

**AMENDMENT
TO CEC LICENSE
FOR THE
MOUNTAINVIEW POWER PROJECT
00-AFC-2**

Prepared by

MOUNTAINVIEW POWER COMPANY, LLC

25770 San Bernardino Avenue
San Bernardino, California 92408-3154

For Submittal to

CALIFORNIA ENERGY COMMISSION
Energy Facilities Siting and Environmental Protection Division
1516 Ninth Street
Sacramento, California 95814

February 2004

**AMENDMENT
TO CEC LICENSE
FOR THE
MOUNTAINVIEW POWER PROJECT
00-AFC-2**

Prepared for

MOUNTAINVIEW POWER COMPANY, LLC

25770 San Bernardino Avenue
San Bernardino, California 92408-3154

For submittal to

CALIFORNIA ENERGY COMMISSION

Energy Facilities Siting and Environmental Protection Division
1516 Ninth Street
Sacramento, California 95814

February 2004

Prepared by

URS

130 Robin Hill Road, Ste. 100
Santa Barbara, California 93117
805.964.6010 ♦Fax 805.964.0259
Project No. 2235873.03500

TABLE OF CONTENTS

| | | |
|-------|---|-----|
| 1.0 | INTRODUCTION | 1-1 |
| 1.1 | OVERVIEW OF AMENDMENT | 1-1 |
| 1.2 | OVERVIEW OF PROJECT CHANGES | 1-2 |
| 1.3 | NECESSITY OF PROPOSED CHANGES | 1-3 |
| 1.4 | SUMMARY OF ENVIRONMENTAL IMPACTS | 1-3 |
| 1.5 | CONSISTENCY OF CHANGES WITH LICENSE | 1-4 |
| 2.0 | DESCRIPTION OF PROJECT CHANGES | 2-1 |
| 2.1 | INTRODUCTION | 2-1 |
| 2.2 | PROPOSED PROJECT CHANGES | 2-2 |
| 2.2.1 | Emergency Fire Pump | 2-2 |
| 2.2.2 | Gas Turbine Start-up Emissions | 2-2 |
| 2.2.3 | Gas Turbine Commissioning and Tuning | 2-3 |
| 2.2.4 | Modifications to Conditions of Approval | 2-3 |
| 3.0 | ENVIRONMENTAL ANALYSIS OF THE PROPOSED CHANGES | 3-1 |
| 3.1 | AIR QUALITY | 3-1 |
| 3.2 | GEOLOGIC HAZARDS AND RESOURCES | 3-4 |
| 3.3 | AGRICULTURE AND SOILS | 3-4 |
| 3.4 | WATER RESOURCES | 3-4 |
| 3.5 | BIOLOGICAL RESOURCES | 3-4 |
| 3.6 | CULTURAL RESOURCES | 3-5 |
| 3.7 | PALEONTOLOGICAL RESOURCES | 3-5 |
| 3.8 | LAND USE | 3-5 |
| 3.9 | SOCIOECONOMICS | 3-5 |
| 3.10 | TRAFFIC AND TRANSPORTATION | 3-5 |
| 3.11 | NOISE | 3-5 |
| 3.12 | VISUAL RESOURCES | 3-6 |
| 3.13 | WASTE MANAGEMENT | 3-6 |
| 3.14 | HAZARDOUS MATERIALS HANDLING | 3-6 |
| 3.15 | PUBLIC HEALTH | 3-6 |
| 3.16 | WORKER SAFETY | 3-7 |
| 3.17 | LAWS, ORDINANCES, REGULATIONS, AND STANDARDS | 3-7 |
| 4.0 | PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION | 4-1 |
| 5.0 | POTENTIAL EFFECTS ON THE PUBLIC | 5-1 |
| 5.1 | PROPOSED PROJECT CHANGES | 5-1 |

| | | |
|-----|--------------------------------------|-----|
| 6.0 | LIST OF PROPERTY OWNERS | 6-1 |
| 7.0 | POTENTIAL EFFECTS ON PROPERTY OWNERS | 7-1 |

| <u>LIST OF TABLES</u> | <u>Page</u> | |
|-----------------------|--|-----|
| 1.2-1 | Summary of Project Description Changes | 1-4 |
| 6.8-41 | (Revised 6/10/01) MVPC Plant Modeled Maximum Impacts | 3-2 |
| 6.9-6 | (Revised 7/9/03) Summary of Health Risk Assessment Results | 3-3 |

APENDICES

| | |
|------------|---|
| APPENDIX A | Proposed Modified Conditions of Certification |
| APPENDIX B | List of Property Owners |

INTRODUCTION

1.1 OVERVIEW OF AMENDMENT

On March 21, 2001, the California Energy Commission (CEC) approved the Mountainview Power Project (MVPP) (00-AFC-2). The owner of the MVPP is Mountainview Power Company, LLC (MVPC). Shortly after the project was approved, Bechtel Power Corporation (BPC) replaced the project designer, Sargent & Lundy/Duke-Flour Daniel. The new project designer proposed modifications described in Amendment 1 (July 2001) primarily necessitated by actual equipment sizing as purchased by Bechtel Power Corporation and detailed engineering studies to optimize costs and provide for construction and operational efficiency. The amendment was approved by the CEC September 2001.

This proposed Amendment 2 reflects final engineering design and incorporates South Coast Air Quality Management District (SCAQMD) air permit modifications. This Amendment only contains information relevant to the current proposed CEC amendment and excludes references to any past CEC approved amendments. It is anticipated that the SCAQMD will issue a draft engineering air quality analysis and proposed amended Facility Permit within the next month. At the CEC's request MVPC will make available all of the SCAQMD correspondence under separate cover. MVPC believes that all of the modifications are beneficial to the project and the community.

This petition to amend the project contains all of the information required pursuant to Section 1769 (Post Certification Amendments and Changes) of the CEC's Siting Regulations. The specific project changes and information needed to fulfill the requirements of Section 1769 are contained in Sections 1.0 through 7.0.

1.2 OVERVIEW OF PROJECT CHANGES

The proposed changes to the MVPP are requested by MVPC in order to reflect final engineering design and SCAQMD air permit modifications. These proposed changes include:

- **Emergency Fire Pump** – The project has approval for the installation of a Caterpillar Model 3406, 370hp fire water pump. At the SCAQMD request, a Clarke 370hp engine

that emits at lower g/hp emission levels will be installed.

- **Start-up Emissions** – MVPC is requesting an increase in start-up duration was increased from 3 hours to 6 hours based on recent actual start-up emissions data for projects in California using similar technology. MVPC currently has approval to start two turbines simultaneously and requests the approval to allow all four turbines to be simultaneously in start-up mode.
- **Commissioning and Tuning Emissions** – Since the initial CEC application development, substantially more data is available on commissioning and maintenance tuning emissions. The owner is requesting to incorporate this recent improved data into the permit conditions to result in a more realistic and defensible permit.
- **Conditions of Certification Modifications** – Modifications to the Conditions of Certification (COCs) are requested to accommodate the above changes.

Table 1.2-1 provides a summary of the changes and the benefits associated with each modification. Refer to Section 2.0 of this Amendment for more specific details of the project changes.

1.3 NECESSITY OF PROPOSED CHANGES

Section 1769 (a)(B) and (C) of the CEC Siting Regulations requires a discussion of the necessity for the proposed modifications to the MVPP project and asks whether the modifications are based on information known to the petitioner during the certification proceeding. The proposed project changes are needed to incorporate final engineering design, and update conditions to reflect current knowledge of emissions from power generation facilities. These changes were not known during the certification proceeding, but were a result of post certification engineering and availability of more recent data on emission from power generation facilities.

1.4 SUMMARY OF ENVIRONMENTAL IMPACTS

Section 1769 (a)(E) of the CEC Siting Regulations requires an analysis to address the impacts of proposed modifications on the environment and the proposed measures to mitigate any significant adverse impacts. In addition, Section 1769 (a)(F) of the Siting Regulations requires a discussion of the impact of proposed modifications on the facility's ability to comply with applicable laws, ordinances, regulations, and standards (LORS). Section 3.0 of this Amendment includes a discussion of the potential impacts of the proposed changes on the environment. It also includes a discussion of the applicability of existing and proposed

mitigation measures, as well as a discussion of the consistency of the proposed modification with LORS.

1.5 CONSISTENCY OF CHANGES WITH LICENSE

Section 1769 (a)(D) of the CEC Siting Regulations requires a discussion of each proposed project modification and asks whether the modification is based on new information that would change or undermine the assumptions, rationale, findings, or other bases of the CEC's final decision on the original AFC. An explanation of why the proposed changes should be permitted is also required.

None of the proposed modifications undermines the assumptions, rationale, findings or other bases of the CEC's final decision on the original AFC. The maximum monthly and annual emissions will remain unchanged. A thorough air quality analysis for short term and long term impacts has been performed and demonstrates compliance with all ambient air quality standards consistent with the findings necessary to grant the license.

AMENDMENT TO CEC LICENSE
FOR THE MOUNTAINVIEW POWER PROJECT 00-AFC-2
FEBRUARY 2004

**TABLE 1.2-1
SUMMARY OF PROJECT CHANGES**

| Modification Description | Currently Licensed | Proposed Modification | Rationale / Necessity |
|--|---|--|--|
| Change Manufacturer of the Emergency Fire Pump | Caterpillar Model 3406 370 hp | Clarke 370 hp will be installed. | The Clarke is a lower g/hp emitting device requested by SCAQMD. |
| Increase Start-up Emissions | Cold steam turbine start 3 hour duration, 2 starts simultaneously | Cold steam turbine start 6 hour duration, 4 turbines in simultaneous start-up mode | Recent start-up data, operational flexibility |
| Commissioning and Tuning Emissions | Commissioning period 33 days and no provisions for gas turbine maintenance tuning | Commissioning period 1,200 hours per gas turbine, allow tuning with elevated emission levels 6 hours/day, 30 hours/year per turbine. | Allow for the dynamic nature of commissioning and anticipated maintenance tuning activities. |
| Modifications to Air Quality Conditions of Certification | See CEC Decision Conditions of Certification and subsequent approved amendments | AQ-1, AQ-10, AQ-11, AQ-13, AQ-14, AQ-17, and AQ-19 | Incorporate proposed facility changes and improve consistency with SCAQMD permit conditions. |

DESCRIPTION OF PROJECT CHANGES

2.1 INTRODUCTION

In compliance with CEC Siting Regulations Section 1769(a)(A), this section of the Amendment includes a description of each of the proposed project modifications, as well as a discussion regarding the necessity for the changes.

The Application for Certification (AFC) was submitted in January 2000 and the project was approved by the CEC on March 21, 2001. On May 24, 2001 the SCAQMD issued the revised facility permit for the MVPP, including Permit to Construct (PTC) approval for the equipment certified by the CEC.

After initial approvals were granted a series of proposed changes to the site plan, equipment and conditions of approval were requested by MVPC. The proposed project changes primarily affect the air quality analysis of the project and are addressed in detail in a series of correspondence with the SCAQMD. Note that these changes included some modifications that were approved by the CEC in Amendment 1, as well as other changes. There are four primary correspondences with the SCAQMD that discuss the changes in detail. Following is a summary of the SCQMD correspondence and the proposed changes.

- 1) August 16, 2001 - MVPC application to the SCAQMD to modify the Permit to Construct to address site design changes, install four stacks instead of two pairs of twinned stacks, reduce size of the emergency generator, move the location of the emergency generator, change gas turbine and boiler cooler tower TDS, retrofit existing boiler cooling tower, change start-up emissions. Ambient modeling analysis submitted with the application modification. Requested modification to conditions.
- 2) June 11, 2003 - MVPC letter and additional application material to SCAQMD to revise criteria pollutant ambient modeling analysis as requested by the SCAQMD. Change the fire pump to a Clarke model, propose a single ammonia tank, increase cold start duration, change commissioning from 33 days to 792 hours per turbine, and add combustor tuning provisions. Notified SCAQMD Boiler 1 and 2 and cooling towers removed from service at the end of 2002.
- 3) July 30, 2003 - MVPC letter to the SCAQMD to revise air toxic pollutant health risk assessment as requested by the SCAQMD.

- 4) September 23, 2003 - MVPC response to comments from the SCAQMD on questions pertaining to facility modifications and request commissioning hours to be increased to 1,200 hours per turbine.

2.2 PROPOSED PROJECT CHANGES

As briefly outlined in Section 1.0, the proposed changes are:

- Emergency Fire Pump
- Start-up Emissions
- Commissioning and Tuning Emissions
- Modifications to Air Quality Conditions of Certification

2.2.1 Emergency Fire Pump

The CEC approved emergency fire pump is a Caterpillar 370 hp engine. The SCAQMD believed that the Caterpillar engine did not have adequate control to satisfy Best Available Control technology requirements. A new Clarke 370 hp engine with lower emissions than the Caterpillar engine was identified and MVPC agreed to use the Clarke engine.

The proposed changes will allow MVPP to meet fire water protection needs and will utilize equipment with lowest achievable emission rates.

2.2.2 Gas Turbine Start-up Emissions

Based on experience gained from operation of recent F-class combined cycle plants in California, MVPC has determined that provisions need to be made for longer-duration startups when the steam turbine has been shut down for extended periods of time. In addition, MVPC is seeking the flexibility to allow for multiple units to be in start-up mode at the same time should such a need arise.

The proposed changes reflect recent operating experience from similar plants in California, and are intended to provide the plant with additional operating flexibility.

2.2.3 Gas Turbine Commissioning and Tuning

It is proposed that the gas turbine commissioning duration be lengthened to 1200 hours per turbine and that provisions for combustor tuning be added to the air quality approvals. Since submittal of the January 2000 AFC, numerous other power generation facilities have been constructed and initiated operations. Based on these other facilities, it has been observed that the commissioning timeframe can be rather variable. As shown in the September 23, 2003 SCAQMD correspondence, "Attachment 4, Summary of Commissioning Data", commissioning operating hours can range from 181 hours to 1076 hours. The MVPC seeks to obtain approval for 1200 hours per turbine to assure that there is sufficient time to commission the facility under all potential conditions.

The MVPC seeks approval to perform routine combustor tuning maintenance for up to 30 hours per year. The project air quality approvals did not include consideration of these activities. Based on observations at recently constructed facilities, these standard maintenance activities can result in compliance issues. The MVPC requests to add the tuning activities to avoid having to seek a variance or be in non-compliance during such routine activities that are necessary for proper operation of the equipment.

The changes result from the collection of new information on commissioning and tuning activities. The proposed changes will allow the facility to be properly commissioned and the equipment to be tuned to assure optimum and safe operations.

2.2.4 Modification to Conditions of Approval

It is proposed that numerous air quality PTC conditions be altered to accommodate the changes discussed above. Further, the MVPC has requested several other changes to conditions as presented in detail in the various correspondence to the SCAQMD. In an effort to incorporate these changes and also to create consistency between the SCAQMD and CEC air quality conditions, it is respectfully requested that the CEC consider the modified air quality COCs shown in Appendix A.

A redline strikeout and underline version of the proposed revised COCs is presented in Appendix A. Items to be deleted are indicated by strikeout, items to be added are indicated by underline. Only the COCs that are proposed to be modified are shown in Attachment A.

The proposed changes will create consistency between the CEC and SCAQMD air quality conditions for approval.

ENVIRONMENTAL ANALYSIS OF PROJECT CHANGES

Sections 1769(a)(E) and (F) of the CEC Siting Regulations require that the following environmental information regarding proposed changes be addressed as part of any post-certification amendment:

- An analysis of the impacts the modifications may have on the environment and proposed measures to mitigate any significant adverse impacts (Section 1769(a)(E)), and
- A discussion of the impact of the modifications on the facility's ability to comply with applicable LORS (Section 1769(a)(F)).

The analysis is organized by environmental discipline in Sections 3.1 through 3.16. These disciplines are the same as analyzed in the original AFC. Each section contains a discussion on the potential change to impacts due to the proposed project changes.

In summary, the proposed modifications to the approved MVPP will improve SCAQMD and CEC coordination on air quality requirements and create insignificant impacts to the environment, the public and the adjacent property owners.

3.1 AIR QUALITY

The proposed changes to the project could result in some increases to short-term air quality emissions and impacts in the infrequent event that all four turbines start simultaneously; however, the facility will still satisfy all short-term air quality standards. Monthly and annual permitted emissions as stipulated in CEC COC AQ-12 will not change. MVPC believes that a revised BACT assessment is not applicable to the proposed changes. The proposed changes do not require additional mitigation or offsets to satisfy air quality requirements.

Extensive additional air dispersion and health risk assessment modeling has been performed in coordination with the SCAQMD. This modeling demonstrates that the facility will comply with ambient air quality standards and be below health risk assessment significance levels. Revised criteria pollutant modeling is presented in both the August 16, 2001 and June 11, 2002 submittals to the SCAQMD. The June 11, 2003 modeling takes into consideration modeling methods and assumptions requested by the SCAQMD and should be used by the CEC for the assessment of compliance with air quality standards. The health risk assessment is presented in the July 30, 2003 correspondence to the SCAQMD. The emissions and

AMENDMENT TO CEC LICENSE
FOR THE MOUNTAINVIEW POWER PROJECT 00-AFC-2
FEBRUARY 2004

impacts presented in the June 11, 2003 correspondence are based on a “worst case modeling scenario” and in several instances are higher than the requested permit limits. This approach was selected to assure that the modeling analysis was very conservative and that the facility would comply with ambient air quality standards under all potential scenarios.

A redline/strikeout version of Table 6.8-41, MVPC Plant Modeled Maximum Project Impacts, is presented below and shows the changes to the impact analysis. Previous CEC approved impacts that have changed are shown in strikeout and the revised results of the analysis are shown in underline. As presented in the table, the facility is below all ambient air quality standards, including background concentrations for all pollutants, except PM₁₀. The PM₁₀ background concentrations exceed the ambient air quality standards, even in the absence of the proposed project. The facility PM₁₀ impacts are below significance levels and the project has already obtained PM₁₀ credits to offset any increase in emissions, resulting in no significant impact for PM₁₀ from the proposed project.

Table 6.8-41 (Revised 6/10/03)
MVPC Plant Modeled Maximum Project Impacts

| Pollutant | Averaging Time | Maximum Project Impact ^a ($\mu\text{g}/\text{m}^3$) | Background Concentrations ^d ($\mu\text{g}/\text{m}^3$) | Total Impact ($\mu\text{g}/\text{m}^3$) | State Standard ($\mu\text{g}/\text{m}^3$) | Federal Standard ($\mu\text{g}/\text{m}^3$) |
|------------------|---------------------|---|--|--|--|--|
| NO ₂ | 1-Hour | 74.0 <u>206.0</u> | 282 <u>261</u> | 365 <u>467</u> | 470 | -- |
| | Annual | 0.61 <u>0.97</u> | 71 <u>66</u> | 72 <u>67</u> | -- | 100 |
| SO ₂ | 1-Hour | 2.50 <u>6.15</u> | 52 <u>53</u> | 55 <u>59</u> | 650 | -- |
| | 24-Hour | 0.29 <u>0.26</u> | 29 <u>39</u> | 29 <u>39</u> | 109 | 365 |
| | Annual | 0.08 <u>0.10</u> | 3 <u>5</u> | 3 <u>5</u> | -- | 80 |
| CO | 1-Hour | 34.1 <u>95.3</u> | 9,200 <u>7,245</u> | 9,234 <u>7,340</u> | 23,000 | 40,000 |
| | 8-Hour | 11.5 <u>16.8</u> | 6,900 <u>5,405</u> | 6,912 <u>5,422</u> | 10,000 | 10,000 |
| PM ₁₀ | 24-Hour | 10.10 <u>3.10</u> | 136 <u>134</u> | 146 <u>137</u> | 50 | 150 |
| | Annual ^b | 2.01 | 46 | 48 | 30 | -- |
| | Annual ^c | 2.01 <u>1.00</u> | 53 <u>56</u> | 55 <u>57</u> | <u>20</u> | 50 |

^a Entire facility including Units 1-4-3 and 4, cooling towers, and diesel engines. The peak 1-hour average NO₂ concentrations shown include infrequent operation of the emergency engines for testing purposes. The maximum 1-hour average NO₂ concentrations, excluding the emergency equipment are much lower (25.2 ug/m³).

^b Annual Geometric Mean (State).

^c Annual Arithmetic Mean (Federal).

^d Based on maximum levels for period from 1998 to 2002.

A redline/strikeout version of Table 6.9-6, Summary of Health Risk Assessment Results, is presented below and shows the results of the previous CEC approved analysis in comparison

to the current analysis. Changes to the analysis are shown in strikeout and modifications to the results of the analysis are indicated by underline. As shown in the table, the facility is below all SCAQMD Rule 1401 Significance Levels.

Table 6.9-6 (Revised 7/9/03)
Summary of Health Risk Assessment Results

| | Maximum Project Impact | Rule 1401 Significance Levels |
|--|---|-------------------------------|
| Cancer Risk to Maximally Exposed Individual | 0.17 in One Million | Ten in One Million |
| <u>Impacts for gas turbines/cooling towers =</u> | <u>0.46 in One Million</u> | <u>Ten in One Million</u> |
| <u>Impacts for emergency engines* =</u> | <u>1.38 on One Million</u> | <u>Ten in One Million</u> |
| <u>Combined impacts =</u> | <u>1.84 in One Million</u> | <u>Ten in One Million</u> |
| Acute Noncancer Hazard Index | 0.4 <u>0.2</u> | 1.0 |
| Chronic Noncancer Hazard Index | 0.09 <u>0.08</u> | 1.0 |
| Modeled Chronic Noninhalation exposure/Most Stringent REL | 2×10^{-5} <u>4×10^{-6}</u> | 1.0 |
| <u>Notes (Table 6.9-6):</u> | | |
| <u>* Based on maximum annual Diesel PM10 ambient impact of 0.0046 ug/m3 and ARB-approved unit risk factor of 300 in one million for a 70-year lifetime exposure.</u> | | |

The potential applicability of BACT is discussed in the September 23, 2003 correspondence from MVPC to the SCAQMD. In summary, the MVPC believes that a revised BACT assessment is not applicable to the proposed changes. However, MVPC anticipates that the SCAQMD will reduce the NO_x emissions limit for the project to 2.0 ppm on a one hour average, in combination with the addition of provisions for infrequent excursions above that level. MVPC does not expect to challenge that decision. No other changes related to BACT are anticipated.

The facility does not propose to increase annual or monthly emissions that could result in a potential increase in the required RECLAIM Trading Credits or Emissions Reduction Credits. As discussed in the September 23 correspondence and stipulated in the May 24, 2001 Permit to Construct for the proposed project the following limits will still apply:

- a) The first year RTCs provided for the project are 250,302 pounds and the NO_x emissions from D18, D27, D36 and D45 (and the associated duct burners D21, D30, D39 and D48) will (Condition 1-2)

- b) Emissions of CO will be less than or equal to 8610 lbs in any one month (Condition 63-2)
- c) Emissions of VOC will be less than or equal to 2498 lbs in any one month (Condition 63-2)
- d) Emissions of PM₁₀ will be less than or equal to 7725 lbs in any one month (Condition 63-2)
- e) Emissions of SO_x will be less than or equal to 1055 lbs in any one month (Condition 63-2)

The proposed changes do not result in any new significant air quality impacts, and the supporting thorough modeling analysis demonstrates compliance with air quality requirements. Air Quality COCs will need to be modified to allow for the project changes and also to improve consistency with the SCAQMD Permit to Construct language. The proposed changes to the COCs are presented in Appendix A.

3.2 GEOLOGIC HAZARDS AND RESOURCES

The final engineering design and SCAQMD air permit modifications will not result in any new impacts to geologic resources or hazards as identified in the original AFC. The project modifications will not change the assumptions used in analyzing the impacts of the project nor the COCs for the approved project license.

3.3 AGRICULTURE AND SOILS

The final engineering design and SCAQMD air permit modifications will not result in any new impacts to agriculture and soils. The project modifications will not change the assumptions used in analyzing the impacts of the project nor the COCs for the approved project license.

3.4 WATER RESOURCES

The final engineering design and SCAQMD air permit modifications will not result in any new water resource impacts. The project modifications will not change the assumptions used in analyzing the impacts of the project nor the COCs for the approved project license.

3.5 BIOLOGICAL RESOURCES

The final engineering design and SCAQMD air permit modifications will not result in any new biological resources impacts. The project modifications will not change the assumptions used in analyzing the impacts of the project nor the COCs for the approved project license.

3.6 CULTURAL RESOURCES

The final engineering design and SCAQMD air permit modifications will not result in any new impacts to cultural resources. The project modifications will not change the assumptions used in analyzing the impacts of the project nor the COCs for the approved project license.

3.7 PALEONTOLOGICAL RESOURCES

The final engineering design and SCAQMD air permit modifications will not result in any new paleontological impacts. The project modifications will not change the assumptions used in analyzing the impacts of the project nor the COCs for the approved project license.

3.8 LAND USE

The final engineering design and SCAQMD air permit modifications will not result in any new land use impacts. The project modifications will not change the assumptions used in analyzing the impacts of the project nor the COCs for the approved project license.

3.9 SOCIOECONOMICS

The final engineering design and SCAQMD air permit modifications will not result in any new socioeconomic impacts. The project modifications will not change the assumptions used in analyzing the impacts of the project nor the COCs for the approved project license.

3.10 TRAFFIC AND TRANSPORTATION

The final engineering design and SCAQMD air permit modifications will not result in any new traffic and transportation impacts. The project modifications will not change the assumptions used in analyzing the impacts of the project nor the COCs for the approved project license.

3.11 NOISE

The final engineering design and SCAQMD air permit modifications should not result in any new noise impacts. The only potential modification that could impact noise is the emergency fire pump. The impacts of this emergency equipment were not assessed during the licensing process, since they are only used in emergency conditions. The fire pump will only be used during emergency situations and for brief maintenance periods.

There may be some slight increase in the generation of noise from the fire pump due to increasing the size from 182 hp to 370 hp. However, in consideration of the actual and expected noise reductions from other sources, no changes to noise impacts are anticipated. The project modifications will not exceed the limits set forth in the COCs for the approved project license and therefore will not result in any new noise impacts.

3.12 VISUAL RESOURCES

The final engineering design and SCAQMD air permit modifications will not result in any new visual resources impacts. The project modifications will not change the assumptions used in analyzing the impacts of the project nor the COCs for the approved project license.

3.13 WASTE MANAGEMENT

The final engineering design and SCAQMD air permit modifications will not result in any new waste management impacts. The project modifications will not change the assumptions used in analyzing the impacts of the project nor the COCs for the approved project license.

3.14 HAZARDOUS MATERIALS HANDLING

The final engineering design and SCAQMD air permit modifications will not result in any new hazardous materials handling impacts. The project modifications will not change the assumptions used in analyzing the impacts of the project nor the COCs for the approved project license.

3.15 PUBLIC HEALTH

The final engineering design and SCAQMD air permit modifications will not result in any new significant public health impacts. A health risk assessment was performed as part of the SCAQMD air permit modification information. The results of the health risk assessment are summarized in Section 3.1 of this amendment and discussed in detail in the July 30, 2003 SCAQMD correspondence. The emission rates of toxic air contaminants have slightly changed due to revised operating assumptions and due to the fact that toxic emissions factors have changed over time. This has resulted in a change to the risk assessment impacts; however, the impacts are still below significance thresholds. The project modifications will not change the rationale or findings that supported issuance of the license and no changes to the public health COCs are required.

3.16 WORKER SAFETY

The final engineering design and SCAQMD air permit modifications will not result in any new worker safety impacts. The project modifications will not change the assumptions used in analyzing the impacts of the project nor the COCs for the approved project license.

3.17 LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

Compliance with the applicable laws, ordinances, regulations, and standards (LORS) for the proposed project modifications can be accomplished through the LORS identified as part of 00-AFC-2 and the Final Decision for 00-AFC-2.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

In compliance with the requirements of CEC Siting Regulations Section 1769 (a)(1)(A), this section addresses the proposed modifications to COCs that would need to be reviewed and approved by the CEC concurrent with the CEC review of this Amendment. As part of this amendment, the MVPC is requesting the changes in CEC COCs shown in Appendix A.

Proposed deletions are shown in ~~strikeout~~-type; modifications are shown in underline. The only COCs with proposed modifications are shown in Attachment A. The proposed changes will create consistency between the CEC and SCAQMD air quality conditions for approval.

POTENTIAL AFFECTS ON THE PUBLIC

Consistent with the California Energy Commission Siting Regulations Section 1769(a)(1)(G), this section includes a discussion of how the proposed project modifications affect the public. The proposed modifications will have a periodic short-term affect on the public due to increased emissions in the infrequent event that all four gas turbines start-up simultaneously. Gas turbine annual and monthly permitted emissions will not be changed. The other proposed changes have a minimal potential to affect the public. These changes primarily affect public air quality issues. Based on extensive air dispersion modeling and health risk assessment the impacts will comply with health based standards and regulatory air requirements. The shutdown of Boilers 1 and 2, in combination with the proposed revised startup procedures, result in a net decrease in annual emissions at the site. It is anticipated that this will be a benefit to the public in the long-term.

LIST OF PROPERTY OWNERS

Consistent with the California Energy Commission Siting Regulations Section 1769 (a)(1)(H), this section lists the property owners potentially affected by the proposed modifications. MVPP has provided the names of all property owners who will be informed of the project as part of the public noticing requirements for the SCAQMD, pursuant to Rule 212 (see Appendix B).

POTENTIAL EFFECTS ON PROPERTY OWNERS

Consistent with the California Energy Commission Siting Regulations Section 1769(a)(1)(I), the following section addressed potential effects on nearby property owners, the public and the parties in the application proceedings. The proposed changes will not effect any final conclusions associated with the environmental impacts from the MVPP and rationale for granting the facility license. All impacts will be below standards and significance levels as contained in applicable LORs.

APPENDIX A
Proposed Modifications to Conditions of Certification

PROPOSED MODIFIED CONDITIONS OF CERTIFICATION

The following Conditions of Certification pertain to the following equipment:

1,991 MMBTU/HR Gas Turbine (ID No. D18) (A/N 366147) No. 3-1 GE Model 7FA with Dry Low NOx combustors connected directly to a 175.7 MW (nominal) Electric Generator (ID No. B19) and a Heat Recovery Steam Generator (ID No. B20) with 135 MMBTU/HR Duct Burners (ID No. D21) connected in common with Gas Turbine No. 3-2 to a 214.5 MW (nominal) steam turbine (ID No. B22). Selective Catalytic Reduction (ID No. C24) (A/N 366151) with 2750 cubic feet of total volume 72 feet height, 1.5 feet long, 25.6 feet wide with an ammonia injection grid (ID No. B25) and a CO oxidation catalyst (ID No. C23) with 240 cubic feet of total volume connected to an exhaust stack (ID No. S35) (A/N 36614651) No 3-1/3-2.

1,991 MMBTU/HR Gas Turbine (ID No. D27) (A/N 366148) No. 3-2 GE Model 7FA with Dry Low NOx combustors connected directly to a 175.7 MW (nominal) Electric Generator (ID No. B28) and a Heat Recovery Steam Generator (ID No. B29) with 135 MMBTU/HR Duct Burners (ID No. D30) connected in common with Gas Turbine No. 3-1 to a 214.5 MW (nominal) steam turbine (ID No. B31). Selective Catalytic Reduction (ID No. C33) (A/N 366152) with 2750 cubic feet of total volume 72 feet height, 1.5 feet long, 25.6 feet wide with an ammonia injection grid (ID No. B34) and a CO oxidation catalyst (ID No. C32) with 240 cubic feet of total volume connected to an exhaust stack (ID No. S35) (A/N 3661469) No 3-1/3-2.

1,991 MMBTU/HR Gas Turbine (ID No. D36) (A/N 366149) No. 4-3 GE Model 7FA with Dry Low NOx combustors connected directly to a 175.7 MW (nominal) Electric Generator (ID No. B37) and a Heat Recovery Steam Generator (ID No. B38) with 135 MMBTU/HR Duct Burners (ID No. D39) connected in common with Gas Turbine No. 4-4 to a 214.5 MW (nominal) steam turbine (ID No. B40). Selective Catalytic Reduction (ID No. C42) (A/N 366153) with 2750 cubic feet of total volume 72 feet height, 1.5 feet long, 25.6 feet wide with an ammonia injection grid (ID No. B43) and a CO oxidation catalyst (ID No. C41) with 240 cubic feet of total volume connected to an exhaust stack (ID No. S53) (A/N 36614953) No 4-3/4-4.

1,991 MMBTU/HR Gas Turbine (ID No. D45) (A/N 366150) No. 4-4 GE Model 7FA with Dry Low NOx combustors connected directly to a 175.7 MW (nominal) Electric Generator (ID No. B46) and a Heat Recovery Steam Generator (ID No. B47) with 135 MMBTU/HR Duct Burners (ID No. D48) connected in common with Gas Turbine No. 4-3 to a 214.5 MW (nominal) steam turbine (ID No. B49). Selective Catalytic Reduction (ID No. C51) (A/N 366154) with 2750 cubic feet of total volume 72 feet height, 1.5 feet long, 25.6 feet wide with an ammonia injection grid (ID No. B52) and a CO oxidation catalyst (ID No. C50) with 240 cubic feet of total volume connected to an exhaust stack (ID No. S53) (A/N 36614954) No 4-3/4-4.

AQ-1 During the final phase of construction, the operator shall be allowed to exceed normal operational and startup/shutdown emission limits and operational

constraints (**AQ-9, AQ-10, AQ-11, AQ-12, AQ-13** and **AQ-14**) and will be subject only to the limit prescribed in this Condition so that the turbine systems and controls can be fine tuned. This phase of construction is referred to herein as initial commissioning and shall be limited to no more than ~~33-1,200 operating days-hours~~ for each gas turbine following the date natural gas is first fired in that gas turbine.

If the turbine is loaded below 60%, the NOx emission factor used for RECLAIM emissions reporting purposes shall be 356 lbs/mmcf. If the turbine is loaded at or above 60%, the NOx emission factor used for RECLAIM emissions reporting purposes shall be 64-lbs/mmcf. ~~No more than two turbine systems shall be in initial commissioning at one time.~~ The project owner shall provide written notification to the District and California Energy Commission of the exact date natural gas is first fired in each of the four turbines, and the date, for each gas turbine, that commissioning activities are completed.

Verification: The project owner and/or operator (project owner) shall report the turbine loading conditions (as a percent of maximum), duration of loading conditions (hours), natural gas fuel consumption during loading conditions (mmcf) and total NOx emissions during loading conditions (lbs) from initial commissioning to the California Energy Commission Compliance Project Manager (CPM) for the four gas turbines and duct burners no later than 10 days following the termination of the initial commissioning period for the last gas turbine.

AQ-10 Startup is defined for a gas turbine/HRSG train as beginning when fuel is introduced into the turbine's combustor, and ending immediately prior to the first 15-minute period when both the NOx and CO limits in Conditions AQ-11 are met. Shutdown is defined for a gas turbine/HRSG train as beginning at the start of the first 15-minute period when the NOx and CO limits in Condition AQ-11 are not met, and ending ~~with~~ when the flow of fuel to the turbine's combustor ceases. ~~No more than two gas turbines shall be in startup mode at one time.~~ With the exception of cold steam turbine startups and combustor tuning activities, the total duration of startups and shutdowns shall not exceed ~~3~~ 4 hours per gas turbine/HRSG per day. A cold steam turbine startup is defined as a startup which occurs after the steam turbine has been shutdown for at least 72 hours. Combustor tuning activities are defined as all testing, adjusting, tuning, and calibration activities recommended by the gas turbine manufacturer to ensure safe and reliable steady state operation of the gas turbine following replacement of the combustor. This includes, but is not limited to, adjusting the amount of fuel distributed between the combustor turbine's staged fuel systems to simultaneously minimize NOx and CO production while minimizing combustor dynamics and ensuring combustor stability. For cold steam turbine startups, startup time shall not exceed 6 hours per day. Combustor tuning activities shall be limited to 6 hours per turbine per episode. The total number of hours during which a gas turbine may undergo cold steam turbine startups and combustor tuning shall not exceed 30 hours per year. The NOx emissions from any gas turbine in startup/shutdown mode shall be limited to 80.0 lbs/hr. The NOx and CO emission limits in Condition **AQ-11** shall not apply to any gas turbine that is in startup/shutdown mode.

Verification: The project owner shall submit fuel use, NOx emissions and operational status on an hourly basis during each startup or shutdown for each gas turbine in the Quarterly Operational Reports (see **AQ-8**).

AQ-11 Except during startup, shutdown, cold steam turbine startup, combustor tuning, and initial commissioning, emissions from each gas turbine exhaust stack shall not exceed the following limits:

| | |
|------------------------|--|
| NOx (measured as NO2): | 2.5 ppm at 15% oxygen on a dry basis averaged over one hour and 17.77 lbs/hour. |
| CO: | 6 ppm at 15% oxygen on a dry basis averaged over <u>31</u> hours and 25.91 lbs/hr. |
| SOx (measured as SO2): | 1.42 lbs/hr |
| VOC: | 3.47 lbs/hr |
| PM10: | 11.0 lbs/hr |
| Ammonia: | 5 ppm at 15% oxygen on a dry basis |

Verification: The project owner shall submit emission calculations to demonstrate compliance for the NOx and CO limits in the Quarterly Operational Reports (see **AQ-8**) and source tests, as required in Condition **AQ-15**, **AQ-16** and **AQ-17**, to demonstrate compliance with SOx, VOC and PM10 emission limits.

AQ-13 Except for initial commissioning, the emissions shall not exceed the following limits:

NOx (measured as NO2): 2 ppm at 15% oxygen from each gas turbine exhaust stack averaged over a year excluding periods of startup, and shutdown, cold steam turbine startup and combustor tuning as defined in Conditions **AQ-10** and 235.9 tons per year total for all four turbines/HRSGs, including periods of startup, and shutdown, cold steam turbine startup and combustor tuning as defined in Conditions **AQ-10**.

Verification: The project owner shall submit all necessary data and emission calculations electronically to the CPM in the fourth Quarter Operation Report only (**AQ-8**) to verify compliance of the annual emission limits. The project owner shall submit to the CPM a copy of the annual RTC reconciliation report filed with the District within 10 days of the report's filing with the District.

AQ-14 Except for initial commissioning, but including startup and shutdowns, the particulate matter emissions from each gas turbine exhaust stack shall not exceed the following limits:

PM10: Either 11 lbs/hr or 0.01 grains per standard cubic foot at 3% oxygen averaged over 15 consecutive minutes (or other averaging period specified by the District)

Verification: The project owner shall submit source tests as required by Condition **AQ-17** confirming verification of the condition.

AQ-17 The project owner shall conduct source testing of each gas turbine exhaust stack to verify compliance with the PM10 particulate matter (PM)-emission limits stated in Condition **AQ-14**, in accordance with the following requirements:

- The project owner shall submit a source test protocol to the District and the Commission 60 days prior to the proposed initial source test date. The protocol shall include the proposed operating conditions of the gas turbine, the identity of the testing lab, a statement from the lab certifying that it meets the criteria of District Rule 304, and a description of all sampling and analytical procedures.
- Source testing shall be conducted to measure PM10 emissions from each gas turbine exhaust stack using District Method 5.1.
- Source testing shall be conducted using natural gas operating at minimum load under normal operating conditions, if natural gas is burned more than 120 consecutive hours or 200 hours accumulated over any 12 consecutive months. The source test shall be conducted no later than 6 months after this time limit has been exceeded.
- Source testing shall be conducted using natural gas operating at maximum load under normal operating conditions, if natural gas is burned more than 120 consecutive hours or 200 hours accumulated over any 12 consecutive months. The source test shall be conducted no later than 6 months after this time limit has been exceeded.
- Source testing frequency shall be annual, but may be reduced to once every 5 years under the highest emitting load if three consecutive annual test results show compliance condition **AQ-14**.
- Source testing shall not be required for any one year for which the equipment is not in operation.
- Source test shall measure the fuel flow rate, the flue gas flow rate and the gas turbine generating output.
- Source test results shall be submitted to the District and the Commission no later than 60 days after the source test was conducted.
 - All emission data is to be expressed in the following units:
 1. pounds per hour,
 2. pounds per million cubic feet of fuel burned and
 3. grains per dry standard cubic feet of fuel burned.

Verification: The project owner shall submit the proposed protocol for the source tests 60 days prior to the proposed source test date to both the District and CPM for approval. The project owner shall submit source test results no later than 60 days following the source test date to both the District and CPM.

The following Conditions of Certification pertain to the following equipment:

Internal combustion engine, emergency power, diesel Caterpillar ~~3642~~ 3512B, 4th timing retard, turbocharged, aftercooled, ~~5900~~ 2155-BHP A/N 366155 (ID. No. D54).

~~AQ-19~~ The project owner shall set and maintain the fuel injection timing of the emergency IC engine at 4th retarded relative to standard timing.

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

The following Conditions of Certification pertain to the following equipment:

Internal combustion engine, emergency fire pump, diesel Cummins ~~6BTA~~ Clarke JW6H, 4th timing retard, turbocharged, aftercooled, ~~482~~ 375-BHP A/N 366156 (ID. No. D55).

The following Conditions of Certification pertain to the following equipment:

The two cooling towers associated with the new gas turbine units (Units 3 and 4), each are ~~147,000~~ 124,866 gal/min in capacity, have 10 cells, two rows side-by-side, forced vent and have a drift rate of 0.0006%.

The following Conditions of Certification pertain to the following equipment:

Storage tank, TK-1, ~~serving SCRs 3-1 and 3-2~~ with a vapor return line, aqueous ammonia 24.5% solution, ~~22,500~~ 36,000-gallons A/N 366162 (ID No. D56).

Storage tank, TK-2, ~~serving SCRs 4-3 and 4-4~~ with a vapor return line, aqueous ammonia 24.5% solution, ~~22,500~~ 36,000-gallons A/N 366163 (ID No. D57).

APPENDIX B
List of Property Owners

| <u>Name</u> | <u>Address</u> | <u>City</u> | <u>State</u> | <u>Zip Code</u> |
|------------------------------|------------------------------|----------------|--------------|-----------------|
| BRIAN T LAFFRANCHINI | 805 NOTTINGHAM | SAN BERNARDINO | CA | 92408 |
| INLAND FINANCIAL INC | 1994 SAN BERNARDINO AVE | LOMA LINDA | CA | 92354 |
| JAMES S & PATTI L IRVINE | 12525 VENICE BLVD | NORCO | CA | 92860 |
| JOE F & DORA VASQUEZ | 1914 E SAN BERNARDINO AVE | SAN BERNARDINO | CA | 92408-3013 |
| MARK R & DICK R SZYMANSKI | 26925 LADERA ST | REDLANDS | CA | 92373-4373 |