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sierra research
1801 J Street
Sacramento CA 95811
Tel: (916) 444-6666
Fax: (916) 444-8373

Ann Arbor MI
Tel: (734) 761-6666
Fax: (734) 761-6755

April 4, 2013

Eric W. Veerkamp, AICP
Compliance Project Manager
California Energy Commission
1516 9th Street, MS 2000
Sacramento, CA 95814

Re: Northern California Power Agency Lodi Energy Center (08-AFC-10C)
Revised Petition to Amend Air Quality Conditions of Certification

Dear Mr. Veerkamp:

Enclosed please find two hard copies and one electronic copy of a revised Petition to Amend air quality conditions of certification for Northern California Power Agency's Lodi Energy Center. An application for permit amendment was filed with the San Joaquin Valley Air Pollution Control District on January 2 and amended via email on February 28 and April 3. This revised petition replaces the original (dated February 1, 2013) and includes all of the changes NCPA is requesting.

If you have any questions regarding the proposed amendment, please feel free to call me.

Sincerely,

Nancy Matthews

Nancy Matthews

Enclosures

cc: Michael DeBortoli, NCPA
Vinnie Venethongkham, NCPA
Andrea Grenier

sierra research

Petition to Amend Air Quality Conditions of Certification for the Lodi Energy Center Project (08-AFC-10C)

prepared for:

Northern California Power Agency

submitted to:

California Energy Commission

April 2013

prepared by:

Sierra Research, Inc.
1801 J Street
Sacramento, California 95811
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ACRONYMS AND ABBREVIATIONS

AFC	Application for Certification
CEC	California Energy Commission
LEC	Lodi Energy Center
LORS	Laws, Ordinances, Regulations, and Standards
MW	megawatt
NCPA	Northern California Power Agency
STIG	Steam Injected Gas Turbine
WPCF	Water Pollution Control Facility

1. INTRODUCTION

1.1 Background

The California Energy Commission (CEC) issued a license for Northern California Power Agency's (NCPA's) Lodi Energy Center (LEC) Project on April 21, 2010. The LEC Project is a nominal 296-megawatt (MW) combined-cycle power plant located in the City of Lodi. The LEC is located on an approximately 4.4-acre parcel adjacent to the City of Lodi's White Slough Water Pollution Control Facility (WPCF) to the east, treatment and holding ponds associated with the WPCF to the north, the existing 49-MW NCPA Combustion Turbine Project #2 (STIG plant) to the west, and the San Joaquin County Mosquito and Vector Control facility to the south. The project site is on land owned and incorporated by the City of Lodi and is approximately 6 miles west of the Lodi city center.

The CEC Compliance Project Manager (CPM) issued a letter authorizing the start of construction activities on July 14, 2010. Construction was initiated by the LEC project construction contractor, ARB, Inc., in late August 2010. Commercial operations for the plant began in November 2012.

The purpose of this petition is to request amendments to several LEC license Conditions of Certification. A brief discussion of each change follows.

> **Condition of Certification AQ-25:** LEC needs to modify the one-hour CO limit for the natural gas-fired combustion turbine generator during start-up and shutdown periods and to allow for combustor tuning activities. During startups, CO emissions are elevated above normal, controlled levels while the gas turbine is being brought up to full load and the oxidation catalyst emissions control system becomes fully effective. When the LEC gas turbine was originally permitted, the CO emission rate during startup was estimated based on startup data from other, similar gas turbines. However, NCPA has found that under certain conditions (for example, very low ambient temperatures, or after the gas turbine has been shut down for many hours), low-load CO emissions are higher than expected and the oxidation catalyst takes longer than expected to reach full control efficiency. Therefore, CO emissions during some startups are higher than anticipated and are elevated longer than was expected when NCPA received the Final Decision for the LEC in April 2010. As a result, the gas turbine cannot consistently comply with the current hourly CO limit that is applicable during startup.

In addition, NCPA has become aware of the need to perform periodic tuning activities on the gas turbine combustor. These tuning operations may require operation of the turbine at low loads, and during these low-load tuning operations, gas turbine CO and NOx emissions are expected to exceed the routine operation hourly and daily limits.

Condition of Certification AQ-52: A change to the requirement that the fuel flow meter on each gas turbine be "non-resettable and totalizing" is needed to avoid inconsistency with the continuous emissions monitoring requirements under 40 CFR Part 60 and the fuel metering requirements under 40 CFR Part 75.

Minor related changes to several other conditions are also being requested and are discussed in this petition to amend. An application for amendment has been submitted to the San Joaquin Valley Air Pollution Control District, and is provided as Appendix A.

1.2 Description of Proposed Amendments

1.2.1 Condition of Certification AQ-25

The CEC Final Decision (08-AFC-10) approved an hourly CO emission limit of 900 lb/hr during start-up and shutdown periods (Condition AQ-25). This limit was proposed by NCPA based on information available at that time. However, experience with cold-temperature gas turbine start-ups and startups after longer gas turbine down times indicates that CO emissions can be as high as 1,207 lb/hr during a cold startup. After discussion with the District permit engineer, NCPA has added a compliance margin of 25% to this highest measured emission rate to ensure future compliance. Consequently, NCPA is proposing to modify Condition of Certification AQ-25 to allow CO emissions of up to 1,500 lb/hr during start-up and shutdown periods.

1.2.2 Condition of Certification AQ-52

NCPA is requesting that Condition of Certification AQ-52 be amended to delete the requirement that the fuel flow meter on each gas turbine be "non-resettable and totalizing" in order to avoid inconsistency with the continuous emissions monitoring requirements under 40 CFR Part 60 and the fuel metering requirements under 40 CFR Part 75.

1.2.3 Additional Conforming Changes

In this amendment, NCPA is also proposing changes to conditions AQ-26, 27, 28, 29, 32, and 33 to define and limit combustor tuning activities and to provide that the higher emissions limits applicable to startup and shutdown periods also apply during combustor tuning periods.

1.3 Necessity of Proposed Changes

Sections 1769 (a)(1)(B) and 1769 (a)(1)(C) of the CEC Siting Regulations require a discussion of the necessity for the proposed changes to the Project and a discussion of whether this modification is based on information that was known by the petitioner during the certification proceeding. The need for these changes was not known to NCPA during the CEC licensing process for the LEC Project.

NCPA first became aware of the difficulty of complying with the 900 lb/hr CO limit during gas turbine startups in late November, long after the issuance of the CEC Final Decision, when the gas turbine began to be dispatched regularly.

The original permit application estimates of CO emissions during startup were based on emissions data collected during the startup of other similar gas turbines. However, the STG6-5000F "Flex Plant 30" is a new turbine design for which there were no detailed startup emissions data. Once the plant became operational and began being called upon to start up under cold morning temperature and/or cold start (that is, after extended downtime) conditions, it became clear that the 900 lb/hr limit was overly restrictive. As a result, NCPA is requesting CEC approval of a modification of Condition of Certification AQ-25, which includes the one-hour CO emissions limit during start-up and shutdown periods.

The need for higher emissions limits during combustor tuning periods was also not known during the certification proceeding. NCPA did not become aware of the potential need for combustor tuning that would require extended operation at low loads until it began working with Siemens to address the concerns regarding elevated CO emissions during startup. Under the current conditions of certification, there is no provision for short-term elevated emissions under conditions other than commissioning and startup/shutdown.

NCPA is now aware that after new gas turbine combustor components are installed, the gas turbine's fuel system must be tuned periodically, including after major overhauls, to maintain compliance with manufacturer's specifications for emissions and combustion dynamics and to perform combustion and hot gas path inspections. Multiple fuel systems supply fuel gas to each gas turbine combustor, and the total gas flow is divided among the fuel systems to minimize NOx and CO production while also minimizing combustor dynamics and ensuring combustor stability. After gas turbine combustor replacement, a combustor must be tuned across its load range to achieve the optimal apportionment of fuel gas at each load point. During these low-load tuning operations, gas turbine CO and NOx emissions are expected to exceed the routine operation hourly and daily limits of conditions AQ-29 and AQ-33, respectively. As part of this modification, NCPA is proposing to limit tuning activities to 8 hours per tuning event, not to exceed 40 hours in a calendar year, and to limit tuning emissions to the same levels as startup and shutdown emissions.

Finally, the inconsistency between the Acid Rain regulations and the Condition AQ-52 requirement only recently came to NCPA's attention.

1.4 Summary of Environmental Impacts

Section 1769 (a)(1)(E) of the CEC Siting Regulations requires that an analysis be conducted to address impacts that the proposed revisions may have on the environment and proposed measures to mitigate significant adverse impacts. Section 1769 (a)(1)(F) requires a discussion of the impacts of proposed revisions on the facility's ability to comply with applicable laws, ordinances, regulations, and standards (LORS).

The proposed changes referenced in this petition will not result in any additional potential significant impacts beyond those already identified in the original Final Decision. Section 3 discusses the potential impacts of the proposed changes on the environment, as well as the proposed revisions' consistency with LORS.

1.5 Consistency of Amendment with License

Section 1769 (a)(1)(D) of the CEC Siting Regulations requires a discussion of the consistency of each proposed project revision with the assumptions, rationale, findings, or other basis of the Final Decision and whether the revision is based on new information that changes or undermines the bases of the final decision. Also required is an explanation of why the changes should be permitted.

Consistent with the CEC Siting Regulations Section 1769(a)(1)(A), this section includes a description of the requested project modifications, as well as the necessity for the changes. As set forth in the following sections, the proposed revisions do not undermine the assumptions, rationale, findings, or other basis of the Final Decision for the Project.

###

2. DESCRIPTION OF PROJECT CHANGES

2.1 Proposed Changes

Following approval of the LEC Project by the CEC and in conjunction with construction activities, NCPA moved forward with commissioning activities, and was on-line and producing power in November 2012. Data collected from this unit since its start-up, and experience with cold-temperature gas turbine start-ups and startups after longer gas turbine down times, indicate that CO emissions can be as high as 1,207 lb/hr during a cold startup. As discussed in greater detail below, this information shows that the Condition of Certification AQ-25 CO limit during start-up and shutdown periods is overly restrictive, and must be revised in order to allow the gas turbine to operate in compliance with the facility conditions of certification. In addition, NCPA has become aware of the need to perform periodic combustor tuning that may require extended low-load operation of the gas turbine under conditions that would make it impossible to comply with currently permitted NOx and CO emission rates.

Condition of Certification AQ-52 requires the use of a "non-resettable, totalizing" fuel flow meter on the gas turbine to measure the amount of natural gas combusted. LEC is concerned that the requirement for a "non-resettable, totalizing" flow meter is not consistent with the fuel flow meter technology that must be used to comply with the fuel metering requirements under 40 CFR Part 60. That is, Part 60 does not require a "non-resettable, totalizing" flow meter but rather requires only that the meter be "installed, calibrated, maintained, and operated according to the manufacturer's instructions" (see 60.4345(c)). LEC requests that the Commission revise Condition of Certification AQ-52 to delete the requirement that the fuel flow meter be non-resettable and totalizing.

Non-resettable totalizing fuel meters are commonly used on emergency engines and propane tanks, but fuel use in gas turbines is measured and totalized through the computerized data acquisition and handling system that processes and performs calculations using fuel flow meter data and other data collected by the CEMS. In the event of a power or computer system outage, the flow meter resets to zero because the fuel flow signal is lost. However, the fuel use data records are maintained in long-term electronic storage, so the records of the amount of fuel used are unaffected. The fuel meter and associated data acquisition and handling system provide a permanent, cumulative record of fuel use in the gas turbine, and so comply with the intent of the condition. However, the type of fuel metering systems used with gas turbine CEMS is not "non-resettable" and "totalizing" in the traditional sense. To avoid potential confusion, LEC requests that the Commission modify the language of AQ-52 as proposed.

The Acid Rain regulations in 40 CFR Part 75 (Section 2.1 of Appendix D) require the use of a certified fuel flow meter to continuously monitor the fuel flow rate. Acid Rain also requires that the facility report this fuel flow data electronically to EPA. Section 2.1.5 requires initial certification that a fuel flow meter meets a flow meter accuracy of 2.0% of the upper-range value across the range of fuel flow rate to be measured at the unit. Section 2.1.6 further requires quality assurance testing every four quality assurance operating quarters (i.e., annually for most units) to confirm that the fuel flow meter still meets the 2.0% accuracy threshold. The Acid Rain regulations do not require the use of non-resettable or totalizing fuel meters.

The proposed change does not relax any monitoring condition because it does not alter or eliminate the need to install, utilize, and maintain a fuel flow meter on each gas turbine, or to record and maintain records of fuel use in each gas turbine. The proposed change also does not affect the Part 75 requirements to continuously monitor the fuel flow rate to the turbine using a calibrated fuel flow meter.

2.2 Necessity of Proposed Changes

Sections 1769 (a)(1)(B) and 1769 (a)(1)(C) of the CEC Siting Regulations require a discussion of the necessity for the proposed changes to the Project and whether this modification is based on information that was known by the petitioner during the certification proceeding. The need for the proposed change to Condition of Certification AQ-52 is discussed above. More detail regarding the need for the proposed change to Condition of Certification AQ-25 is provided below.

During the licensing process, NCPA proposed an hourly CO emission limit during start-up and shutdown periods of 900 lbs/hr based on information that was available at that time; the STG6-5000F "Flex Plant 30" is a new turbine design for which no detailed startup emissions data existed at the time of licensing. However, once the plant became operational and began being called upon to start-up under cold morning temperature and/or cold start (that is, after extended downtime) conditions, it became clear that the 900 lb/hr limit was not feasible on a regular basis, and would prevent efficient operation of the turbine.

NCPA has attempted to comply with the hourly CO limit during start-up periods by starting up the gas turbine as quickly as possible, thereby minimizing operation in the low-load range where CO emissions are elevated. When CO emissions approach the hourly limit and the CO emission rate remains high, the operators may abort the start-up to avoid producing additional CO emissions and violating the hourly limit. However, this is not an adequate approach to compliance for several reasons. First, the gas turbine cannot be shut down immediately after the decision to abort the startup is made, so it continues to emit CO following the operators' action to terminate the startup. As a result, the hourly limit is sometimes exceeded despite the operators' actions. Second, CO emissions are higher overall when this occurs because the startup must be reattempted in

the following clock hour, resulting in a second hour of elevated CO emissions during startup. In addition, excessive startups produce additional wear on the gas turbine.

The gas turbine combustor was tuned during the commissioning period. However, the focus at that time was on minimizing low-load NOx emissions. Siemens may be able to perform additional tuning to improve low-load CO emissions performance as well, and this tuning could be beneficial in reducing CO emissions during gas turbine startups. In addition, the gas turbine's fuel system must be tuned periodically, including after major overhauls, to maintain compliance with manufacturer's specifications for emissions and combustion dynamics and to perform combustion and hot gas path inspections. Multiple fuel systems supply fuel gas to each gas turbine combustor, and the total gas flow is divided among the fuel systems to minimize NOx and CO production while also minimizing combustor dynamics and ensuring combustor stability. After gas turbine combustor replacement, a combustor must be tuned across its load range to achieve the optimal apportionment of fuel gas at each load point. During these low-load tuning operations, gas turbine CO and NOx emissions are expected to exceed the routine operation hourly and daily limits. Without provisions for higher hourly and daily NOx and CO emissions during combustor tuning periods, NCPA would be unable to perform tuning activities that are a necessary part of gas turbine maintenance and are required for efficient gas turbine operation.

###

3. ENVIRONMENTAL ANALYSIS OF THE PROJECT CHANGES

NCPA has reviewed the modifications proposed herein to determine whether the changes will result in any environmental impacts that were not originally analyzed by the CEC when it approved the Project in April 2010.

The requested changes to Condition of Certification AQ-52 will have no effect on emissions or air quality.

The revised hourly CO during startup and shutdown periods will not result in increases in maximum daily, quarterly, or annual CO emissions, and no changes in those permitted limits are being requested. Similarly, extending the higher hourly and daily startup and shutdown emission limits to combustor tuning activities will not increase maximum daily, quarterly, or annual emissions from the facility because the overall daily, quarterly and annual emissions limits are unaffected by the proposed amendment.

3.1 Subject Matter Unaffected by the Project Changes

The following disciplines will not be affected by the proposed changes in this amendment and are not addressed below: Biology, Soils, Geologic Resources and Hazards, Hazardous Materials Management, Land Use, Noise and Vibration, Paleontologic Resources, Public Health, Socioeconomics, Traffic and Transportation, Visual Resources, Waste Management, Water Resources, and Worker Safety and Fire Protection.

3.2 Air Quality

The requested changes to Condition of Certification AQ-25 that would revise the permitted one-hour CO limit during startup and shutdown periods and extend the hourly and daily startup and shutdown emission limits to combustor tuning activities are not expected to have any significant impact on air quality, and no LORS will change as a result of the proposed change.

The requested hourly CO limit during startup, shutdown and combustor tuning periods is 1,500 lb/hr, compared with the permitted limit of 900 lb/hr. No increases in daily, quarterly, or annual CO emission limits are being requested, and CO modeling results indicate no exceedances of the state or federal Ambient Air Quality Standards at the higher emission rate.

3.2.1 Mitigation

NCPA will continue to minimize the amount of time that the gas turbine operates with elevated CO emissions by achieving startups as quickly as possible, and is proposing to limit combustor tuning periods to a maximum of 8 hours per day and 40 hours per year. NCPA is also consulting with Siemens regarding additional actions, including low-load tuning of the gas turbine in an attempt to reduce CO emissions at low loads (between 0 and 25% of rated load), that may be effective in reducing overall emissions during startup.

###

4. PROPOSED MODIFICATIONS TO THE CONDITIONS OF CERTIFICATION

Consistent with the requirements of the CEC Siting Regulations Section 1769 (a)(1)(A), this section addresses the proposed modifications to the Project's Conditions of Certification.

NCPA has filed an application with the SJVAPCD for a modification to the facility authority to construct (ATC). The proposed modification would change Conditions 25, 26, 27, 28, 29, 32, 33, and 52 of the ATC. NCPA is requesting conforming changes to Conditions of Certification AQ-25, 26, 27, 28, 29, 32, 33, and 52 in the CEC Final Decision. The proposed revisions to these Conditions of Certification are presented below.

AQ-25 During start-up, ~~and~~ shutdown and combustor tuning periods, the emissions shall not exceed any of the following limits: NOx (as NO_2) – 160.00 lb/hr; CO – ~~900.00~~ 1500.00 lb/hr; VOC (as methane) – 16.00 lb/hr; PM10 – 9.00 lb/hr; SOx (as SO_2) – 6.10 lb/hr; or NH_3 – 28.76 lb/hr. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-26 Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status ending when the fuel supply to the unit is completely turned off. [District Rule 4703, 3.26, 3.29]

Verification: No verification necessary.

AQ-27 ~~Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status ending when the fuel supply to the unit is completely turned off. [District Rule 4703, 3.26]~~ Combustor tuning periods are any periods, not to exceed 8 hours in any calendar day or 40 hours in any calendar year, when combustor tuning activities are taking place. Combustor tuning activities are defined as any testing, adjustment, tuning, and calibration activities recommended by the gas turbine manufacturer to insure safe and reliable steady-state operation of the gas

turbines following replacement of the combustor components, during seasonal tuning events, or at other times when recommended by the turbine manufacturer or necessary to maintain low emissions performance. This includes, but is not limited to, adjusting the amount of fuel distributed between the combustion turbine's staged fuel systems to simultaneously minimize NOx and CO production while minimizing combustor dynamics and ensuring combustor stability.

Verification: ~~No verification necessary.~~ A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-28 The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup, ~~and~~ shutdown and combustor tuning periods. [District Rule 4703, 5.3.2]

Verification: The project owner shall submit to the District and CPM the startup, ~~and~~ shutdown and combustor tuning event duration data demonstrating compliance with this condition as part of the quarterly operation report (**AQ-SC8**).

AQ-29 Except during startup, ~~and~~ shutdown and combustor tuning periods, emissions from the gas turbine system shall not exceed any of the following limits: NOx (as NO_2) - 15.54 lb/hr and 2.0 ppmvd @ 15% O_2; CO - 9.46 lb/hr and 2.0 ppmvd @ 15% 02; VOC (as methane) 3.79 lb/hr and 1.4 ppmvd @ 15% 02; PM10 - 9.0 lb/hr; or SOx (as SO_2) - 6.10 lb/hr. NOx (as NO_2) emission limits are based on 1-hour rolling average period. All other emission limits are based on 3-hour rolling average period. [District Rules 2201, 4001 and 4703]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-32 Emissions from the gas turbine system, on days when ~~a~~ startup, ~~and/or~~ shutdown and/or combustor tuning activities occur~~s~~, shall not exceed the following limits: NOx (as NO_2) - 879.7 lb/day; CO - 5,570.3 lb/day; VOC - 164.2 lb/day; PM10 - 216.0 lb/day; SOx (as SO_2) - 146.4 lb/day, or NH_3 - 690.3 lb/day. Daily emissions shall be compiled for a twenty-four hour period starting and ending at twelve-midnight. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-33 Emissions from the gas turbine system, on days when ~~a~~ startup, ~~and/or~~ shutdown and/or combustor tuning activities do~~es~~ not occur, shall not exceed the following: NOx (as NO_2) - 373.0 lb/day; CO - 227.0 lb/day; VOC - 91.0 lb/day; PM_{10} - 216.0 lb/day; SOx (as SO_2) - 146.4 lb/day, or NH_3 - 690.3

lb/day. Daily emissions shall be compiled for a twenty-four hour period starting and ending at twelve-midnight. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-52 A ~~non-resettable, totalizing~~ mass or volumetric fuel flow meter that meets the requirements of 40 CFR part 75 ~~to measure the amount of natural gas combusted in the unit~~ shall be installed, utilized and maintained to measure the amount of natural gas combusted in the unit.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, and the Commission upon request.

###

5. POTENTIAL EFFECTS ON THE PUBLIC AND PROPERTY OWNERS

The proposed change described in this amendment will have no effect on the public and property owners beyond what was originally approved by the CEC.[*] Therefore, impacts on the public and property owners are expected to be the same as those analyzed during the license proceeding for the Project.

###

[*] CEC Siting Regulations Section 1769(a)(1)(G) and (I).

6. LIST OF PROPERTY OWNERS

As required by the CEC Siting Regulations §1769(a)(1)(H), a list of property owners potentially affected by the proposed modification is provided. A list of property owners within 1,000 feet of the project boundary is included as Appendix B. Fewer properties are potentially affected by the project than the owners listed in the AFC because the proposed project change does not affect the gas line.

###

Appendix A

Application for Modification to the Authority to Construct

January 22, 2013

Rupi Gill
Permit Services Manager
San Joaquin Valley Air Pollution Control District
4800 Enterprise Way
Modesto, CA 95356-8718

A PUBLIC AGENCY
NCPA
NORTHERN CALIFORNIA POWER AGENCY

PO Box 1478
12745 N. Thornton Road
Lodi, CA 95241

(209) 333-6370

www.ncpa.com

Re: Application for Permit Modification
Northern California Power Agency, Lodi Energy Center
Permit No. N-2697-5-0

Dear Mr. Gill:

Northern California Power Agency (NCPA) is proposing a revision to the conditions of the Authority to Construct issued by the District in January 2010 for the Siemens Flex-Plant 30 STG6-5000F combined cycle gas turbine at Lodi Energy Center (LEC). The requested revision would:

1. Change the emission limit for carbon monoxide during gas turbine startups in condition #25 of the permit to better reflect what we now know regarding the startup emissions performance of the gas turbine under certain conditions, including cold temperatures and/or extended downtimes, as well as the need to perform periodic combustor tuning that may require extended low-load operation;
2. Change conditions #26, 27 and 28 to define and limit combustor tuning periods and activities; and
3. Change conditions #29, 32 and 33 to provide that the higher emissions limits applicable to startup and shutdown periods also apply during combustor tuning periods.

The proposed revision qualifies as a significant permit modification under Rule 2520 because it "seeks to change [an] emissions limit or standard…."

A more detailed discussion regarding the proposed revisions is provided below.

CO Emissions During Gas Turbine Startup

During startups, CO emissions are elevated above normal, controlled levels while the gas turbine is being brought up to full load and the oxidation catalyst control system is becoming fully effective. When the LEC gas turbine was originally permitted, the CO emission rate during startup was estimated based on startup data from other similar gas turbines. However, NCPA has found that under certain conditions (for example, very low ambient temperatures, or after the gas turbine has been shut down for many hours),

low-load CO emissions are higher than expected and the oxidation catalyst takes longer than expected to reach full control efficiency. Therefore, CO emissions during some gas turbine startups are higher than anticipated. As a result, the gas turbine cannot consistently comply with the 900 pound per hour CO limit (Condition 25) that is applicable during startup.

The attached figure shows how CO emissions from the turbine vary during startups. The highest hourly CO emission rate observed during any gas turbine startup to date is 1,207 pounds per hour. Based on this, we are requesting an increase in the maximum hourly CO emissions limit during startup to 1,500 pounds per hour, to provide a 25% compliance margin above the maximum observed emission rate.

Gas Turbine Combustor Tuning

The gas turbine combustor was tuned during the commissioning period. However, the focus at that time was on minimizing low-load NOx emissions. Siemens may be able to perform additional tuning to improve low-load CO emissions performance as well, and this tuning could be beneficial in reducing CO emissions during gas turbine startups. In addition, after the new gas turbine combustor components are installed, the gas turbine's fuel system must be tuned periodically, including after major overhauls, to maintain compliance with manufacturer's specifications for emissions and combustion dynamics and to perform combustion and hot gas path inspections. Multiple fuel systems supply fuel gas to each gas turbine combustor, and the total gas flow is divided among the fuel systems to minimize NOx and CO production while also minimizing combustor dynamics and ensuring combustor stability. After gas turbine combustor replacement, a combustor must be tuned across its load range to achieve the optimal apportionment of fuel gas at each load point. During these low-load tuning operations, gas turbine CO and NOx emissions are expected to exceed the routine operation hourly and daily limits of conditions 29 and 33, respectively. As part of this modification, NCPA proposes to limit tuning activities to 8 hours per tuning event, not to exceed 40 hours in a calendar year, and to limit tuning emissions to the same levels as startup and shutdown emissions.

Hourly, Daily, and Annual CO Limits

NCPA is requesting an increase in only the hourly CO emission limit during startup and the hourly and daily emission limits applicable to combustor tuning activities, and does not need to change other daily or annual emission limits for the gas turbine. During the original permitting, we estimated that the gas turbine might require up to three hours to achieve compliance with the controlled CO emission limit of 2.0 ppmvd @ 15% O_2 (ppmc). The maximum daily CO emissions level of 5,570.3 pounds per day (Condition 32) was calculated assuming that the turbine could undergo two three-hour startups per day with emissions of up to 900 pounds per hour during those startup hours, for a total of 5,400 pounds of CO emitted during startups. We have found, however, that under most circumstances the gas turbine is able to achieve compliance with the 2 ppmc limit in less than two hours, so we do not expect daily CO emissions during startup to exceed the existing daily limit, even with the higher hourly CO emissions during startup.

Since we anticipate no increase in maximum daily emissions, there will also be no increase in quarterly or annual CO emissions.

Best Available Control Technology Assessment

Best Available Control Technology (BACT) requirements do not apply to the proposed modification because (1) the modification will not result in any increase in daily emissions (Rule 2201, Section 4.1.2); and (2) the CO emissions from the facility will remain below 200,000 pounds per year (Rule 2201, Section 4.2). Nevertheless, the proposed increase in allowable CO emissions during startup and combustor tuning activities does not affect the District's previous determination that the use of the Siemens "Flex Plant™ 30" fast-startup technology with a limit of three hours for each startup constitutes BACT for startup and shutdown for this project. Under Conditions 18 and 19 of the ATC, NCPA will be required to report to the District on actual startup times and emissions measurements for the first year of operation, and to propose new time limits for startups if justified by the startup data. At that time, NCPA may propose, and the District may agree, to reduce the three-hour startup limit based on the actual turbine operating data.

Ambient Impact of the Increase in Maximum Hourly CO Emissions

Table 5.1-29R of the Application for Certification evaluated maximum modeled impacts during gas turbine startup based on a maximum 900 lb/hr CO emission rate. These original modeling results predicted a maximum modeled 1-hour CO concentration of 337 $\mu g/m^3$ and a maximum 8-hour average concentration of 110 $\mu g/m^3$.[1] These modeling results can be scaled assuming a maximum hourly emission rate of 1,500 lb/hr during both startups. The results shown in Table 1 below indicate that the proposed CO emission rate during startups and combustor tuning activities is not expected to cause a violation of state or federal ambient CO standards.

Table 1
Revised Modeled Maximum Impacts During Startup/Tuning of the CTG/HRSG

Pollutant	Averaging Time	Maximum Facility Impact ($\mu g/m^3$)	Background ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	State Standard ($\mu g/m^3$)	Federal Standard ($\mu g/m^3$)
CO	1-hour	562	5,500	6,062	23,000	40,000
	8-hour	113	3,361	3,474	10,000	10,000

[1] In the original application, the 8-hour average concentration of 110 $\mu g/m^3$ was modeled assuming that the gas turbine is in startup for six hours and at base load under cold temperature conditions for two hours, for a total of 5,408 lb CO over the eight-hour period. For the proposed modification, maximum 8-hour impacts would occur if all daily emissions were emitted during an 8-hour period. Based on the original modeling results, we can use χ/Q to evaluate impacts based on the higher emission rate:

$$5{,}570.3 \text{ lb}/5{,}408 \text{ lb} * 110 \ \mu g/m^3 = 113 \ \mu g/m^3$$

Proposed Revised Permit Condition

We are requesting that Conditions 25, 26, 27, 28, 29, 32 and 33 be revised to read as follows:

25. *During start-up, ~~and~~ shutdown and combustor tuning periods, the emissions shall not exceed any of the following limits: NOx (as NO_2) – 160.00 lb/hr; CO – ~~900.00~~ 1500.00 lb/hr; VOC (as methane) – 16.00 lb/hr; PM10 – 9.00 lb/hr; SOx (as SO_2) – 6.10 lb/hr; or NH_3 – 28.76 lb/hr.*
26. *Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status ending when the fuel supply to the unit is completely turned off.*
27. *~~Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status ending when the fuel supply to the unit is completely turned off.~~ Combustor tuning periods are any periods, not to exceed 8 hours in any calendar day or 40 hours in any calendar year, when combustor tuning activities are taking place. Combustor tuning activities are defined as any testing, adjustment, tuning, and calibration activities recommended by the gas turbine manufacturer to insure safe and reliable steady-state operation of the gas turbines following replacement of the combustor components, during seasonal tuning events, or at other times when recommended by the turbine manufacturer or necessary to maintain low emissions performance. This includes, but is not limited to, adjusting the amount of fuel distributed between the combustion turbine's staged fuel systems to simultaneously minimize NOx and CO production while minimizing combustor dynamics and ensuring combustor stability.*
28. *The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup, ~~and~~ shutdown and combustor tuning periods.*
29. *Except during startup, ~~and~~ shutdown and combustor tuning periods, emissions from the gas turbine system shall not exceed any of the following limits: NOx (as NO_2) - 15.54 lb/hr and 2.0 ppmvd @ 15% O_2; CO - 9.46 lb/hr and 2.0 ppmvd @ 15% 02; VOC (as methane) 3.79 lb/hr and 1.4 ppmvd @ 15% 02; PM10 - 9.0 lb/hr; or SOx (as SO_2) - 6.10 lb/hr. NOx (as NO_2) emission limits are based on 1-hour rolling average period. All other emission limits are based on 3-hour rolling average period.*
32. *Emissions from the gas turbine system, on days when ~~a~~ startup, ~~and/or~~ shutdown and/or combustor tuning activities occur~~s~~, shall not exceed the following limits: NOx (as NO_2) - 879.7 lb/day; CO - 5,570.3 lb/day; VOC - 164.2 lb/day; PM10 - 216.0 lb/day; SOx (as SO_2) - 146.4 lb/day, or NH_3 - 690.3 lb/day. Daily emissions shall be compiled for a twenty-four hour period starting and ending at twelve-midnight.*
33. *Emissions from the gas turbine system, on days when ~~a~~ startup, ~~and/or~~ shutdown and/or combustor tuning activities do~~es~~ not occur, shall not exceed the following: NOx (as NO_2) - 373.0 lb/day; CO - 227.0 lb/day; VOC - 91.0 lb/day; PM_{10} - 216.0*

lb/day; SOx (as SO_2) - 146.4 lb/day, or NH_3 - 690.3 lb/day. Daily emissions shall be compiled for a twenty-four hour period starting and ending at twelve-midnight.

No other changes to the permit are being requested.

We appreciate your consideration of this request. The required application forms are attached, along with a check for the Rule 3010 filing fees, as follows:

Authority to Construct fee:	$71
Part 70 fee:	$19
Total	$90

If you have any questions regarding this request, please contact Vinnie Venethongkham of my staff at (209) 210-5009 or Jeff Adkins of Sierra Research at (916) 273-5127.

Sincerely,

Kevin Cunningham
Combustion Turbine Manager

Attachments

cc: Jeff Adkins, Sierra Research
Andrea Grenier

San Joaquin Valley Air Pollution Control District

www.valleyair.org

Permit Application For:

[ ] AUTHORITY TO CONSTRUCT (ATC) - New Emission Unit
[X] AUTHORITY TO CONSTRUCT (ATC) - Modification Of Emission Unit With Valid PTO/Valid ATC
[ ] AUTHORITY TO CONSTRUCT (ATC) - Renewal of Valid Authority to Construct
[ ] PERMIT TO OPERATE (PTO) - Existing Emission Unit Now Requiring a Permit to Operate

1. PERMIT TO BE ISSUED TO: Northern California Power Agency

2. MAILING ADDRESS:
STREET/P.O. BOX: P. O. Box 1478
CITY: Lodi STATE: CA 9-DIGIT ZIP CODE: 95241-1478

3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:
STREET: 12745 North Thornton Road CITY: Lodi
SW /4 SECTION 24 TOWNSHIP T3N RANGE R5E

WITHIN 1,000 FT OF A SCHOOL? [ ] YES [X] NO

S.I.C. CODE(S) OF FACILITY (*If known*): 4911

4. GENERAL NATURE OF BUSINESS: Electrical Power Production

INSTALL DATE: Feb 2013

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

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

Amend Conditions #25, 26. 27, 28, 29, 32 and 33 of existing ATC to:

(1) Increase hourly CO limit during startup from 900 lb/hr to 1500 lb/hr; and

(2) Extend the applicability of the hourly and daily emissions limits for startup and shutdown activities to combustor tuning activities.

7. PERMIT REVIEW PERIOD: Do you request a three- or ten-day period to review the draft Authority to Construct permit? Please note that checking "YES" will delay issuance of your final permit by a corresponding number of working days. See instructions for more information on this review process.
[X] 3-day review
[ ] 10-day review
[ ] No review requested

8. HAVE YOU EVER APPLIED FOR AN ATC OR PTO IN THE PAST? [X] YES [ ] NO
If yes, ATC/PTO #: N-2697-5-0

9. IS THIS APPLICATION FOR THE CONSTRUCTION OF A NEW FACILITY? [ ] YES [X] NO
(If "Yes" is checked, please complete the CEQA Information form)

10. IS THIS APPLICATION SUBMITTED AS THE RESULT OF EITHER A NOTICE OF VIOLATION OR A NOTICE TO COMPLY? [ ] YES [X] NO
If yes, NOV/NTC #:

Optional Section

11. DO YOU WANT TO PARTICIPATE IN EITHER OF THE FOLLOWING VOLUNTARY PROGRAMS:

"HEALTHY AIR LIVING (HAL)"
[ ]Yes, please send info

"INSPECT"
[ ] Yes, please send info

12. TYPE OR PRINT NAME OF APPLICANT:
Kevin Cunningham

TITLE OF APPLICANT:
General Manager, LEC

13. SIGNATURE OF APPLICANT: DATE: 1-24-13

PHONE #: (209) 333-6370 x 100
FAX #: (209) 333-6374
E-MAIL: Kevin.Cunningham@ncpagen.com

FOR APCD USE ONLY:

DATE STAMP:

FILING FEE RECEIVED: $ CHECK #:

DATE PAID:

PROJECT #: FACILITY ID:

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 Application for Authority to Construct and Permit to Operate form

PERMIT TO BE ISSUED TO: Northern California Power Agency

EQUIPMENT DESCRIPTION

Equipment Details	☒ Industrial Frame ☐ Aero Derivative ☐ Other: _____
	Manufacturer: Siemens | Model: Flex-Plant 30 | Serial Number: TBD
	☐ Simple Cycle ☒ Combined Cycle ☐ Co-generation ☐ Other: _____
	Nominal (ISO) Rating: 294 MW (at 1 atm, 59F, 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: Siemens | Model: Dry Low-NOx | Number of Combustors:
	Maximum Heat Input Rating (for all combustors @ ISO standard conditions): 2142.1 MMBtu/hr
	Water Injection: ☐ Yes ☒ No | Dry Low NO_x Technology: ☒ Yes ☐ No
	Steam Injection: ☐ Yes ☒ No | Other NO_x Control Technology: SCR

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 1004.39 Btu/scf			Sulfur Content: _____ % by weight or 0.01 gr/scf		
	Maximum Fuel Use @ HHV: 1877040 scf/hr or _____ gal/hr			Rated Efficiency (EFF_{Mfg}): _____ %		
Primary 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	2.0	0.0073		160.0	160.0
	Carbon Monoxide	2.0	0.0044		1500.0	1500.0
	Volatile Organic Compounds	1.4	0.0018		16.0	16.0
	Duration			6 hr/day	468 hr/yr	Included in Startup hr/day / Included in Startup hr/yr
	% O_2, dry basis, if corrected to other than 15%: 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)	(lb/MMBtu)	Start-up (ppmv)	(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: TBD Model: TBD ☒ Ammonia (NH_3) ☐ Urea ☐ Other: _____
	☒ Oxidation Catalyst - Manufacturer: TBD Model: TBD
	Control Efficiencies: NO_x 72 %, 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 8760 hours per year		
Receptor Data	Distance to nearest Residence	2323.2 feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest apartment, house, dormitory, etc.
	Direction to nearest Residence	North	Direction from the stack to the receptor, i.e. Northeast or South.
	Distance to nearest Business	101.53 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	Northeast	Direction from the stack to the receptor, i.e. North or Southwest.
Stack Parameters	Release Height	150 feet above grade	
	Stack Diameter	264 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: 1185012 acfm	Temperature: 186 °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:
Northern California Power Agency

2. MAILING ADDRESS:

STREET/P.O. BOX: **P. O. Box 1478**

CITY: **Lodi** STATE: **CA** 9-DIGIT ZIP CODE: **95241-1478**

3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:

STREET: **12745 North Thornton Road** CITY: **Lodi**

SW ¼ SECTION **24** TOWNSHIP **T3N** RANGE **R5E**

INSTALLATION DATE:
February 2013

4. GENERAL NATURE OF BUSINESS:
Electrical Power Production

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

Amend Conditions #25, 26. 27, 28, 29, 32 and 33 of existing ATC to:
(1) Increase hourly CO limit during startup from 900 lb/hr to 1500 lb/hr; and
(2) Extend the applicability of the hourly and daily emissions limits for startup and shutdown activities to combustor tuning activities.

6. TYPE OR PRINT NAME OF APPLICANT:
Kevin Cunningham

TITLE OF APPLICANT:
General Manager, LEC

7. SIGNATURE OF APPLICANT: DATE: 1-24-13

PHONE: (209) 333-6370 x 100
FAX: (209) 333-6374
EMAIL: Kevin.Cunningham@ncpagen.com

For APCD Use Only:

DATE STAMP

FILING FEE RECEIVED : $ *CHECK#:*

DATE PAID:

PROJECT NO: *FACILITY ID:*

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[✔] SIGNIFICANT PERMIT MODIFICATION
[ ] MINOR PERMIT MODIFICATION
[ ] ADMINISTRATIVE AMENDMENT

COMPANY NAME: **Northern California Power Agency**	FACILITY ID: **- 2697**
1. Type of Organization:[ ] Corporation [ ] Sole Ownership [ ] Government [ ] Partnership [✔] Utility	
2. Owner's Name: **Northern California Power Agency**	
3. Agent to the Owner: **Kevin Cunningham**	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial **all** 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.

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

[signature] 1-24-13

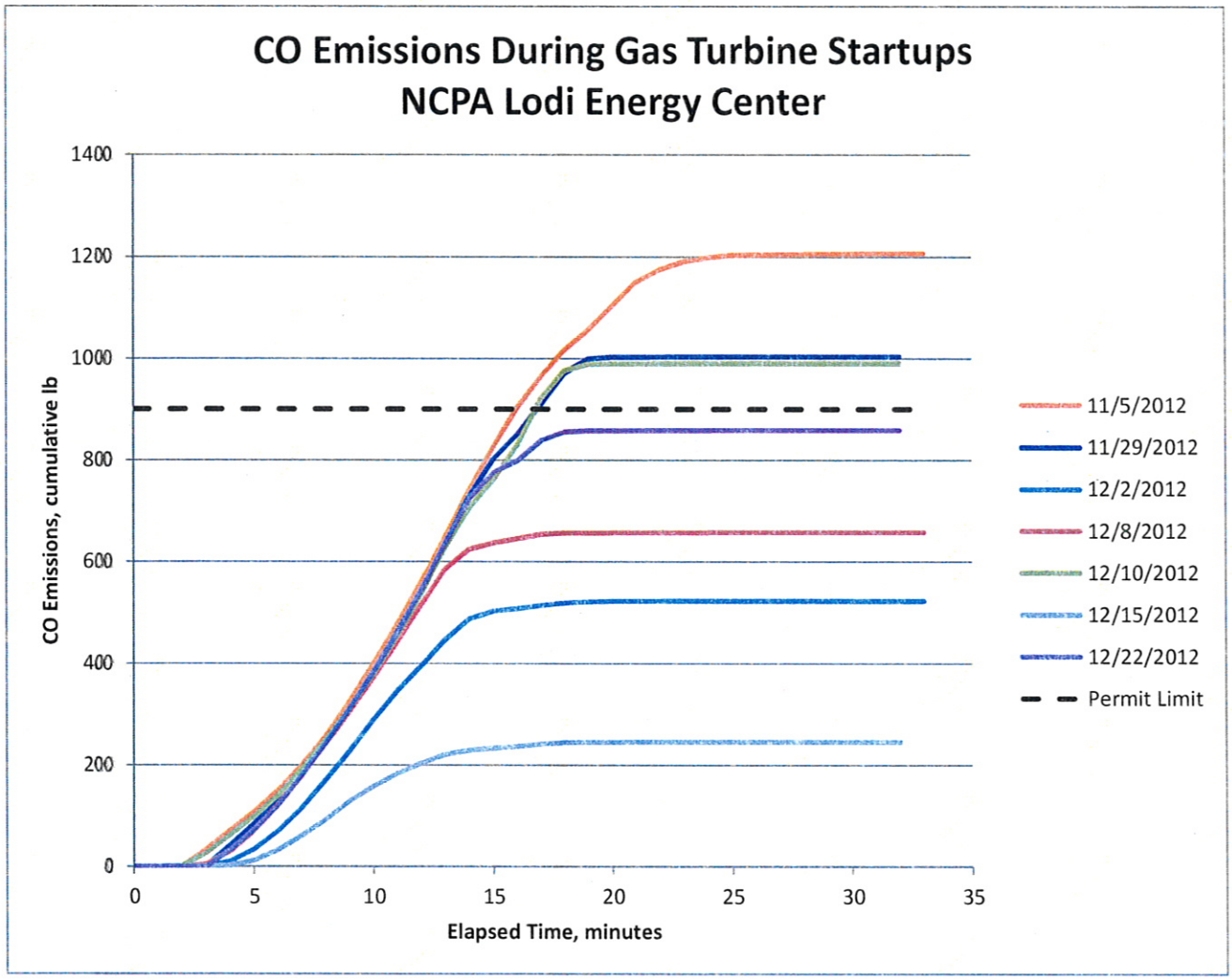
Signature of Responsible Official — Date

Kevin Cunningham

Name of Responsible Official (please print)

General Manager, Lodi Energy Center

Title of Responsible Official (please print)


CO Emissions During Gas Turbine Startups
NCPA Lodi Energy Center
CO Emissions, cumulative lb
1400
1200
1000
800
600
400
200
0
0
5
10
15
20
25
30
35
Elapsed Time, minutes
11/5/2012
11/29/2012
12/2/2012
12/8/2012
12/10/2012
12/15/2012
12/22/2012
Permit Limit

TRUE WATERMARK PAPER HOLD TO LIGHT TO VIEW HEAT SENSITIVE RED IMAGE DISAPPEARS WITH HEAT

179812

A PUBLIC AGENCY
NCPA
NORTHERN CALIFORNIA POWER AGENCY
651 COMMERCE DRIVE • ROSEVILLE, CA 95678

usbank. All of us serving you

90-2267-1211

Security features. Details on back.

DATE	AMOUNT
1/29/2013	$90.00

PAY TO THE ORDER OF

Ninety Dollars and 00 Cents

SJVAPCD
4800 Enterprise Way
Modesto CA 95356-8718

AUTHORIZED SIGNATURE

⑈179812⑈ ⑆121122676⑆ 153402162744⑈

NORTHERN CALIFORNIA POWER AGENCY

179812

Vendor ID	Name	Voucher Number	Check Date	Document Number
021963	SJVAPCD	0183483	1/29/2013	179812

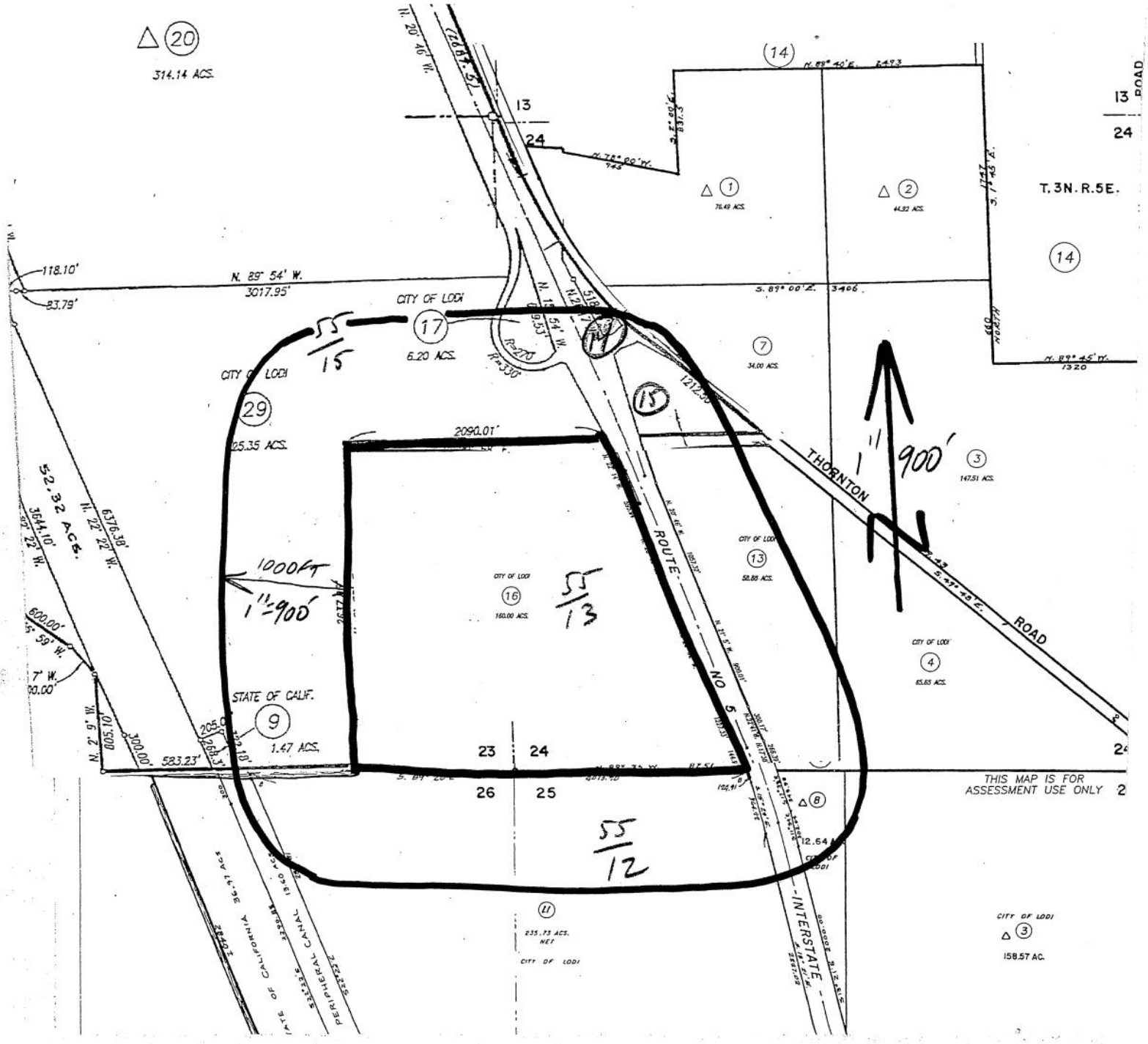
Invoice Number	Date	Amount	Amount Paid	Discount	Net Amount Paid
12213	1/22/2013	$90.00	$90.00	$0.00	$90.00
		$90.00	$90.00	$0.00	$90.00

PRODUCT SSLM102 USE WITH 91500 ENVELOPE PRINTED IN U.S.A. A

Appendix B

Property Owners Within 1,000 Feet of LEC Property Boundary

	PARCEL	OWNERFIRST	OWNERLAST	MAILNUMBER	MAILSTREET	MAILCITY	MAILSTATE	MAILZIP
1	055 130 16	City of Lodi		221	W Pine St	Lodi	CA	95240
2	055 120 03	Van Ruiten Ranch Ltd		12001	N Thornton Rd	Lodi	CA	95242
3	055 120 08	Van Ruiten Ranch Ltd		11889	N Thornton Rd	Lodi	CA	95242
4	055 120 11	City of Lodi		221	W Pine St	Lodi	CA	95240
5	055 130 04	City of Lodi		221	W Pine St	Lodi	CA	95240
6	055 130 07	Hamm Family Trust		13438	N Thornton Rd	Lodi	CA	95242
7	055 130 13	City of Lodi		221	W Pine St	Lodi	CA	95240
8	055 150 09	California State Of		12045	N Thornton Rd	Lodi	CA	95242
9	055 150 14	City of Lodi		221	W Pine St	Lodi	CA	95240
10	055 150 15	City of Lodi		221	W Pine St	Lodi	CA	95240
11	055 150 17	City of Lodi		221	W Pine St	Lodi	CA	95240
12	055 150 29	City of Lodi		221	W Pine St	Lodi	CA	95240



20
314.14 ACS.
14
13
24
T. 3N. R. 5E.
118.10'
83.79'
N. 89° 54' W.
3017.95'
CITY OF LODI
17
6.20 ACS.
55/15
CITY OF LODI
29
25.35 ACS.
2090.01'
52.32 ACS.
6376.38'
N. 22° 22' W.
3644.10'
1000FT
1"=900'
55/13
CITY OF LODI
16
160.00 ACS.
ROUTE NO 5
THORNTON ROAD
1" 900'
CITY OF LODI
13
58.88 ACS.
CITY OF LODI
4
65.65 ACS.
STATE OF CALIF.
9
1.47 ACS.
583.23'
23
24
26
25
THIS MAP IS FOR ASSESSMENT USE ONLY
55/12
INTERSTATE
CITY OF LODI
3
158.57 AC.
PERIPHERAL CANAL