Based on modelling by the manufacturer, TCCP expects wet compression to increase the output by as much as 12 MW per gas turbine, 24 MW total for TCCP, during warm weather and during heat storm events, mitigating the thermal ambient de-rate.

Rated capacity of the unit is not expected to change, but by avoiding de-rate during high heat events, the project will better enable the TCCP to contribute to reliability needs during peak conditions in the summer and during heat storm events. The system includes a skid of high-pressure pumps that delivers water from the plant demineralization system to a grid array of nozzles in the gas turbine inlet. A typical pump skid enclosure and fog nozzle manifold spray system are depicted on Figures 2 and 3, respectively.

Figure 2: Typical Pump Skid Enclosure

Typical MeeFog Pump Skid Enclosure

Figure 3: Typical Fog Nozzle Manifold

Fog nozzle manifold with multiple feedlines to provide staging

2.2 Project Details

2.2.1 Major Components

The key components of the Wet Compression Project are as follows:

- Wet Compression Pump Skid Enclosures (two, one for each CT)
- Trailer Mounted Demineralizer Units, Pumps, and Piping
- Feedlines and Fog Nozzles
- Control and Monitoring Systems

The Wet Compression pump skid enclosures will be located adjacent to the CTGs (see Figure 4).

Figure 4: Wet Compression Project Component Locations

1 DEMINERALIZED WATER TANK
2 DEMIN WATER TREATMENT TRAILERS
3 DEMIN FORWARDING PUMPS
4 WET COMPRESSION PUMP SKID
5 WET COMPRESSION PUMP SKID

The trailer mounted demineralizer units are located on a paved area as shown on Figures 4 and 5. The demineralizer units are self-contained and do not require onsite discharge. Once the units are spent, they are removed and replaced by another trailer mounted unit. There is an existing 125,000-gallon demineralized water tank at the TCCP (see Figure 4), and additional storage is not expected to be required for the Wet Compression Project.

Figure 5: Trailer Mounted Demineralizer Units

2.2.2 Construction

Installation of the Wet Compression Project will occur over a scheduled 2-month TCCP major outage period in April and May, 2022. The total outage workforce is estimated to be up to about 150 workers, but the Wet Compression Project peak workforce will be 15 or less workers. Truck deliveries of equipment for the Wet Compression Project is estimated to require 4 total truck trips. The primary construction equipment required for installation of the Wet Compression system is a crane (1) and an all-terrain forklift (1).

If there is a need for a new concrete pad foundation for the water pump(s) for conveying demineralized water to the wet compression units from the trailer mounted demineralizer units, it is expected that minor grading with a backhoe followed by concrete pouring from a concrete truck(s) would be required. The area where the pumps will be located was previously disturbed and graded and is currently covered with gravel.

Construction laydown needs will be minimal and be met within available, previously disturbed open areas within the overall TCCP power block area.

Construction of the Wet Compression Project is not expected to require use of hazardous materials and/or to generate hazardous wastes in reportable quantities.

Minimal if any water is expected to be required for construction of the Wet Compression Project.

2.2.3 Operation and Maintenance

The Wet Compression Project is planned to be operated for up to a maximum of approximately 1,000 hours total per year between the two units (approximately 500 hours each). The Wet Compression Project water consumption is calculated to require approximately 87-108 gallons per minute (gpm) for each unit. For two units, this equates to a maximum of approximately 19.9 acre-feet per year (AFY) assuming both Wet Compression units would operate at the total combined 1,000 hours annually using the maximum of 108 gpm. The water usage for the Wet Compression Project equates to a maximum of about 36 percent of the TCCP's annual allotment of 54.5 AFY from the Byron Bethany Irrigation District.

The TCCP utilizes demineralized water that is supplied by the existing trailer mounted demineralizer units at the facility. The Wet Compression Project would rely on these same type of trailer-mounted demineralizer units. These units will need to be periodically swapped out by the contractor during the operational phase of the project.

The Wet Compression Project facilities require minimal maintenance activities outside the periodic TCCP maintenance events. Operation of the Wet Compression Project is not expected to require use of hazardous materials and/or to generate hazardous wastes in reportable quantities.

Operation of the Wet Compression Project will comply with all applicable air quality related regulations as discussed further in Section 5.3.2.

3.0 NECESSITY OF PROPOSED CHANGE

This section addresses the requirements of Title 20, CCR, Section 1769(a)(1)(B).

The changes are necessary to improve TCCP's ability to generate power during hot summers and during heat storm events in the Tracy region which correspond to peak load periods on the electrical grid in California. Wet compression is designed to increase the power output of the gas turbine (i.e., minimizing power loss experienced at high ambient temperatures) as described previously in Section 2.1. Based on modelling by the manufacturer, TCCP expects wet compression to increase the output by as much as 12 MW per gas turbine, 24 MW total for TCCP, during warm weather and during heat storm events, mitigating the thermal ambient de-rate. Rated capacity of the unit is not expected to change, but by avoiding de-rate during high heat events, the project will better enable the TCCP to contribute to reliability needs during peak demand conditions in the summer and during heat storm events.

The modifications will not increase electrical production or fuel consumption above the approved levels. The modification is not based on information that was known during the certification proceeding as the proposed modifications are new.

4.0 NEW INFORMATION OR CHANGE IN CIRCUMSTANCES THAT NECESSITATED THE CHANGE

This section addresses the requirements of Title 20, CCR, Section 1769(a)(1)(C).

The modification is not based on information that was known during the certification proceeding as the proposed modifications are in part a response to California's increasing need for more electricity during peak hours and to help meet net peak energy needs with non-intermittent resources. The Wet Compression Project is expected to increase TCCP's total output by as much as 24 MW during peak demand periods. The project will be available to help California meet its

energy reliability needs which have recently increased as evidenced by the Governor's Proclamation of a State of Emergency related to energy shortages on July 30, 2021.

5.0 ANALYSIS OF THE EFFECTS THAT THE PROPOSED CHANGE WILL HAVE ON THE ENVIRONMENT AND MITIGATION MEASURES PROPOSED

This section and Appendix A address the requirements of Title 20, CCR, Section 1769(a)(1)(D).

The CEC's Final Commission Decision issued in March 2010 for conversion of the TPP to the TCCP addressed the following environmental topic areas: Greenhouse Gas Emissions and Air Quality; Public Health; Worker Safety/Fire Protection; Hazardous Materials Management; Biological Resources; Soil and Water Resources Cultural Resources; Geological and Paleontological Resources; Land Use; Traffic and Transportation; Socioeconomics; Noise and Vibration; and Visual Resources.

An assessment of the effects that the proposed Wet Compression Project will have on the environment with consideration of the topics addressed in the Final Commission Decision and current regulations is attached hereto as Appendix A.

As set forth in detail in Appendix A, the Wet Compression Project will have no significant effects on the environment and thus no new mitigation measures are required.

6.0 MODIFICATIONS IMPACT ON LORS COMPLIANCE

CEC Siting Regulations, Title 20, CCR, Section 1769(a)(1)(E) requires "An analysis of how the proposed change would affect the project's compliance with applicable laws, ordinances, regulations, and standards". Approval of the modifications associated with implementation of the Wet Compression Project will not impact TCCP's ability to comply with applicable LORS.

7.0 POTENTIAL EFFECTS ON PUBLIC

This section discusses the potential effects on the public that may result from the modifications proposed in this Petition to Amend, in accordance with CEC Siting Regulations (Title 20, CCR, Section 1769(a)(1)(F)).

With implementation of the proposed Wet Compression Project related modifications to the TCCP, the project will have no adverse effect on the public. The construction and operation of the wet compression system will increase electrical production during warm weather conditions

and during heat storm events, but within the existing permitted fuel consumption, electrical production, and air emission levels. Therefore, no adverse effects on the public will occur because of the changes to the TCCP facility as proposed in this Petition to Amend.

8.0 PROPERTY OWNERS

Section 1769(a)(1)(G) requires a "list of current assessor's parcel numbers and owners' names and addresses for all parcels within 500 feet of any affected project linears and 1000 feet of the project site." Consistent with privacy considerations, a list of current assessor's parcel numbers and owners' names and addresses for all parcels within 500 feet of the project site will be provided directly to the Compliance Project Manager.

9.0 MODIFICATIONS IMPACT ON THE PUBLIC AND NEARBY PROPERTY OWNERS

This section addresses potential effects of the project changes proposed in this Petition to Amend on nearby property owners, the public, and parties in the application proceeding, in accordance with CEC Siting Regulations (Title 20, CCR, Section 1769 (a)(1)(H)).

The project as modified will not differ significantly in potential effects on adjacent landowners, compared with the project as previously certified. The construction and operation of the wet compression system will increase electrical production during warm weather conditions and heat storm events, but within the existing permitted fuel consumption, electrical production, and air emission levels. The air emissions associated with operation of the TCCP in wet compression mode have been analyzed and determined to not cause or contribute to the violation of any SJVAPCD air quality permit condition. The CEC Final Decision for the TCCP (CEC 2010) stated that that there is no evidence that the TCCP would result in any unmitigated public health or environmental impacts to rural residences within a one-mile radius of the site. The CEC determined the TCCP to be compatible with surrounding uses and zoning districts. Addition of the Wet Compression Project would not be expected to affect the validity of these previous determinations by the CEC. The project, therefore, would have no adverse effects on nearby property owners, the public, or other parties in the application proceeding.

In accordance with the CEC Siting Regulations (Title 20, CCR, Section 1769(a)(1)(H)), a list of owners whose property is located within 1,000 feet of TCCP, including the proposed Wet Compression Project will be provided directly to the Compliance Project Manager.

10.0 APPLICABLE CEQA EXEMPTIONS

Section 1769(a)(1)(I) requires a discussion of any exemptions from the California Environmental Quality Act, commencing with section 21000 of the Public Resources Code, that the project owner believes may apply to approval of the proposed change.

The CEC's power plant siting process is a certified state regulatory program under the California Environmental Quality Act (Pub. Resources Code, § 21080.5; 14 C.C.R. §§ 15250-15253.) As such, it is exempt from the procedural elements of CEQA, though it must adhere to the substantive requirements of CEQA. The CEC's detailed certification process is commonly described as "CEQA-equivalent." CEQA defines a "Project" in pertinent part as "…an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." (Pub. Resources Code § 21065.)

In this case, TCCP was subject to environmental review in accordance with the CEC's certified regulatory program. The current operations of the TCCP are not a new CEQA "project," but are part of the existing environmental baseline. Once a project is approved, CEQA does not require that it be analyzed anew every time an action is required to implement the project. Where an EIR, or in this case the CEC's CEQA-equivalent certification, has been prepared for a project, CEQA expressly prohibits agencies from requiring a subsequent or supplemental EIR, except in specified circumstances, e.g., where the project will have more severe impacts as a result of substantial changes to the project or the circumstances under which it is undertaken. (14 C.C.R. § 15162). As discussed below, the operations of TCCP with the Wet Compression Project does not trigger any such requirement.

Even assuming that the Wet Compression Project was a CEQA "project," the activities are categorically exempt. First, the modifications are categorically exempt pursuant to Title 14, Section 15301 of the California Code of Regulations as a minor alteration to an existing facility. The Wet Compression Project described herein includes activities that constitute a minor alteration of existing mechanical equipment at the TCCP. The changes will all be interior to the project's existing industrial footprint and will involve negligible or no expansion of the existing use of the TCCP for power generation.

Second, the proposed modifications are also categorically exempt pursuant to Title 14, Section 15302 of the California Code of Regulations. The modifications are consistent with the replacement or reconstruction of existing structures and will have substantially the same purpose and capacity as the structure replaced. Moreover, consistent with subsection (c) of 15302, the

temporary modifications are "replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity."

In addition, the proposed modification associated with the Wet Compression Project are also categorically exempt from CEQA pursuant to Section 15061(b)(3), the "Common Sense Exemption." This exemption provides that "[w]here it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA." (14 C.C.R. § 15061(b)(3).) In this case, there is no possibility that the proposed change may have a significant effect on the environment. Emission levels of the facility will not increase as a result of the proposed changes. Only minimal ground disturbance with the industrial site is required, and noise levels will remain within existing baseline levels. There would be no substantial adverse changes to existing baseline conditions at the TCCP site from the proposed Wet Compression Project. Therefore, the proposed temporary modifications are categorically exempt from CEQA pursuant to the "Common Sense Exemption."

11.0 CONCLUSIONS

For all the reasons set forth herein, MRP respectfully requests that the CEC approve the requested Wet Compression Project modification to the TCCP pursuant to Title 20, California Code of Regulations, Section 1769(a)(1).

APPENDIX A

ANALYSIS OF THE EFFECTS THAT THE PROPOSED CHANGE WILL HAVE ON THE ENVIRONMENT AND MITIGATION MEASURES PROPOSED

Section 1769(a)(1)(D) requires "An analysis of the effects that the proposed change to the project may have on the environment and proposed measures to mitigate any significant environmental effects." This Appendix addresses each discipline considered in the original CEC certification for TCCP.

Note: The sections and subsections of this Appendix A are numbered "5" to coincide with the numbering in the main body of the Petition for Post-Certification Amendment.

5.0 ANALYSIS OF THE EFFECTS THAT THE PROPOSED CHANGE WILL HAVE ON THE ENVIRONMENT AND MITIGATION MEASURES PROPOSED

This Appendix A and Section 5 of the Petition for Post-Certification Amendment address the requirements of Title 20, CCR, Section 1769(a)(1)(D).

5.1 Background

The TCCP is a nominal 344 MW combined cycle power plant that consists of two 88 MW nominally rated General Electric Model PG 7121 EA combustion turbine generator sets with Heat Recovery Steam Generators with 380 MMBTU duct burners and a 168 MW nominally rated steam turbine shared by the two combustion turbine generators and associated equipment necessary for combined-cycle operation. The facility is located at 14950 West Schulte Road, Tracy, California. The former Tracy Peaker Plant (TPP) was certification by the CEC on July 19, 2002, under Adoption Docket No. 01-AFC-16 and began commercial operations on June 1, 2003. On June 30, 2008, GWF Energy LLC submitted an Application for Certification (AFC) to the CEC to modify the peaker plant by converting the facility into a combined cycle power plant. On March 24, 2010, the CEC issued a certification to GWF Energy LLC (GWF) for the construction and operation of the GWF Tracy Combined Cycle Power Plant (TCCP) (08-AFC-7C). After conversion was completed, both units started commercial operation on November 1, 2012. The units currently operate under a power purchase agreement with Pacific Gas & Electric Company (PG&E) that commenced on November 1, 2012 and will expire on October 31, 2022. On November 2012, GWF Energy was acquired by Starwest, but continued to operate as GWF Energy LLC. In November of 2015, GWF Energy LLC was acquired by AltaGas and merged into AltaGas San Joaquin Energy Inc. On November 2018, AltaGas San Joaquin Energy Inc. was acquired by MRP and merged into MRP San Joaquin Energy, LLC.

5.2 Environmental Topic Areas Addressed in Final Commission Decision in March 2010

The CEC's Final Commission Decision issued in March 2010 for conversion of the TPP to the TCCP addressed the following environmental topic areas: Greenhouse Gas Emissions and Air Quality; Public Health; Worker Safety/Fire Protection; Hazardous Materials Management; Biological

Resources; Soil and Water Resources Cultural Resources; Geological and Paleontological Resources; Land Use; Traffic and Transportation; Socioeconomics; Noise and Vibration; and Visual Resources.

An assessment of the potential effects that the proposed Wet Compression Project will have on the environment with consideration of the topics addressed in the Final Commission Decision and current regulations follows.

5.3 Air Quality and Greenhouse Gas (GHG)

5.3.1 CEC Certification of TCCP

The proposed project will not result in an increase in the TCCP's hourly or annual emissions above permitted limits. TCCP is not requesting any revisions to its hourly, daily, or annual emission or operational limits to accommodate the project. MRP expects the San Joaquin Valley Air Pollution Control District (SJVAPCD) to issue a Determination of Compliance (DOC) for the proposed modifications to the Permit to Operate, which may result in the modifications of the SJVAPCD's conditions for the TCCP. Any modifications resulting from the SJVAPCD's DOC will be incorporated into the TCCP's certification, consistent with applicable Commission's regulations.

For a detailed discussion of Air Quality issues, please see Appendix B, the SJVAPCD Title V Modification Application.

5.4 Public Health

5.4.1 CEC Certification of TCCP

This Petition to Amend does not require changes to the public health information as described in the Commission Decision and subsequent Commission Orders.

5.4.2 Environmental Analyses

The installation of wet compressor equipment will require an estimated workforce of 15 and require an estimated total of four truck trips to deliver equipment over the one-to two-month construction period. Construction equipment will include one crane and one all-terrain forklift. In addition, a small concrete pad may need to be installed to support water pumps associated with the project. Public health risks in the form of tailpipe emissions from worker vehicles, truck deliveries, and construction equipment will be negligible, and a subset of the temporary emissions associated with maintenance activities at the TCCP during the planned outage. Construction impacts are not expected to impact public health.

The operation of the wet compression equipment will not increase fuel consumption at the TCCP in excess of existing permitted heat input and/or annual fuel consumption levels. The previous health risk assessment performed for the TCCP in 2009-2010 (CEC 2010) concluded that the TCCP project was not expected to significantly impact public health. The modifications associated with the Wet Compression Project would not result in an increase of toxic emissions in excess of TCCP permitted levels, thus the previous conclusions of insignificant public health impacts are still applicable.

5.4.3 Mitigation Measures

The Wet Compression Project impacts on public health are less than significant and, therefore, will not require additional mitigation measures.

5.4.4 Consistency with LORS

The project conforms to applicable laws related to public health.

5.4.5 Conditions of Certification

The proposed modifications do not require changes to the COCs for public health.

5.4.6 References

CEC. 2010. Final Commission Decision. GWF Tracy Combined Cycle Power Plant Project, Application for Certification (08-AFC-07), San Joaquin County. March.

5.5 Worker Safety/Fire Protection

5.5.1 CEC Certification of TCCP

This Petition to Amend does not require changes to the worker safety/fire protection information as described in the Commission Decision and subsequent Commission Orders.

5.5.2 Environmental Analyses

By continuing to comply with the existing conditions of certification, the installation of the wet compression system would not have a significant effect on worker safety or fire protection and would continue to comply with all applicable LORS. Construction and operational phase activities would comply with worker safety and fire safety requirements already contained in the health and safety plans developed and utilized for the main TCCP facility per COCs WORKER SAFETY-1 through -6 (CEC 2010).

5.5.3 Mitigation Measures

The Wet Compression Project impacts related to worker safety and fire protection are less than significant and, therefore, will not require additional mitigation measures.

5.5.4 Consistency with LORS

The project conforms to applicable laws related to worker safety and fire protection.

5.5.5 Conditions of Certification

The proposed modifications do not require changes to the COCs for worker safety and fire protection.

5.5.6 References

CEC. 2010. Final Commission Decision. GWF Tracy Combined Cycle Power Plant Project, Application for Certification (08-AFC-07), San Joaquin County. March.

5.6 Hazardous Materials Management

5.6.1 CEC Certification of TCCP

This Petition to Amend does not require changes to the hazardous materials management information as described in the Commission Decision and subsequent Commission Orders.

5.6.2 Environmental Analyses

The Wet Compression Project modifications to the TCCP will not result in the use of a new hazardous material onsite or increase the amount or delivery of hazardous materials used in excess of permitted quantities. Therefore, no impacts from hazardous materials handling are expected.

5.6.3 Mitigation Measures

The Wet Compression Project modifications will not create a significant impact from hazardous materials handling that will require additional mitigation measures.

5.6.4 Consistency with LORS

The project conforms to applicable laws related to hazardous materials handling.

5.6.5 Conditions of Certification

The proposed modifications do not require changes to the COCs for hazardous materials handling.

5.7 Waste Management

5.7.1 CEC Certification of TCCP

This Petition to Amend does not require changes to the waste management information as described in the Commission Decision and subsequent Commission Orders.

5.7.2 Environmental Analyses

The Wet Compression Project modifications to the TCCP will not result in an increase of waste generation at the site. Therefore, no impacts from waste management are expected.

5.7.3 Mitigation Measures

The Wet Compression Project modifications will not create a significant impact from waste management and will not require additional mitigation measures.

5.7.4 Consistency with LORS

The project conforms to applicable laws related to hazardous materials handling.

5.7.5 Conditions of Certification

The proposed modifications do not require changes to the COCs for hazardous materials handling.

5.8 Biological Resources

5.8.1 CEC Certification of TCCP

This Petition to Amend does not require changes to the biological resources information as described in the Commission Decision and subsequent Commission Orders. The Wet Compression Project equipment will be installed in paved or graveled portions of the existing TCCP power block area adjacent to the combustion turbines where there is no natural habitat for sensitive, threatened, or endangered species, including San Joaquin kit fox and/or burrowing owls.

5.8.2 Environmental Analyses

The Wet Compression Project modifications to the TCCP will not result in construction or operational phase related impacts to sensitive biological resources. The Wet Compression Project equipment, water treatment trailers, and laydown/worker parking areas will be located on previously disturbed and paved and/or gravel covered areas within the existing TCCP power block area. Construction activities will not disturb any nesting areas, water resources/wetlands, or burrows.

Operation and maintenance of the wet compression system will not result in ground disturbing activities or an increase in emissions that could adversely impact biological resources.

In summary, no adverse impacts to biological resources associated with construction or operation of the Wet Compression Project are expected to occur.

5.8.3 Mitigation Measures

The Wet Compression Project modifications will not create a significant impact on biological resources that will require additional mitigation measures.

5.8.4 Consistency with LORS

The project conforms to applicable laws related to biological resources.

5.8.5 Conditions of Certification

The proposed modifications do not require changes to the COCs for biological resources.

5.9 Soil and Water Resources

5.9.1 CEC Certification of TCCP

This Petition to Amend does not require changes to the soil and water resources information as described in the Commission Decision and subsequent Commission Orders. The Wet Compression Project equipment will be installed in paved or graveled portions of the existing TCCP power block area adjacent to the combustion turbines where there is no exposed soil that could be subject to erosion associated with project activities. Installation of the wet compression facilities will not require subsurface disturbance of potentially contaminated soils.

The site is equipped with storm water drains throughout the facility. The drains are covered with a fine steel mesh to keep any large materials from entering the drain system. In addition, the

facility ground surfaces are either, asphalt (16.1%), concrete (28.2%), gravel (37.6%), soil (6.0%) and the basin takes up 12.1 percent. The only areas with exposed dirt are around the stormwater basin and the basin is protected from the inside by rocks to minimize erosion (MRP 2021).

The water supply source for the Wet Compression Project is a portion of the TCCP's existing contractual allotment from the Byron Bethany Irrigation District which is accessed via an existing pipeline from the adjacent Delta Mendota Canal to the south of the TCCP. Similar to the existing TCCP operations, the wet compression system requires demineralized water with a low ion and mineral content. The Wet Compression Project will utilize the same type of water treatment trailers in the same general location as currently used for the TCCP (see Figure 5 in Section 2.2).

5.9.2 Environmental Analyses

Water use during construction will be insignificant since the applicable portions of the project site are paved or covered with gravel and fugitive dust mitigation is not expected to be required.

The TCCP has an annual allotment of 54.5-acre feet of non-potable water from the Byron Bethany Irrigation District (BBID). The Wet Compression Project's operational phase water demand is estimated to be up to 19.9 AFY or about 36 percent of the total allotment. Based on historical and projected TCCP water demand, the existing water supply allotment is adequate to cover the combined Wet Compression Project and TCCP water demand. In case BBID water becomes unavailable, the project may use the following backup water sources, as available, in accordance with Soil and Water-4:

1. Tertiary treated recycled water trucked from the City of Tracy wastewater treatment plant distribution system.
2. Raw water supply from the General Electric industrial water supply facility in San Jose, California, may be used when recycled water from the City of Tracy is unavailable.
3. Groundwater from the neighboring Bogetti family well may be used when recycled water from the City of Tracy is unavailable, if a CPM approved offset plan is in place and adhered to.
4. In the event backup water supplies described above are not available, the project owner may truck the necessary GWF Henrietta facility water supply for use at GWF Tracy.

The Wet Compression Project equipment, water treatment trailers, and laydown/worker parking areas will be located on previously disturbed and paved and/or gravel covered areas within the existing TCCP power block area. Construction activities will not result in construction or operational phase related impacts to soil erosion and sedimentation to water resources.

In summary, no adverse impacts to soil and water resources associated with construction or operation of the Wet Compression Project are expected to occur.

5.9.3 Mitigation Measures

The Wet Compression Project modifications will not create a significant impact on soil or water resources that will require additional mitigation measures.

5.9.4 Consistency with LORS

The project conforms to applicable laws related to soil and water resources.

5.9.5 Conditions of Certification

The proposed modifications do not require changes to the COCs for soil and water resources.

5.9.6 References

MRP San Joaquin Energy, LLC (MRP). 2021. Tracy Peaker Plant (08-AFC-07), 2020 Annual Compliance Report of Operations. April 28.

5.10 Cultural Resources

5.10.1 CEC Certification of TCCP

This Petition to Amend does not require changes to the cultural resources information as described in the Commission Decision and subsequent Commission Orders. The Wet Compression Project facilities are in an area that has been previously disturbed during construction and operation of the current TCCP site which has been in continuous industrial use for power generation since 2003. As part of the construction of the TPP, a complete cultural resources survey was performed and appropriate mitigation for impacts to cultural resources were implemented. It was determined that the cumulative impact to cultural resources was insignificant (CEC 2010).

5.10.2 Environmental Analyses

The Wet Compression Project will not result in potential impacts greater than those analyzed in the March 2010 AFC (CEC 2010) for conversion of the TPP to the TCCP. The Wet Compression Project equipment will be installed in paved or graveled portions of the existing TCCP power block area adjacent to the combustion turbines where there is no exposed native soil that could be subject to subsurface disturbance associated with project activities. Installation of the wet

compression facilities will not require subsurface disturbance that could impact buried cultural resources. The Wet Compression Facilities will not alter the appearance of the project site such that offsite historic resources could be affected.

In summary, no adverse impacts to cultural resources associated with construction or operation of the Wet Compression Project are expected to occur.

5.10.3 Mitigation Measures

The Wet Compression Project modifications will not create a significant impact on cultural resources that will require additional mitigation measures.

5.10.4 Consistency with LORS

The project conforms to applicable LORS related to cultural resources.

5.10.5 Conditions of Certification

The proposed modifications do not require changes to the COCs for cultural resources.

5.10.6 References

CEC. 2010. Final Commission Decision. GWF Tracy Combined Cycle Power Plant Project, Application for Certification (08-AFC-07), San Joaquin County. March.

5.11 Geological and Paleontological Resources

5.11.1 CEC Certification of TCCP

This Petition to Amend does not require changes to the geologic hazards or paleontological resources information as described in the Commission Decision and subsequent Commission Orders.

The Wet Compression Project facilities are in an area that has been previously disturbed during construction and operation of the current TCCP site. The 2010 Commission Decision concluded that potential significant impacts related to geologic resources and hazards and paleontological resources could be avoided through compliance with the COCs stipulated in the Final Decision (CEC 2010). The Final Decision stipulates COCs PALEO-1 through PALEO-7 to address and avoid significant impacts to paleontological resources.

5.11.2 Environmental Analyses

The Wet Compression Project will not result in potential impacts greater than those analyzed in the March 2010 AFC (CEC 2010) for conversion of the TPP to the TCCP. The Wet Compression Project equipment will be installed in paved or graveled portions of the existing TCCP power block area adjacent to the combustion turbines where there is no exposed native or unstable soil that could be subject to subsurface disturbance associated with project activities. Potential impacts related to geologic hazards would be mitigated through compliance with applicable building design codes and conformance with applicable COCs as previously stipulated in the Final Decision (CEC 2010) such as Facility Design Conditions GEN-1, GEN-5, and CIVIL-1.

Installation of the proposed wet compression facilities will occur in previously disturbed and graded areas and would not require subsurface disturbance at depths that could impact buried sensitive paleontological resources.

In summary, no adverse impacts related to geologic conditions or paleontological resources associated with construction or operation of the Wet Compression Project are expected to occur.

5.11.3 Mitigation Measures

The Wet Compression Project modifications will not result in significant impacts related to geologic conditions or paleontological resources that will require additional mitigation measures.

5.11.4 Consistency with LORS

The project conforms to applicable LORS related to geological and paleontological resources.

5.11.5 Conditions of Certification

The proposed modifications do not require changes to the COCs for geological and paleontological resources

5.11.6 References

CEC. 2010. Final Commission Decision. GWF Tracy Combined Cycle Power Plant Project, Application for Certification (08-AFC-07), San Joaquin County. March.

5.12 Land Use

5.12.1 CEC Certification of TCCP

This Petition to Amend does not require changes to the land use information as described in the Commission Decision and subsequent Commission Orders.

5.12.2 Environmental Analyses

The proposed Wet Compression Project facilities are located in the existing TCCP power block area which has been previously disturbed and developed. The 2010 Commission Decision concluded that the TCCP is a conditionally permitted use in the Agriculture (AG-40) zone in unincorporated San Joaquin County. The TCCP site has been previously mitigated for loss of prime farmland and habitat when the TPP was originally permitted in accordance with the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). Under the SJMSCP the TCCP project was not required to mitigate further for activities on the same acres. The CEC Final Decision for the TCCP (CEC 2010) stated that that there is no evidence that the TCCP would result in any unmitigated public health or environmental impacts to rural residences within a one-mile radius of the site. The CEC determined the TCCP to be compatible with surrounding uses and zoning districts. Addition of the Wet Compression Project would not be expected to affect the validity of these previous determinations by the CEC.

5.12.3 Mitigation Measures

The Wet Compression Project modifications will not result in significant impacts related to land use that will require additional mitigation measures.

5.12.4 Consistency with LORS

The project conforms to applicable LORS related to land use.

5.12.5 Conditions of Certification

The proposed modifications do not require changes to the COCs for land use.

5.12.6 References

CEC. 2010. Final Commission Decision. GWF Tracy Combined Cycle Power Plant Project, Application for Certification (08-AFC-07), San Joaquin County. March.

5.13 Traffic and Transportation

5.13.1 CEC Certification of TCCP

This Petition to Amend does not require changes to the traffic and transportation information as described in the Commission Decision and subsequent Commission Orders.

5.13.2 Environmental Analyses

Construction of the Wet Compression Project is planned to occur over a 1- to 2-month period in April and May of 2022 during a previously scheduled major facility maintenance outage. The construction activities for the Wet Compression Project are expected to require 15 workers and a total of 4 truck trips. This level of construction traffic will not result in significant traffic and transportation related impacts. No additional TCCP workers would be required to operate the Wet Compression Project.

For reference, the traffic and transportation analysis in the CEC Final Decision for the TCCP (CEC 2010) was based on an assumed average number of construction workers at approximately 171 with a peak workforce of approximately 398 workers for conversion of the Tracy peaker plant to a combined cycle power plant. The Commission concluded that construction and operation of the TCCP, as mitigated, would not result in any significant, direct, indirect, or cumulative adverse impacts to the local or regional traffic and transportation system. The Wet Compression Project temporary traffic generation would be much lower than the TCCP levels which were found to be insignificant.

5.13.3 Mitigation Measures

The Wet Compression Project modifications will not result in a significant impact related to traffic and transportation and will not require additional mitigation measures.

5.13.4 Consistency with LORS

The project conforms to applicable laws related to hazardous materials handling.

5.13.5 Conditions of Certification

The proposed modifications do not require changes to the COCs for traffic and transportation.

5.13.6 References

CEC. 2010. Final Commission Decision. GWF Tracy Combined Cycle Power Plant Project, Application for Certification (08-AFC-07), San Joaquin County. March.

5.14 Socioeconomics

5.14.1 CEC Certification of TCCP

This Petition to Amend does not require changes to the social and economic conditions information as described in the Commission Decision and subsequent Commission Orders.

5.14.2 Environmental Analyses

Construction of the Wet Compression Project is planned to occur over a 1- to 2-month period in April and May of 2022 during a previously scheduled major facility maintenance outage. The short-term construction activities for the Wet Compression Project are expected to require 15 workers. No additional TCCP workers would be required to operate the Wet Compression Project.

The environmental justice assessment conducted for the TCCP as reported in the Commission's Final Decision (CEC 2010) determined the following:

- The minority population within a six-mile radius of the TCCP project site exceeded the 50 percent threshold for a screening level environmental justice analysis.
- The screening level environmental justice analysis for the TCCP indicated that there would be no disproportionate impacts on low-income and/or minority populations because the mitigated project does not result in any significant health or environmental impacts to any population in the project vicinity.
- The TCCP project would provide direct, indirect and induced economic benefits to San Joaquin County and surrounding communities.
- Construction and operation of the TCCP project would not result in any direct, indirect, or cumulative significant adverse socioeconomic impacts.

With consideration of the much smaller size of the Wet Compression Project relative to the TCCP and the fact that the Wet Compression Project would not involve the construction of any new habitable structures and would not have a need for an incremental operational workforce at the TCCP, the conclusions listed above for the TCCP are still considered applicable for the Wet Compression Project.

5.14.3 Mitigation Measures

The Wet Compression Project modifications will not result in a significant impact related to socioeconomics and will not require additional mitigation measures.

5.14.4 Consistency with LORS

The project conforms to applicable laws related to socioeconomics.

5.14.5 Conditions of Certification

The proposed modifications do not require changes to the COCs for socioeconomics.

5.14.6 References

CEC. 2010. Final Commission Decision. GWF Tracy Combined Cycle Power Plant Project, Application for Certification (08-AFC-07), San Joaquin County. March.

5.15 Noise and Vibration

5.15.1 CEC Certification of TCCP

This Petition to Amend does not require changes to the noise and vibration information as described in the Commission Decision and subsequent Commission Orders.

5.15.2 Environmental Analyses

The proposed Wet Compression Project modifications to the TCCP will not increase noise-producing activities at the site. Therefore, no significant noise or vibration impacts are expected.

5.15.3 Mitigation Measures

The Wet Compression Project modifications will not create significant noise and vibration impacts that will require additional mitigation measures.

5.15.4 Consistency with LORS

The project conforms to applicable laws related to noise and vibration.

5.15.5 Conditions of Certification

The proposed modifications do not require changes to the COCs for noise and vibration.

5.16 Visual Resources

5.16.1 CEC Certification of TCCP

This Petition to Amend does not require changes to the visual resources information as described in the Commission Decision and subsequent Commission Orders.

5.16.2 Environmental Analyses

Construction of the proposed Wet Compression Project modifications to the TCCP will require temporary use of a crane which may create a short term and insignificant visual impact. The proposed Wet Compression Project components will be installed in the existing power block area and will be much smaller in scale than the existing TCCP facilities. The wet compression equipment will not be visible from public viewing areas and will not alter the appearance of the existing TCCP.

The wet compression system will introduce additional water into the combustion turbines inlet air during periods of high ambient temperatures. The increase in water concentration in the turbine inlet air will result in slightly more water in the turbine exhaust gas. This increase in exhaust water concentrations is not expected to result in significantly more frequent visual water vapor plumes or to increase the size of any exhaust stack visible plumes as the wet compression operation will occur only during high ambient air temperatures when the potential for plume formation is low.

In summary, no significant visual resource related impacts from implementation of the project are expected.

5.16.3 Mitigation Measures

The Wet Compression Project modifications will not create significant visual resource impacts that will require additional mitigation measures.

5.16.4 Consistency with LORS

The project conforms to applicable laws related to visual resources.

5.16.5 Conditions of Certification

The proposed modifications do not require changes to the COCs for visual resources.

APPENDIX B

SJVAPCD TITLE V MODIFICATION APPLICATION

MRP San Joaquin Energy, LLC

August 6, 2021

Mr. Nick Peirce
Permit Services Manager
San Joaquin Valley Air Pollution Control District
Norther Region
4800 Enterprise Way
Modesto, CA, 95356-8718
Nick.Peirce@valleyair.org

Re: Permit Application Minor Modification
Wet Compression Project
Facility ID No. N-4597
MRP San Joaquin Energy, LLC

Mr. Pierce:

Enclosed please find an application for a Title V Permit Minor Modification from San Joaquin Valley Air Pollution Control District (SJVAPCD) to install wet compression systems for the combustion turbines at the Tracy Combined-Cycle Power Plant and incorporate them into the facility's Title V Permit.

If you have any questions regarding the application, or require additional information, please feel free to contact me at (760) 912.3007. Thank you for your time and consideration in this matter.

Respectfully,

Jon Boyer

Jon Boyer
Director – Environmental, Health, and Safety

Enclosure: Title V Modification Application Package

cc: Mr. Anwar Ali
California Energy Commission

Title V Modification Application
Installation of Wet Compression System to CTGs
MRP San Joaquin Energy, LLC
Tracy Combined-Cycle Power Plant
Facility ID # N-4597

August 2021

PREPARED BY:

NAES

Energy People Making Energy Facilities Work - Better
13 Reads Way Suite 100
New Castle, DE 19720

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1.0 INTRODUCTION

MRP San Joaquin Energy, LLC owns and operates an existing power plant in Tracy, California. The facility, Tracy Combined-Cycle Power Plant (TPP), is seeking an Authority to Construct (ATC) from San Joaquin Valley Air Pollution Control District (SJVAPCD) to install a wet compression system on the combustion turbine generators (CTG). This application contains applicable forms obtained from the SJVAPCD and additional information and attachments required to complete the application.

Table 1: Facility Information

Name of Owner	MRP San Joaquin Energy, LLC
Facility Name	Tracy Combined-Cycle Power Plant
SJVAPCD Facility ID	N-4597
Equipment Location	14950 W. Schulte Rd Tracy, CA 95377
Mailing Address	14950 W. Schulte Rd Tracy, CA 95377
Facility Contact	Taylor Leach
Title	EHS Specialist
Telephone Number	(209) 275-7079 (mobile)
E-Mail Address	Taylor.Leach@naes.com
Responsible Official	Claude Couvillion
Title	Vice President of Operations
Telephone Number	(313) 766-8716
E-Mail Address	jcouvillion@mrpgenco.com
Title V Permit Expiration Date	June 30, 2024
Title V Permit Shield in Effect?	Yes

2.0 PROCESS AND EQUIPMENT DESCRIPTION

TPP is a power generation facility consisting of two natural gas-fired CTGs, each equipped with dry low NOx combustors, a selective catalytic reduction (SCR) system, and an oxidation catalyst. A dry extractive continuous emissions monitoring system (CEMS) is installed on each GTG's exhaust stack to measure oxygen (O_2), carbon monoxide (CO), and nitrogen oxides (NO_x).

2.1 Equipment List

A detailed description of permitted equipment at the facility is included in the Permits to Operate (PTOs) for the equipment, and is summarized in the table below.

Table 2: Permitted Equipment List

Permit to Operate No.	Equipment Description
N-4597-0-4	Facility-Wide Requirements
N-4597-1-11 (Unit 1) N-4597-2-11 (Unit 2)	88 MW nominally rated combined-cycle power generating systems #1 and #2 consisting of a General Electric Model PG 7121 EA natural gas-fired combustion turbine generator with an inlet air filtration and cooling system (evaporative and fogging), dry low NO_x combustion, a selective catalytic reduction (SCR) system with ammonia injection, an oxidation catalyst, heat recovery steam generators (HRSG) #1 and #2 with a 380 MMBtu/hr duct burner (maximum firing rate of 345 MMBtu/hr) and a single 168 MW nominally rated steam turbine (shared between systems #1 & #2)
N-4597-4-5	471 HP Caterpillar Model 3456 DI TA AA diesel-fired Emergency IC engine powering a 300 KW electric generator
N-4597-5-2	39 MMBtu/hr natural gas-fired English Boiler and Tube, Inc. Model 28D375 Boiler (S/N 31015) with an ultra-low-NOx burner and flue gas recirculation
N-4597-6-2	235 BHP Cummins Model CFP7E-50 Tier 3 diesel-fired Emergency IC engine powering a firewater pump

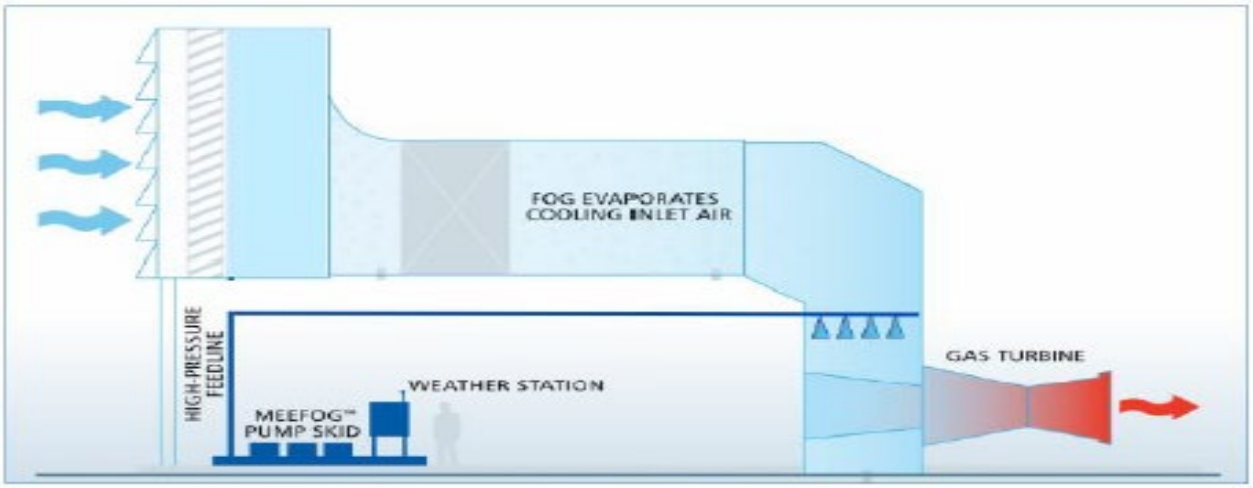
2.2 Operating Schedule

The facility is designed to operate 24-hours per day, 7-days per week, but is operated and dispatched in response to changes to market electrical demand.

3.0 PROJECT DESCRIPTION

Wet Compression is a water-based injection system installed in the gas turbine inlet and is used to provide additional power output by creating an increased mass flow similar to evaporation coolers or fogging. Wet Compression is accomplished by spraying more fog than is required to fully saturate the inlet air. The excess fog droplets are carried into the gas turbine compressor where they evaporate and produce an intercooling effect. The injected water reduces the temperature of the air prior to compression, which reduces the work required to be performed by the compressor. Nearly 50-65% of the turbine output is used to drive the compressor; therefore, a reduction in the workload to the compressors results in a net increase in the power available. The wet compression system also results in a reduction in compressor discharge temperature which in turn results in lower combustion temperature and lower turbine exhaust temperature for the same fuel flow rate. Turbine output is controlled by turbine exhaust temperature so that for the same design controlling exhaust temperature, additional mass flow of fuel and water can be added. This results in an increase in power from the combustion turbine. In addition to the increase in generation and improvement in heat rates, the wet compression system is expected to result in slight reductions in NO_x emissions from the combustion turbine.

Figure 1: Wet Compression Diagram



Typical MeeFog Installation for wet compression

The cooling effect can only be accomplished when ambient temperatures exceed 60 ^{o}F. Wet compression would typically operate at temperatures greater than exceed 90 ^{o}F, when the plant is de-rated due to ambient conditions. Based on modelling by the manufacturer, TPP expects wet compression to increase the output by as much as 12 MW per gas turbine during warm weather, mitigating the thermal ambient de-rate. Rated capacity of the unit is not expected to change, but by avoiding de-rate during high heat events, the project will better enable the TPP to contribute to reliability needs during peak conditions in the summer. The system includes a skid of high-

pressure pumps that delivers water from the plant demineralization system to a grid array of nozzles in the gas turbine inlet.

4.0 REGULATORY REVIEW

The San Joaquin Valley Air Basin is classified as an extreme non-attainment area for the 2015 National Ambient Air Quality Standards (NAAQS) for ozone and as a serious non-attainment area for the 1997, 2006, and 2012 NAAQS for particulate matter with diameters of 2.5 micrometers or less ($PM_{2.5}$). This area has been designated attainment or unclassifiable for the NAAQS for carbon monoxide (CO), particulate matter (PM), particulate matter with diameters of 10 micrometers or less (PM_{10}), and sulfur dioxide (SO_2).

As an extreme ozone non-attainment area, major sources are defined as sources that generate more than 10 tons per year of NO_x or volatile organic compounds (VOC) as ozone precursors. For serious non-attainment areas, "major stationary sources" include any stationary source that emits, or has the potential to emit, at least 70 tons per year of $PM_{2.5}$.

Table 3 identifies the potential emissions from the facility. TPP is not a major source for any pollutant for which the area has been designated attainment as defined by the Federal Prevention of Significant Deterioration (PSD) and New Source Review (NSR) pre-construction permitting program regulations at 40 CFR §52.21(b)(1)(i)(a) and (b). The facility is a major source under the non-attainment (NANSR) regulations because its potential to emit NO_x and VOC exceed the major source thresholds of 10 tons per year, as specified in SJVAPCD District Rule 2201, New And Modified Stationary Source Review Rule. Table 4 (following Table 3 below) identifies the current short-term emissions limits applicable to the CTGs at TPP.

Tracy Combined Cycle Power Plant
Potential Emissions Per Title V Permit # N-4597
Table 3

	NO_X	**VOC**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**CO**
Permitted Emission Rate Per CTG (lbs/yr)	88,881	15,145	7,084	32,250	32,250	74,598

Tracy Combined Cycle Power Plant
Potential Emissions Per Title V Permit # N-4597
Table 3

	NO_X	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO
Permitted Emission Rate for Both CTGs (lbs/yr)	177,762	30,290	14,168	64,500	64,500	149,196
Permitted Emission Rate for Boiler (lbs/yr)	1,139	780	1,092	1,092	1,092	5,772
Permitted Emission Rate for Engines (lbs/yr)	641	2	0.025	29	29	309
Permitted Emission Rate for All Sources (tons/yr)	89.77	15.54	7.63	32.81	32.81	77.64
Major Source Threshold (tons/yr)	250	250	250	250	250	250
PSD Major Source Threshold	N/A	N/A	N/A	N/A	N/A	N/A
NANSR Major Source Threshold (tons/yr)	10.0	10.0	70.0	70.0	70.0	100.0
Exceeds NANSR Major Source Threshold	Yes	Yes	N/A	N/A	N/A	N/A

Tracy Combined-Cycle Power Plant CTG Emission Limits Table 4						
Regulated Air Pollutant	**Duct Burner Firing**	**Permitted Emission Rates (Per CTG)**				
		lbs/hr	**ppmvd @15% O_2**	**Startup lbs/event**	**Shutdown lbs/event**	**Daily lb/day**
Nitrogen dioxide (NO_X)	No	8.10	2.00	390.5	104.0	814.9
	Yes	10.30	2.00			
Carbon monoxide (CO)	No	3.90	2.00	562.5	148.0	1,071.6
	Yes	6.00	2.00			
Sulfur dioxide (SO_2)	No	2.03	N/A	4.1	1.1	58.7
	Yes	2.63				
Volatile organic compound (VOC)	No	1.13	1.50	10.5	2.6	78.6
	Yes	3.22	2.00			
Particulate matter (PM_{10})	No	4.40	N/A	11.0	3.0	132.0
	Yes	5.80				

4.1 Past Actual to Projected Actual Analysis

There are three regulatory programs that could potentially affect the project as described. The Federal Non-Attainment NSR and PSD pre-construction permitting programs, and the New Source Performance Standards (NSPS) program. The following presents a discussion of the applicability of these regulatory requirements as a result of the proposed project.

1. Prevention of Significant Deterioration (PSD)

The current permit contains conditions that address the applicability of the permit programs for new and modified sources under Title I of the Clean Air Act (CAA), the PSD regulations promulgated at 40 CFR §52.21, and SJVAPCD District Rule 2201. The Federal PSD pre-construction permitting program applies to projects that emit pollutants for which the air quality in the area is better than the NAAQS. As indicated above, TPP is located in an area that is currently designated in attainment or unclassifiable for the CO, PM_{10}, and SO_2 NAAQS. PSD applicability is determined for each PSD pollutant by evaluating whether the proposed project will result in

significant emissions increases or is a new major source itself per 40 CFR §52.21(a) and (b). Specifically, the sections of the Federal PSD regulations of concern include the following:

> ***40 CFR §52.21(b)(1)(i)(b) Notwithstanding the stationary source size specified in paragraph (b)(1)(i) of this section, any stationary source which emits, or has the potential to emit, 250 tons per year or more of a regulated NSR pollutant; or***
>
> ***(b)(1)(i)(c) Any physical change that would occur at a stationary source not otherwise qualifying under paragraph (b)(1) of this section, as a major stationary source, if the changes would constitute a major stationary source by itself.***
>
> ***(b)(2)(i) Major modification means any physical change in or change in the method of operation of a major stationary source that would result in: a significant emissions increase (as defined in paragraph (b)(40) of this section) of a regulated NSR pollutant (as defined in paragraph (b)(50) of this section); and a significant net emissions increase of that pollutant from the major stationary source.***

TPP is a true minor source of PM_{10}, VOC, and SO_2 emissions and has accepted enforceable limits on its NO_x and CO emissions to ensure its status as a PSD synthetic minor source. TPP is permitted to operate its CTGs continually, and is not requesting an increase in any short-term or annual permitted emissions limit. However, the federal and SJVAPCD regulations require that the applicability of the pre-construction permitting be determined for all projects where a physical change or change in the method of operation is proposed at a major source. Therefore, the addition of the wet compression system must be evaluated. The past actual to projected actual analysis is included to fulfill this requirement and ensure a completeness determination for an agency review and is presented below in Table 5.

Tracy Power Plant
Wet Compression Project
Projected to Past Actual Emissions
Table 5

	Operating Hours	**Gross Load (MW)**	**Heat-Rate (mmBtu)**	**NOx Mass (tons)**	**SO_2 Mass (tons)**	**VOC Mass tons)**	**PM_{10} Mass (tons)**	**$PM_{2.5}$ Mass (tons)**	**CO Mass tons)**	**CO_2 Mass (tons)**
Projected Actual Emissions from Normal Operations	14,900	1,813,683	14,215,870	71.7	4.3	1.4	11.5	11.5	11.2	852,665

Tracy Power Plant
Wet Compression Project
Projected to Past Actual Emissions
Table 5

	Operating Hours	Gross Load (MW)	Heat-Rate (mmBtu)	NOx Mass (tons)	SO_2 Mass (tons)	VOC Mass tons)	PM_{10} Mass (tons)	$PM_{2.5}$ Mass (tons)	CO Mass tons)	CO_2 Mass (tons)
Projected Actual Emissions for Wet Compression Ops	1,000	200,000	2,064,000	4.9	0.4	0.5	0.01	0.01	1.1	85,000
A. Projected Actual Emissions	15,900	2,013,683	16,279,870	76.6	4.734	1.9	11.5	11.5	12.4	937,665
B. Baseline Actual Emissions	8,120	991,124	7,819,248	39.0	2.346	0.78	6.3	6.3	6.1	464,690
C. Project Increases (C = A - B)	7,780	1,022,559	8,460,623	37.6	2.388	1.1	5.2	5.2	6.2	472,975
H. Highest Average Monthly Operating Level	1,341	163,257	1,279,629	4.7	0.38	0.26	0.9	0.9	0.9	76,048
I. Annualized Highest Average Operating Level (I = H/31 X 365)	15,792	1,922,220	15,066,596	54.8	4.5	3.0	10.9	10.9	10.5	895,409
J. Permit Limit Adjusted Annual Highest Operating Level	15,792	1,922,220	15,066,596	88.9	7.1	15.1	32.3	32.3	74.6	895,409
K. Demand Growth Exclusion (K = J - B)	7,671	931,096	7,247,348	49.9	4.7	14.4	26.0	26.0	68.5	430,719

Tracy Power Plant
Wet Compression Project
Projected to Past Actual Emissions
Table 5

	Operating Hours	Gross Load (MW)	Heat-Rate (mmBtu)	NOx Mass (tons)	SO_2 Mass (tons)	VOC Mass tons)	PM_{10} Mass (tons)	$PM_{2.5}$ Mass (tons)	CO Mass tons)	CO_2 Mass (tons)
P. Project Increases Less Demand Growth (P = C - K)	108	91,463	1,213,274	0.0	0.0	0.0	0.0	0.0	0.0	42,257
Sig PSD Major Source Threshold	N/A	N/A	N/A	250	250	N/A	N/A	N/A	250	250/ 100000
PSD Review Required?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PSD Significant Net Emission Increase	N/A	N/A	N/A	40.0	40.0	N/A	N/A	N/A	100.0	75,000
PSD BACT Reqd?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NANSR Significant Net Emission Increase	N/A	N/A	N/A	0.0	40.0	0.0	15.0	10.0	N/A	N/A
NANSR Review Required?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Rounding may impact the values in Table 5

The baseline actual NO_x, SO_2, and CO_2 emissions were based upon the annual average of EPA's Field Audit Checklist Tool (FACT) data for the 24-month period ending October 2019 for CTGs 1 and 2. The baseline actual emissions for CO, VOC, and PM_{10} were based upon the annual average of data generated from the continuous emissions monitors (CEMs) and stored in the plant's data acquisition system.

The projected actual emissions identified in Table 5 during normal operations were based upon the use of the average emission rates from the 24-month baseline period. The manufacturer's estimates of the pre-controlled emissions indicated a slight decrease in uncontrolled NO_x emissions, but a guarantee was not provided. Therefore, the maximum post-control emissions from the 24-month baseline were used to project the actual emissions when operating the wet compression system for the 1,000 hours projected per year.

TPP is a minor source of all PSD regulated criteria pollutants and the facility is not proposing a modification that is a major source. In addition, the output increase anticipated from the wet compression project is excluded from PSD review by 40 CFR §52.21(b)(1)(i)(b)(2)(iii)(f) which excludes increases of the production rate from the definition of a physical change if not prohibited by the permit. Therefore, the PSD permitting regulations do not apply to this project.

> ***(b)(2)(iii) A physical change or change in the method of operation shall not include:***
>
> ***(b)(2)(iii)(f) An increase in the hours of operation or in the production rate, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR subpart I or 40 CFR 51.166.***

2. Non-attainment New Source Review

Because TPP is major source of NO_x and VOC the project must be evaluated under the non-attainment regulations. The pre-construction permitting regulations for extreme non-attainment areas mandate federal review for any increase in annual emissions of VOC and NO_x at major sources of precursor pollutants of ozone. Specifically, 40 CFR §51.165(a)(1)(x)(C) and (E) states the following:

> **40 CFR §51.165(a)(1)(x)(C) For the purposes of applying the requirements of paragraph (a)(8) of this section to modifications at major stationary sources of nitrogen oxides located in an ozone nonattainment area or in an ozone transport region, the significant emission rates and other requirements for volatile organic compounds in paragraphs (a)(1)(x)(A), (B), and (E) of this section shall apply to nitrogen oxides emissions.**
>
> **40 CFR §51.165(a)(1)(x)(E) Notwithstanding the significant emissions rates for ozone under paragraphs (a)(1)(x)(A) and (B) of this section, any increase in actual emissions of volatile organic compounds from any emissions unit at a major stationary source of volatile organic compounds located in an extreme ozone nonattainment area that is subject to subpart 2, part D, title I of the Act shall be considered a significant net emissions increase.**

Because the post-project hourly emission rates are based upon the same rates emitted during the baseline, the past actual to projected actual analysis above demonstrates no increase in annual emissions of any pollutant when demand growth is considered. The demand growth emissions were estimated from the June 2019 emissions and operating levels. The CTGs operated for a combined total of 8,120 hours during the baseline. Each CTG is permitted to operate for approximately 8,000 hours individually. The demand growth exclusion demonstrates that TPP is already capable of accommodating the generation of electricity at the post-project level. TPP is not a major source of $PM_{2.5}$ and the project will not result in an increase in any pollutants. As a result, the addition of the wet compression system is not a major modification under the federal regulations.

3. SJVAPCD Non-attainment New Source Review

Section 3.25.1.2 of SJVAPCD Rule 2201 defines a modification as:

> **3.25.1.2 Any structural change or addition to an existing emissions unit which would necessitate a change in permit conditions.**

The installation of the wet compression system is a structural addition to the CTGs but TPP is not requesting any revisions to its hourly, daily, or annual emission or operational limits to accommodate the project. Section 4.0 of SJVAPCD Rule 2201 requires additional analysis of the post-project daily emissions to determine applicability of Best Available Control Technology (BACT) and offsets. Section 4.1.2 mandates a pollutant-by-pollutant analysis as indicated in Section 4.3, both of which are copied below.

> **4.1.2 Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding 2.0 pounds in any one day;**
>
> **4.3 Adjusted Increase in Permitted Emissions (AIPE) Calculations: Adjusted Increase in Permitted Emissions shall be calculated as:**
>
> **AIPE = PE2 - HAPE**
>
> **Where:**
> **AIPE = Adjusted Increase in Permitted Emissions, pounds per day**
> **PE2 = the emissions units post project Potential to Emit, pounds per day**
> **HAPE = the emissions unit's Historically Adjusted Potential to Emit, pounds per day**
>
> **4.4 Historically Adjusted Potential to Emit (HAPE) Calculations: Historically Adjusted Potential to Emit shall be calculated as**
>
> **HAPE = PE1 x (EF2 / EF1)**
>
> **Where:**
> **PE1 = The emissions unit's Potential to Emit prior to modification or relocation**
> **EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1.**
> **EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation**

The average hourly emissions during the baseline period represent EF1 for each pollutant. The post-control emission reductions anticipated are not guaranteed by the turbine vendor, so the

worst-case hourly emissions from the baseline period were used to estimate the hourly emissions (EF2) after the project. The AIPE analyses for NOx and VOC are documented below.

$HAPE_{NOx} = PE1_{NOx}$ x ($EF2_{NOx}$ / $EF1_{NOx}$) = 814.9 lb/day x (9.89/9.62) = 814.9 lb/day NO_x, since $EF2_{NOx}$ is greater than $EF1_{NOx}$

$AIPE_{NOx} = PE2_{NOx} - HAPE_{NOx}$ = 814.9 - 814.9 lb/day = 0 lb/day NO_x

$HAPE_{VOC} = PE1_{VOC}$ x ($EF2_{VOC}$ / $EF1_{VOC}$) = 78.6 lb/day x (0.19/0.14) = 78.6 lb/day VOC

$AIPE_{VOC} = PE2_{VOC} - HAPE_{VOC}$ = 78.6 lb/day - 78.6 lb/day = 0 lb/day VOC

As indicated above, there are no additional adjustments required for NO_x or VOC emissions. The same is true of all regulated pollutants, which based the EF1 emission factors from the average during the baseline and the EF2 from the maximum emission rates from the same period. Since there are no adjusted emissions increases for any pollutant, BACT requirements are not applicable. The same is the case for the offset provisions in SJVAPCD Rule 2201 Section 4.6 since there are no increases in the potential emission of any pollutant. In addition to emission control strategies included in the 2010 project design of the combined cycle installation, TPP surrendered emission reduction credits (ERCs) in 2003 and 2010 to offset permitted emissions. SJVAPCD Rule 2201 required TPP to offset any net emissions increases of NO_x, VOC, and $PM_{10}/PM_{2.5}$ at the time of the original TPP permitting as well as the offsets for CO and SO_x surrendered for the combined-cycle project.

The lack of any increase in potential emissions along with the past actual to projected actual analysis in Table 5 demonstrate that the wet compression project does not result in a significant emission increase for any pollutant. Therefore, the project is not a major modification as defined in the Federal and SJVACPD air permitting regulations.

4. New Source Performance Standards (NSPS)

The affected CTGs are subject to Subpart KKKK, therefore the definition of modification must also be evaluated in terms of that specified under the NSPS modification and reconstruction provisions in section 60.14, 60.15, and Subpart KKKK.

Modification
40 CFR 60 Subparts A
40 CFR §60.2 Definitions indicates:

> ***Modification means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted.***

An additional clarification for the definition of modification is found in 40 CFR 60.14(a), which states that a modification is ***"…any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant for which a standard applies".***

Section 40 CFR 60.14(b) clarifies that the "***emission rates before and after a physical or operational change are expressed in kilograms per hour when determining if an emissions increase has occurred".*** Therefore, the determination of what constitutes a modification must be evaluated on an hourly basis, rather than an annual basis.

The maximum hourly emissions rate must be determined per 40 CFR §60.14(h) which further clarifies the exclusions from modifications specific for existing electric utility steam generating units:

> ***(h) No physical change, or change in the method of operation, at an existing electric utility steam generating unit shall be treated as a modification for the purposes of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the 5 years prior to the change.***

The wet compression project will not result in an increase in the maximum achievable emissions rate from the CTGs. In fact, a slight decrease in emission rates is anticipated, but not guaranteed by the CTG vendor. An analysis of the previous 5 years of the hourly emissions data indicates that the maximum hourly emission rates were 9.89 lb/hr NO_x and 0.86 lb/hr SO_2. The maximum hourly emissions rates will not increase after the wet compression project. There may in fact be slight decreases in emissions after the project, resulting in no modification as defined by the NSPS general provisions.

Reconstruction
The NSPS reconstruction provisions are triggered, irrespective of any change in emissions, when the fixed capital cost of the reconstruction exceeds 50 percent of the cost of a comparable new facility. As described under 40 CFR 60.15, the fixed capital cost of the new components must be compared to the fixed capital cost of a comparable entirely new facility. The $4.6 million cost to purchase and install the dampers and the replacement parts will not exceed more than 50% of the fixed capital cost that would be required to construct a comparable new affected facility, projected to be $220.2 million. Therefore, the wet compression project will not result in reconstructed CTGs or any new NSPS requirements.

5.0 PROPOSED PERMIT REVISIONS

TPP hereby submits this application to authorize the installation of a wet compression system, but is not requesting any changes to the emission limits of any regulated pollutant emitted from

the CTGs and other permitted equipment at the facility. The facility is proposing the following revision to the equipment descriptions in Operating Permit Nos. N-4597-1-11 and N-4597-2-11.

EQUIPMENT DESCRIPTION:

88 MW NOMINALLY RATED COMBINED-CYCLE POWER GENERATING SYSTEM #1 CONSISTING OF A GENERAL ELECTRIC MODEL PG 7121 EA NATURAL GAS-FIRED COMBUSTION TURBINE GENERATOR WITH AN INLET AIR FILTRATION**, WET COMPRESSION,** AND COOLING SYSTEM (EVAPORATIVE AND FOGGING) DRY LOW NOX COMBUSTION, A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION, AN OXIDATION CATALYST, HEAT RECOVERY STEAM GENERATOR #1 (HRSG) WITH A 380 MMBTU/HR DUCT BURNER (MAXIMUM FIRING RATE 345 MMBTU/HR) AND A 168 MW NOMINALLY RATED STEAM TURBINE (SHARED WITH N-4597-2)

6.0 PERMITTING FEES

The facility is requesting expedited processing of the ATC in order to initiate the project during a scheduled outage between April 2, and May 29, 2022 with a commissioning expected in late May or early June 2022. MRP San Joaquin Energy, LLC authorizes invoicing of reimbursable overtime for the expedited review, and will remit the fees associated with the expedited review upon receipt of an invoice issued by SJVAPCD.

APPENDIX A – SJVAPCD AUTHORITY TO CONSTRUCT APPLICATION FORMS

San Joaquin Valley Air Pollution Control District

www.valleyair.org

Checklist for Permit Applications:

To avoid unnecessary delays, please review the following checklist before submitting your Authority to Construct/Permit to Operate Application.

Checklist for Complete Applications (include the following)	
☒	1. A signed Authority to Construct/Permit to Operate Application.
☒	2. Include a site map that identifies the location(s) where the new/modified unit(s) will operate and the approximate property lines. This is required for any proposal for new equipment, an increase in emissions from existing units, or change in location of emission points.
☐	3. Any applicable supplemental application forms. Supplemental application forms can be found here: http://www.valleyair.org/busind/pto/ptoforms/1ptoformidx.htm
☒	4. Equipment listing (including a list of electric motors with hp rating).
☒	5. Include a short project description, including a process flow schematic identifying emission points.
☒	6. Process parameters (describe throughput, operating schedule, fuel rate, raw material usage, etc.).
☒	7. Identify control equipment/technology.
☒	8. Any additional information required to calculate emissions.
☐	9. $87 filing fee for each permit unit. *Note: Permit application processing time will be billed at the applicable District hourly labor rate*

Detailed Authority to Construct (ATC) and Permit to Operate (PTO) Application Instructions can be found here:

PDF Format: http://www.valleyair.org/busind/pto/ptoforms/atcappinstruct.pdf
Word Format: http://www.valleyair.org/busind/pto/ptoforms/WordDocs/atcappinstruct.doc

Applications may be submitted either by mail or in person at any of the regional offices listed below. The District is pleased to provide businesses with assistance in all aspects of the permitting process. Any business is welcome to call the **Small Business Assistance (SBA) Hotline** or to visit the SBA Office located in each of the regional offices. No appointment is necessary. For more information, please call the SBA Hotline serving the county in which your business is located.

Northern Region Office
(Serving San Joaquin, Stanislaus, and Merced Counties):

4800 Enterprise Way
Modesto, California 95356-8718
(209) 557-6400
FAX: (209) 557-6475
SBA Hotline: (209) 557-6446

Central Region Office
(Serving Madera, Fresno, and Kings Counties):

1990 E Gettysburg Avenue
Fresno, California 93726-0244
(559) 230-5900
FAX: (559) 230-6061
SBA Hotline: (559) 230-5888

Southern Region Office
(Serving Tulare and Kern Counties):

34946 Flyover Court
Bakersfield, California 93308
(661) 392-5500
FAX: (661) 392-5585
SBA Hotline: (661) 392-5665

San Joaquin Valley Air Pollution Control District
Authority to Construct/Permit to Operate Application Form

www.valleyair.org

1. PERMIT TO BE ISSUED TO: MRP San Joaquin Energy, LLC

2. MAILING ADDRESS:
STREET or P O BOX: 14950 W. Schulte Rd
CITY: Tracy STATE: CA ZIP CODE: 95377

3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:
☒ *Check box if same as mailing address and skip to next section.*
STREET: _____ CITY: _____
If a physical address is not available:
ZIP CODE: 1/4 SECTION: TOWNSHIP: RANGE:

4. IS EQUIPMENT WITHIN 1,000 FT OF A SCHOOL?
☐ YES ☐ NO

5. GENERAL NATURE OF BUSINESS:
Power Generation

6. S.I.C. CODE OF FACILITY:

7. TITLE V PERMIT HOLDERS ONLY: Do you request a COC (EPA Review) prior to receiving your ATC?
☒ YES *If yes, please complete and attach a Compliance Certification form (TVFORM-009)*
☐ NO

8. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE:
(*Please include permit #s if known, a site map, a Supplemental Application Form if available, and use additional sheets if necessary*)
Modify the Equipment Descriptions in Permit Unit: N-4597-1-11 and Permit Unit N-4597-2-11 as follows: 88 MW nominally rated Combined-Cycle Power Generating System #1 consisting of a General Electric Model PG 7121 EA natural gas-fired combustion turbine generator with an inlet air filtration, **wet compression system,** and cooling system (Evaporating and fogging), dry low-NOx combustion, a selective catalytic reduction (SCR) system with ammonia injection oxidation catalyst heat recovery steam generator #1 (HRSG) with a 380 million BTU per hour duct burner parentheses maximum firing rate 345,000,000 BTU per hour and a 168 MW nominally rated steam turban parentheses (shared with N-4597-2)

☒ Yes, a site map is included indicating approximate emission locations and property lines.

9. IS THE EQUIPMENT OR MODIFICATION ALREADY INSTALLED OR COMPLETED?
☐ YES *Please provide date of installation:* _____
☒ NO *Please provide expected date of installation or modification:* 04/02/22

10. DO YOU REQUEST A PERIOD TO REVIEW THE DRAFT AUTHORITY TO CONSTRUCT (ATC) PERMIT PRIOR TO ATC ISSUANCE?
Please note that requesting a review period will delay issuance of your final permit by a corresponding number of working days. See instructions for more information on this review
☒ 3-day review
☐ 10-day review
☐ No review requested

11. IS THIS APPLICATION FOR THE CONSTRUCTION OF A NEW FACILITY?
☐ YES *If "Yes", please complete the CEQA Information form: http://www.valleyair.org/busind/pto/ptoforms/CEQAInformationForm.doc.*
☒ NO *If "No", is the proposed equipment or project allowed by either:*
- the Conditional Use Permit or other Land Use Permit? ☒ YES ☐ NO
- or by Right? ☐ YES ☐ NO

12. IS THIS APPLICATION SUBMITTED AS THE RESULT OF EITHER A NOTICE OF VIOLATION (NOV) OR A NOTICE TO COMPLY (NTC)? ☐ YES ☒ NO *If yes, NOV/NTC #:* _____

13. APPLICANT NAME: Claude Couvillion
TITLE: Vice President
SIGNATURE: DATE: 8/6/2021

14. APPLICANT CONTACT INFORMATION:
PHONE #: (312) 766- - 8716
CELL PHONE #: (925) 766 - 5179
E-MAIL: Jcouvillion@mrpgenco.com

15. ***Optional Section:*** *DO YOU WANT TO RECEIVE INFORMATION ABOUT EITHER OF THE FOLLOWING VOLUNTARY PROGRAMS?*
☐ *"HEALTHY AIR LIVING (HAL) BUSINESS PARTNER"* ☐ *"INSPECT"*

FOR APCD USE ONLY:

DATE STAMPS	FILING FEE RECEIVED:$	CHECK #:	DATE PAID:
	PROJECT #:	FACILITY ID #:	

San Joaquin Valley Air Pollution Control District
Supplemental Application Form

CEQA Information

The San Joaquin Valley Air Pollution Control District (District) is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the District in clarifying whether or not the project has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document (CEQA Guidelines §15060(a).

PERMIT TO BE ISSUED TO: MRP San Joaquin Energy, LLC
LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: Tracy Combined-Cycle Power Plant

Section 1: Agency Approvals

		Yes	No
	Check "Yes" or "No" as applicable.		
1.	Has a Lead Agency prepared an environmental review document (Environmental Impact Review, Mitigated Negative Declaration, Negative Declaration, or Notice of Exemption) for this project?	☐ *Note 1*	☒
2.	Is a Lead Agency in the process of preparing an environmental review document (Environmental Impact Review, Mitigated Negative Declaration, Negative Declaration, or Notice of Exemption) for this project?	☐ *Note 1*	☒
	*If "**Yes**" is checked for either question 1 or 2, please provide the following information:* - *Lead Agency name : California Energy Commission has been contacted*_____ - *Name of Lead Agency contact person:* _____ - *Type of CEQA document prepared:* _____ - *Project reference number:* _____ - *If a CEQA Environmental Review document has been prepared for this project, **please attach a copy of the Notice of Determination or the Notice of Exemption*** *If "**No**" is checked for both questions 1 and 2, please attach an explanation:*		

Note 1: If you answered YES to question 1 OR 2 do not complete Section 2 of this form, and please return the completed form to the Air Pollution Control District.

Section 2: Project Information

	Note: If you answered YES to question 1 OR 2 of Section 1 do not complete this section, and please return the completed form to the Air Pollution Control District.	**Yes**	**No**
1.	Would this project result in more than 47 heavy-duty truck (HD) one-way trips per day to and from the facility? (23 heavy-duty truck (HD) round trips per day).	☐	☒
2.	Would this project result in a need for more than 350 new employees?	☐	☒
3.	Would this project result in more than 700 customer trips per day to and from the facility?	☐	☒
4.	Would this project increase the demand for water at the facility by more than 5,000,000 gallons per day?	☐	☒
5.	Would this project require construction of new water conveyance infrastructure *Post-project facility water demand exceeding the capacity of local water purveyor.*	☐	☒
6.	Would this project create a permanent need for new or additional public services for Solid Waste Disposal or Hazardous Waste Disposal? *Post-project waste discharge exceeding the capacity of the local Solid Waste Disposal or Hazardous Waste Disposal.*	☐	☒
7.	Would this project result in noticeable off-site odors that have the potential to generate nuisance complaints?	☐	☒
8.	Would this project include equipment with a noise specification greater than 90 decibels (db)?	☐	☒
9.	Has this project generated any known public concern regarding potential adverse impacts? *Public concern may be interpreted as concerns by local groups at public meetings, adverse media attention such as negative newspapers or other periodical publications, local news programs, environmental justice issues, etc.*	☐	☒
10.	Would this project result in any demolition, excavation, and/or grading/construction activities outside the perimeter of the existing facility?	☐	☒
11.	Would this project result in any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 Square feet (inside or outside the perimeter of the existing facility)?	☐	☒
12.	Is this project part of a larger development activity at the facility that collectively would result in answering YES to any of the questions listed above?	☐	☒

FOR DISTRICT USE ONLY – CEQA ANALYSIS REQUEST

PERMIT	**TECHNICAL SERVICES**
AQE Name:	AQS Name:
Facility Name:	PAS #: CEQA #:
Facility #: Project #:	Project with potential public concern? ☐ Yes ☐ No
Is this an RO project? ☐ Yes ☐ No	Detailed CEQA analysis required? ☐ Yes ☐ No
Project subject to Public Notice? ☐ Yes ☐ No	Indemnification Agreement (IA) required? ☐ Yes ☐ No ☐ N/A Letter of Credit (LOC) required? ☐ Yes ☐ No ☐ N/A
Please summarize or attach the following: - ☐ Copy of application form - ☐ CEQA Analysis Request form - ☐ GHG Determination (>230MT-CO_2e/yr? BPS?) - ☐ Expected date of ATC(s) issuance: _____	- ☐ IA/LOC received - ☐ CEQA paragraph sent to permit engineer - ☐ NOD prepared - ☐ County filing fees District check prepared - ☐ Game and Fish fees District check or proof of payment *(District check prepared after receiving applicant check)* - ☐ CEQA Ready and ok to issue ATC

Date form is forwarded to Tech. Services SVr:	Date form is forwarded back to permit engineer:

San Joaquin Valley Air Pollution Control District
Supplemental Application Form

Gas Turbines

Please complete one form for each gas turbine.

This form must be accompanied by a completed Authority to Construct/Permit to Operate Application form

PERMIT TO BE ISSUED TO: MRP San Joaquin Energy, LLC

EQUIPMENT DESCRIPTION

Equipment Details

☒ Industrial Frame ☐ Aero Derivative ☐ Other: _____

Manufacturer: General Electric | Model: PG 7121 EA | Serial Number:

☐ Simple Cycle ☒ Combined Cycle ☐ Co-generation ☐ Other: _____

Nominal (ISO) Rating: 88 MW (at 1 atm, 59°F, 60% Relative Humidity)

Is the unit equipped with an auxiliary/duct burner? ☒ Yes ☐ No
(Note: If yes, please complete a *Boiler, Steam Generator, Dryer, and Process Heater Supplemental Application form* for the unit.)

Rule 4703 Type of Use and Emissions Monitoring Provisions

☐ Peaking Unit - limited to no more than 877 hrs/yr of operation

☐ Emergency Standby - limited to less than 200 hrs/yr of operation

☒ Full Time - must have either a Continuous Emission Monitoring System (CEMS) or an alternate emissions monitoring plan (must be approved by the APCO)

☒ CEMS, please specify all pollutants monitored: ☒ NO_x ☒ CO ☒ O_2 ☐ Other: _____

☐ Alternate Emissions Monitoring Plan (please provide details in additional documentation)

Fuel Use Meter

☒ Gaseous Fuel Meter ☐ Liquid Fuel Meter ☐ None

Process Data

Will this unit be used in an electric utility rate reduction program? ☐ Yes ☐ No

Combustor(s)

Manufacturer: General Electric | Model: PG 7121 EA | Number of Combustors:

Maximum Heat Input Rating (for all combustors @ ISO standard conditions): 1415 mmBtu/hr

Water Injection: ☒ Yes ☐ No | Dry Low NO_x Technology: ☒ Yes ☐ No

Steam Injection: ☐ Yes ☐ No | Other NO_x Control Technology: SCR, Oxidation catalyst

EMISSIONS DATA

Note: See District BACT and District Rule 4703 requirements for applicability to proposed unit at http://www.valleyair.org/busind/pto/bact/chapter3.pdf and http://www.valleyair.org/rules/currntrules/r4703.pdf

Primary Fuel

Fuel Type: ☒ Natural Gas ☐ LPG/Propane ☐ Diesel ☐ Other: _____

Higher Heating Value: _____ Btu/gal or 1050 Btu/scf | Sulfur Content: _____ % by weight or _____ gr/scf

Maximum Fuel Use @ HHV: 14600.0 hscf/hr or _____ gal/hr | Rated Efficiency (EFF_{Mfg}): 45.2 %

Primary Fuel Emissions Data

Operational Mode	Steady State (ppmv)	Steady State (lb/MMBtu)	Start-up (ppmv)	Start-up (lb/hr)	Shutdown (ppmv)	Shutdown (lb/hr)
Nitrogen Oxides	2		52	199.50	52	106.00
Carbon Monoxide	2			187.50		149.00
Volatile Organic Compounds	2			5.50		3.15
Duration			_____ hr/day	_____ hr/yr	_____ hr/day	_____ hr/yr

% O_2, dry basis, if corrected to other than 15%: _____ %

EMISSIONS DATA (continued)

Secondary Fuel	When will the secondary fuel be used? ☐ Primary fuel curtailment ☐ Simultaneously with primary fuel ☐ Other: _____					
	Fuel Type: ☐ Natural Gas ☐ LPG/Propane ☐ Diesel ☐ Other: _____					
	Higher Heating Value: _____ Btu/gal or _____ Btu/scf			Sulfur Content: _____ % by weight or _____ gr/scf		
	Maximum Fuel Use @ HHV: _____ scf/hr or _____gal/hr			Rated Efficiency (EFF_{Mfg}): _____ %		
Secondary Fuel Emissions Data	Operational Mode	Steady State (ppmv)	Steady State (lb/MMBtu)	Start-up (ppmv)	Start-up (lb/hr)	Shutdown (ppmv) / (lb/hr)
	Nitrogen Oxides					
	Carbon Monoxide					
	Volatile Organic Compounds					
	Duration (please provide justification)			_____ hr/day	_____ hr/yr	_____ hr/day / _____ hr/yr
	% O_2, dry basis, if corrected to other than 15%: _____ %					
Source of Data	☐ Manufacturer's Specifications ☐ Emission Source Test ☐ Other _____ (please provide copies)					

EMISSIONS CONTROL

Emissions Control Equipment (Check all that apply)	☒ Inlet Air Filter/Cooler ☐ Lube Oil Vent Coalescer
	☒ Selective Catalytic Reduction - Manufacturer: _____ Model: _____ ☐ Ammonia (NH_3) ☐ Urea ☐ Other: _____
	☒ Oxidation Catalyst - Manufacturer: _____ Model: _____
	Control Efficiencies: NO_x _____ %, SO_x _____ %, PM_{10} _____ %, CO _____ %, VOC _____ %
	☐ Other (please specify):
	For units equipped with exhaust gas NO_x control equipment and rated < 10 MW, or rated ≥ 10 MW but operated < 4,000 hr/yr, one may choose at least one of the following alternate emission monitoring schemes in lieu of a CEMS (each option below must be approved by APCO on a case-by-case basis. Please include a detailed proposal for each option chosen): ☐ Periodic NO_x emission concentration ☐ Turbine exhaust O_2 concentration ☐ Air-to-Fuel ratio ☐ Flow rate of reducing agents added to turbine exhaust ☐ Catalyst inlet and outlet temperature ☐ Catalyst inlet and exhaust O_2 conc. ☐ Other operational characteristics as approved by the APCO (specify on attached sheet)

HEALTH RISK ASSESSMENT DATA

Operating Hours	Maximum Operating Schedule: 24 hours per day, and 8000 hours per year		
Receptor Data	Distance to nearest Residence	1968.5 feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest apartment, house, dormitory, etc.
	Direction to nearest Residence	Due west	Direction from the stack to the receptor, i.e. Northeast or South.
	Distance to nearest Business	790.7 feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest office building, factory, store, etc.
	Direction to nearest Business		Direction from the stack to the receptor, i.e. North or Southwest.
Stack Parameters	Release Height	150 feet above grade	
	Stack Diameter	204 inches at point of release	
	Rain Cap	☐ Flapper-type ☐ Fixed-type ☒ None ☐ Other: _____	
	Direction of Flow	☒ Vertically Upward ☐ Horizontal ☐ Other: _____° from vert. or _____° from horiz.	
Exhaust Data	Flowrate: 535,953 acfm	Temperature: 198.0 °F	
Facility Location	☐ Urban (area of dense population) ☒ Rural (area of sparse population)		

FOR DISTRICT USE ONLY

Date:	**FID:**	**Project:**	**Public Notice: [ ] Yes [ ] No**
Comments:			

San Joaquin Valley Air Pollution Control District

www.valleyair.org

Permit Application For:

☐ ADMINISTRATIVE AMENDMENT ☒ MINOR MODIFICATION ☐ SIGNIFICANT MODIFICATION

1. PERMIT TO BE ISSUED TO:
MRP San Joaquin Energy, LLC

2. MAILING ADDRESS:
STREET/P.O. BOX: 14950 West Schulte Road
CITY: Tracy STATE: CA 9-DIGIT ZIP CODE: 95377

3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:
STREET: 14950 West Schulte Road CITY: Tracy
____ ¼ SECTION: ____ TOWNSHIP: ____ RANGE: ____

INSTALLATION DATE:

4. GENERAL NATURE OF BUSINESS:
Power Generation

5. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE
(include Permit #'s if known, and use additional sheets if necessary)

Permit Unit: N-4597-1-11 and Permit Unit N-4597-2-11

Modify the Equipment Description: in each operating permit as follows:

Equipment Description: 88 MW nominally rated Combined-Cycle Power Generating System #1 consisting of a General Electric Model PG 7121 EA natural gas-fired combustion turbine generator with an inlet air filtration, wet compression system, and cooling system (Evaporating and fogging), dry low-NOx combustion, a selective catalytic reduction (SCR) system with ammonia injection, oxidation catalyst, heat recovery steam generator #1 (HRSG) with a 380 MMbtu/hr duct burner (Maximum firing rate 345 MMbtu/hr) and a 176 MW nominally rated steam turbine (Shared with permit unit N-4597-2-11

6. TYPE OR PRINT NAME OF APPLICANT:
Claude Couvillion

TITLE OF APPLICANT:
Vice President

7. SIGNATURE OF APPLICANT:

DATE:
8/4/2021

PHONE #: (312) 766-8716
CELL PHONE #: (925) 766-5179
E-MAIL: Jcouvillion@mrpgenco.com

FOR APCD USE ONLY:

DATE STAMP	FILING FEE RECEIVED : $ ____ CHECK #: ____ DATE PAID: ____ PROJECT #: ____ FACILITY ID: ____

San Joaquin Valley Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

☐ ADMINISTRATIVE AMENDMENT ☒ MINOR MODIFICATION ☐ SIGNIFICANT MODIFICATION

COMPANY NAME: MRP San Joaquin Energy, LLC	FACILITY ID: N-4597
1. Type of Organization: ☒ Corporation ☐ Sole Ownership ☐ Government ☐ Partnership ☐ Utility	
2. Owner's Name: MRP San Joaquin Energy, LLC	
3. Agent to the Owner: Claude Couvillion	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial **applicable** circles for confirmation):

Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true, accurate, and complete.

For minor modifications, this application meets the criteria for use of minor permit modification procedures pursuant to District Rule 2520.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Signature of Responsible Official

8/4/2021
Date

Claude Couvillion
Name of Responsible Official (please print)

Vice President
Title of Responsible Official (please print)

APPENDIX B – FACILITY MAPS

(Source: Google Maps, 10/25/19)