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OF COUNSEL:
RONALD LIEBERT

February 22, 2013

Bruce Boyer
Compliance Project Manager
09-AFC-2C
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: TURLOCK IRRIGATION DISTRICT ALMOND 2 POWER PLANT - CONDITION OF CERTIFICATION AQ-SC6, AIR PERMIT MODIFICATIONS SUBMITTED TO SJVAPCD FOR CONDITIONS AQ-41 & AQ-47

Dear Mr. Boyer:

On December 19, 2012 the Turlock Irrigation District (TID) submitted to the San Joaquin Valley Air Pollution Control District (SJVAPCD) an Application for Minor Modifications to the air permits for the Almond 2 Power Plant (A2PP). Specifically, the proposed modifications seek minor revisions to Conditions AQ-41 and AQ-47. Condition of Certification AQ-SC6 requires that TID submit to the California Energy Commission for review and approval, any proposed air permit modifications submitted to the SJVAPCD within five working days of submission. Please find attached hereto, TID's Application for Minor Modifications to the SJVAPCD for proposed revisions to Conditions AQ-41 and AQ-47.

Condition AQ-41 requires startup and shutdown testing of the gas turbines every seven years. Based on discussions with SJVAPCD staff and a review of other permits for facilities with multiple identical gas turbines, TID believes the intent of this condition was to require the testing of one representative gas turbine every seven years; however, a literal reading of the three permits would require testing of all three turbines. TID is requesting that Condition AQ-41 be revised to allow testing of a single representative turbine.

In addition, Condition AQ-47 requires the use of a "non-resettable, totalizing" fuel flow meter on each gas turbine to measure the amount of natural gas combusted. TID 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 75 and the continuous emissions monitoring requirements under 40 CFR Part 60. TID

requests that Condition AQ-47 be revised to delete the requirement that the fuel flow meter be non-resettable and totalizing.

This filing is consistent with the requirements of Section 1769 of the California Energy Commission regulations. Specifically, the information presented herein provides a complete description of the proposed modifications, including the new language for the affected Conditions AQ-41 and AQ-47, as required by Section 1769(a)(1)(A). This filing also includes a discussion of the necessity of the proposed changes, per Section 1769(a)(1)(B). This filing is based on information that was not known during the time of the certification, and it does not undermine the assumptions, rationale, findings, or other bases for the final decision, per Sections 1769(a)(1)(C) and 1769(a)(1)(D). As discussed above, the minor modifications to the AQ-41 and AQ-47 condition language do not have the potential to create any significant impacts on the environment, and the project remains consistent with all applicable LORS, per Sections 1769(a)(1)(E) and 1769(a)(1)(F). The proposed revisions will not adversely affect the public, per Section 1769(a)(1)(G). In addition, the proposed revisions will have no adverse effects on nearby property owners, per Section 1769(a)(1)(H) and 1769(a)(1)(I).

Should you have questions, please do not hesitate to contact me at 916-447-2166.

Sincerely,

Jeffery D. Harris
Greggory L. Wheatland
Ellison, Schneider & Harris L.L.P.

Attorneys for TID

Attachment: Petition for Amendment No. 1

Petition to Amend Air Quality Conditions of Certification for the Almond 2 Power Project (09-AFC-2)

Amendment No. 1

Submitted to:

California Energy Commission

Submitted by

Turlock Irrigation District

February 2013

Petition to Amend Air Quality Conditions of Certification
for the Almond 2 Power Project
(09-AFC-2)
Amendment No. 1

Table of Contents

Executive Summary

Turlock Irrigation District (TID), as project owner, petitions the California Energy Commission (CEC or Commission) to amend the certification for the Almond 2 Power Plant (A2PP) (09-AFC-2, issued December 15, 2010). This Amendment includes the components described below.

- Modification of Condition of Certification AQ-41 to clarify that this condition may be satisfied by startup and shutdown testing of a single representative turbine every seven years, and that it does not require testing of all three turbines.

- Modification of Condition of Certification AQ-47 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.

Section 1.0 provides an overview of the Amendment and a review of the ownership of the project. Section 2.0 provides a complete description of the proposed modifications and the necessity for the proposed changes. Section 3.0 assesses the potential environmental effects of the proposed changes; the project's continued compliance with all laws, ordinances, regulations and standards (LORS); and the consistency of the changes with the Commission Decision (Decision) certifying the facility. This assessment indicates that adoption of the Amendment will not result in any significant, unmitigated adverse environmental impacts, and that the project will continue to comply with all applicable LORS. Section 4.0 addresses potential effects on the public, and Section 5.0 assesses potential effects on property owners. Section 6.0 describes the proposed changes to Conditions of Certification AQ-41 and AQ-47.

1.0 Introduction

1.1 Overview

The Almond 2 Power Plant is an approximately 174 megawatt natural-gas fired, simple-cycle peaking generating facility located at 4500 Crows Landing Road, in Stanislaus County approximately 5 miles south of Modesto, California. Primary equipment consists of three identical 58 MW General Electric Energy LM6000PG turbines. The A2PP is owned by Turlock Irrigation District, and was certified by the Commission in December 2010.[1]

By this Amendment, TID petitions the Commission to amend the certification for the project as follows:

- Modify Condition of Certification AQ-41 to clarify that this condition may be satisfied by startup and shutdown testing of a single representative turbine every seven years, and that it does not require testing of all three identical turbines.
- Modify Condition of Certification AQ-47 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 .

On December 19, 2012, TID submitted these changes to the San Joaquin Valley Air Pollution Control District (SJVAPCD) in an Application for Minor Modifications to the air permits for the A2PP (Permit Nos. N-3299-4-0, '-5-0, '-6-0). The application has been deemed complete by the SJVAPCD and is currently under review. A copy of the application is provided as Attachment A.

In order to comply with Condition of Certification AQ-SC6 of the A2PP certificate, and Section 1769 of the Commission's siting regulations, 20 CCR § 1001 et seq. (Siting Regulations),[2] TID submitted a copy of the SJVAPCD Application and a detailed description of the proposed amendments to the Commission. On January 8, 2013, TID received an email communication from the Commission acknowledging receipt of the AQ-SC6 compliance filing and instructing TID to submit its request as a formal Amendment.

This Amendment contains all of the information that is required pursuant to Section 1769 of the Siting Regulations.

1.2 Summary of Environmental Impacts

Section 1769(a)(1)(E) of the Commission's Siting Regulations requires an analysis of the impacts, if any, that a proposed modification in project design, operation, or performance requirements may have on the environment, and proposed measures to mitigate any significant adverse impacts. Section 1769(a)(1)(F) of the Siting Regulations also requires a discussion of the impact of the modification on the facility's ability to comply with LORS.

[1] California Energy Commission, 2010, Commission Decision, Almond 2 Power Plant Project, (09-AFC-2)
[2] Title 20, California Code of Regulations, Section 1769 (Post Certification Amendments and Changes).

As discussed below in Section 3.0, the two proposed changes are minor modifications of air quality Conditions of Certification. TID concludes that these proposed changes will have no significant environmental impacts. With respect to the impact of the proposed modifications on applicable laws, ordinances, regulations and standards, the modification of AQ-41 will have no impact on compliance with all applicable LORS. The modification of AQ-47 will have the positive impact of ensuring consistency with the federal emissions monitoring and fuel metering requirements in 40 CFR Parts 60 and 75, while having no impact on compliance with any other applicable LORS.

2.0 Description of Project Changes

Consistent with Sections 1769(a)(1)(A) and (B) of the Siting Regulations, this section includes a complete description of the proposed modification as well as a discussion of the necessity for the proposed amendments. Consistent with Section 1769(a)(1)(C) and (D) of the Siting Regulations, this section explains that TID was unaware of the need for these two minor modifications prior to certification of A2PP, and that the modifications are not based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision.

2.1 Condition of Certification AQ-41 (Source Testing)

Condition AQ-41 requires startup and shutdown testing of the A2PP project gas turbines every seven years. Based on discussions with SJVAPCD staff and a review of other permits for facilities with multiple identical gas turbines, it appears that the intent of this condition is to require the testing of one representative gas turbine every seven years. However, a literal reading of the three air permits and AQ-41 would require testing of all three turbines. TID requests that the Commission revise AQ-41 to explicitly allow testing of a single representative turbine. Suggested revisions to AQ-41 are provided in underline below:

> *Source testing to measure startup and shutdown NO_x, CO, and VOC mass emission rates shall be conducted before the end of the commissioning period and at least once every seven years thereafter <u>on one of the three turbines (N-3299-4-0, '-5-0 or '-6-0)</u>. CEM relative accuracy for NO_x and CO shall be determined during startup and shutdown source testing in accordance with 40 CFR 60, Appendix F (Relative Accuracy Audit). If CEM data is not certifiable to determine compliance with NO_x and CO startup emission limits, then startup and shutdown NO_x and CO testing <u>on one of the three gas turbines</u> shall be conducted every 12 months. If an annual startup and shutdown NO_x and CO relative accuracy audit demonstrates that the CEM data is certifiable, the startup and shutdown NO_x and CO testing frequency shall return to the once every seven years schedule. [District Rule 1081]*

The A2PP turbines are simple-cycle units that start up—that is, come into compliance with their routine emission limits—in less than 30 minutes. This very short startup period makes it difficult, if not impossible, to obtain meaningful source test results with one-hour test runs. Consequently, multiple startups are necessary to complete testing, resulting in excessive turbine wear. In addition, because the gas turbines are identical, the startup and shutdown test results from one gas turbine can be used to verify compliance for all three units. The Environmental

Protection Agency (EPA) has used emission test results from a single gas turbine to demonstrate compliance with new source performance standards (NSPS) limits for identical turbines in several instances. See, for example, test waiver approval letters from EPA Region 4,[3,4] Region 6,[5] and Region 10.[6] Therefore, testing all three turbines during startup and shutdown would cause unnecessary wear on the turbines and would not provide additional significant or meaningful data.

This proposed change does not relax monitoring, recordkeeping, or reporting requirements, as these conditions would be unaffected. TID would still be required to continuously monitor and record emissions from each gas turbine, including during startup, using the continuous emissions monitoring systems (CEMS), and to maintain records of measurements. The requested change also does not affect TID's obligation to operate the CEMS in compliance with the applicable requirements of 40 CFR Parts 60 and 75.

TID was not aware of the need for this modification at the time the certificate was approved in December 2012. As noted previously, TID has submitted a request to SJVAPCD for an identical change in the A2PP project air permits.

2.2 Condition of Certification AQ-47 (Fuel Flow Meter)

Condition of Certification AQ-47 requires the use of a "non-resettable, totalizing" fuel flow meter on each gas turbine to measure the amount of natural gas combusted. TID 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 only requires the meter be "installed, calibrated, maintained, and operated according to the manufacturer's instructions" (see 60.4345(c)). TID requests that the Commission revise Condition of Certification AQ-47 to delete the requirement that the fuel flow meter be non-resettable and totalizing, as follows:

> *A ~~non-resettable, totalizing~~ mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201 and 4703]*

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 meters reset to zero because the fuel flow signal is lost. However, the fuel use data records are maintained in long-term storage, so the records of the amount of fuel used are unaffected. The fuel meters and associated data acquisition and handling system provide a permanent, cumulative record of fuel use in each gas turbine, and so comply with the intent of

[3] *http://cfpub.epa.gov/adi/pdf/adi-nsps-0600086.pdf*
[4] *http://cfpub.epa.gov/adi/pdf/adi-nsps-0500103.pdf*
[5] *http://cfpub.epa.gov/adi/pdf/adi-nsps-9600019.pdf*
[6] *http://cfpub.epa.gov/adi/pdf/adi-nsps-0300088.pdf*

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, TID requests that the Commission modify the language of AQ-47 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. 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 each turbine using a calibrated fuel flow meter.

TID was not aware of the need for this modification at the time the certificate was approved in December 2012. As noted previously, TID has submitted a request to SJVAPCD for an identical change in the A2PP project air permits.

3.0 Environmental Analysis of Proposed Amendments

Consistent with Sections 1769(a)(1)(E) and (F), the environmental impact and the impact on LORS of the proposed modification of Conditions of Certification AQ-41 and AQ-47 are addressed below. For the reasons detailed in section 2.0 above, neither of the proposed changes to the A2PP Air Quality Conditions of Certification will have a significant impact on air quality or any other significant environmental impact or effect on LORS.

3.1 Condition of Certification AQ-41

As discussed above, modifying Condition of Certification AQ-41 to expressly allow startup and shutdown emissions testing every seven years on one of the three turbines instead of all three will have no effect on emissions from the project. It will not affect TID's obligation to operate the CEMS in compliance with the applicable requirements of 40 CFR Parts 60 and 75. It likewise will have no effect on the quality of data, or on monitoring, recordkeeping, and reporting requirements. TID will be required to continuously monitor and record emissions from each gas turbine, including during startup, using the continuous emissions monitoring systems (CEMS), and to maintain records of measurements.

The proposed change in Condition of Certification AQ-41 is solely related to clarifying the requirements for source testing to measure startup and shutdown emission NOx, CO, and VOC mass emission rates, and thus will have no impact on biological resources, cultural resources, geology and paleontology, hazardous materials management, land use, noise and vibration,

public health, socioeconomics, soil and water resources, traffic and transportation, visual resources, waste management, or worker safety and fire protection.

The proposed modification of Condition of Certification AQ-41 is consistent with all applicable LORS. The change will only clarify that testing a single representative turbine will satisfy the requirement for periodic startup and shutdown emission testing, and will not otherwise alter any emissions limits or testing requirements. As noted above, TID has verified that the proposed modification is consistent with EPA precedent and practice. All findings and conclusions contained in the Commission Decision for the project will remain applicable to the project permit, as modified.

3.2 Condition of Certification AQ-47

As discussed above, TID has proposed removing the specification requiring that the fuel flow meters be "non-resettable" and "totalizing" in order to address potential inconsistencies with the metering requirements applicable under 40 CFR Part 60 and 75. This change will not alter applicable fuel measurement or monitoring requirements, and thus will not have a significant impact on air quality.

The proposed change in Condition of Certification AQ-47 will make a minor change in the specification for the type of fuel flow meter used to measure the amount of natural gas combusted in the unit, and thus will have no impact on biological resources, cultural resources, geology and paleontology, hazardous materials management, land use, noise and vibration, public health, socioeconomics, soil and water resources, traffic and transportation, visual resources, waste management, or worker safety and fire protection.

The proposed change in AQ-47 is consistent with all applicable LORS. Indeed, by approving this modification, the Commission will enable the project to avoid a potential inconsistency between the fuel flow metering technology required to comply with fuel metering requirements established under 40 CFR Part 60, and used by projects that are subject to the requirements in 40 CFR Part 75. All findings and conclusions contained in the Commission Decision for the project will remain applicable to the project permit, as modified.

4.0 Potential Effects on the Public

Consistent with Section 1769(a)(1)(G) of the Siting Regulations, this section discusses the proposed project modification effects on the public. The proposed minor modifications to Conditions of Certification AQ-41 and AQ-47 proposed in this Amendment will have no significant impacts on the environment, and will be in compliance with all applicable LORS and Conditions of Certification. Accordingly, there will be no adverse impacts on the public associated with this Amendment.

5.0 List of Property Owners and Potential Effects on Property Owners

Section 1769(a)(1)(H) of the Siting Regulations requires a list of the property owners potentially affected by the proposed modification. Insofar as the proposed minor modifications to

Conditions of Certification AQ-41 and 47 will have no significant impacts on the environment, and will be in compliance with all applicable LORS and Conditions of Certification, the Amendment will have no impact on any property owners. Nevertheless, a list of property owners is provided as Attachment B.

6.0 Proposed Changes to Conditions of Certification

AQ-41 Source testing to measure startup and shutdown NOx, CO, and VOC mass emission rates shall be conducted before the end of the commissioning period and at least once every seven years thereafter on one of the three turbines (N-3299-4-0, '-5-0 or '-6-0). CEM relative accuracy for NOx and CO shall be determined during startup and shutdown source testing in accordance with 40 CFR 60, Appendix F (Relative Accuracy Audit). If CEM data is not certifiable to determine compliance with NOx and CO startup emission limits, then startup and shutdown NOx and CO testing on one of the three gas turbines shall be conducted every 12 months. If an annual startup and shutdown NOx and CO relative accuracy audit demonstrates that the CEM data is certifiable, the startup and shutdown NOx and CO testing frequency shall return to the once every seven years schedule. [District Rule 1081]

Verification: The results and field data collected during source tests shall be submitted to the District and CPM within 60 days of testing and according to a pre-approved protocol (**AQ-39**). Testing for startup and shutdown emissions shall be conducted upon initial operation and at least once every seven years.

AQ-47 A ~~non-resettable, totalizing~~ mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201 and 4703]

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

Attachment A

Copy of the SJVAPCD Application for Minor Modification

WATER & POWER
Serving Central California since 1887

December 19, 2012

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

Re: Application for Minor Modifications
Turlock Irrigation District, Almond 2 Power Plant
Permit Nos. N-3299-4-0, '5-0 and '6-0

Dear Mr. Gill:

Turlock Irrigation District is proposing two minor revisions to the conditions of the Authorities to Construct issued by the District in February 2010 for three identical simple-cycle LM6000 gas turbines at the Almond 2 Power Plant. The requested revisions would change the language of conditions #41 and #47 of each permit to better reflect what we believe to be the intent of these conditions regarding startup/shutdown relative accuracy testing and non-resettable fuel flow meters.

We believe the proposed revisions qualify as minor permit modifications under Rule 2520 for the following reasons:

- They do not violate requirements of any applicable federally enforceable local or federal regulation;
- They do not relax monitoring, reporting, or recordkeeping requirements and are not significant changes in existing monitoring permit terms or conditions;
- They do not seek to change any emissions limits or standards;
- They do not seek to establish or change a permit condition for which there is no corresponding underlying applicable requirement, and that we assumed to avoid an applicable requirement to which the facility would otherwise be subject;
- They are not modifications under Title I, under Section 111 or 112 of the CAA, or under PSD regulations; and
- They do not seek to consolidate any overlapping applicable requirements.

A more detailed discussion regarding each proposed revision is provided below.

Condition 41

Condition 41 in each permit requires startup and shutdown testing of the gas turbines every seven years. Based on discussions with District staff and a review of other permits for facilities with multiple identical gas turbines, we believe the intent of this condition was to require the testing of one representative gas turbine every seven years; however, a literal reading of the three permits would require testing of all three turbines. We are requesting that the District revise Condition 41 to allow testing of a single representative turbine. Suggested language is provided below.

> *Source testing to measure startup and shutdown NOx, CO, and VOC mass emission rates shall be conducted before the end of the commissioning period and at least once every seven years thereafter on one of the three turbines (N-3299-4-0, '-5-0 or '-6-0). CEM relative accuracy for NOx and CO shall be determined during startup and shutdown source testing in accordance with 40 CFR 60, Appendix F (Relative Accuracy Audit). If CEM data is not certifiable to determine compliance with NOx and CO startup emission limits, then startup and shutdown NOx and CO testing on one of the three gas turbines shall be conducted every 12 months. If an annual startup and shutdown NOx and CO relative accuracy audit demonstrates that the CEM data is certifiable, the startup and shutdown NOx and CO testing frequency shall return to the once every seven years schedule.*

Justification: The A2PP gas turbines are simple-cycle units that start up—that is, come into compliance with their routine emission limits—in less than 30 minutes. This very short startup period makes it difficult, if not impossible, to obtain meaningful source test results with one-hour test runs. In addition, because the gas turbines are identical, we believe that the startup and shutdown test results from one gas turbine can be used to verify compliance for all three units. Using emission test results from a single gas turbine to demonstrate compliance with NSPS limits for several identical turbines has been allowed by EPA in several instances (see, for example, test waiver approval letters from Region 4,[1,2] Region 6,[3] and Region 10[4]). We do not believe that additional meaningful data would be obtained by testing all three turbines during startup and shutdown.

This proposed change does not relax monitoring, recordkeeping, or reporting requirements as conditions requiring monitoring, recordkeeping, and reporting would be unaffected. TID would still be required to continuously monitor and record emissions from each gas turbine, including during startup, using the CEMS, and to maintain records of measurements. The requested change also does not affect TID's obligation to operate the CEMS in compliance with the applicable requirements of 40 CFR Parts 60 and 75.

[1] http://cfpub.epa.gov/adi/pdf/adi-nsps-0600086.pdf
[2] http://cfpub.epa.gov/adi/pdf/adi-nsps-0500103.pdf
[3] http://cfpub.epa.gov/adi/pdf/adi-nsps-9600019.pdf
[4] http://cfpub.epa.gov/adi/pdf/adi-nsps-0300088.pdf

Condition 47

Condition 47 requires the use of a "non-resettable, totalizing" fuel flow meter on each gas turbine to measure the amount of natural gas combusted. We are 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 75 and the continuous emissions monitoring requirements under 40 CFR Part 60. We request that the District revise Condition 47 in each permit to delete the requirement that the fuel flow meter be non-resettable and totalizing, as shown in the modified language below.

> *A ~~non-resettable, totalizing~~ mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained.*

Justification: 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 meters reset to zero because the fuel flow signal is lost; however, the fuel use data records are maintained in long-term storage so the records of the amount of fuel used are unaffected. The fuel meters and associated data acquisition and handling system provide a permanent, cumulative record of fuel use in each 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, we request that the District modify the permit conditions 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. 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.

This 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 does not affect the Part 75 requirements to continuously monitor the fuel flow rate to each turbine using a calibrated fuel flow meter.

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

Authority to Construct fee, 3 units:	3 x $71 =	$213
Part 70 fee, 3 units:	3 x $19 =	$ 57
Total		$270

If you have any questions regarding this request, please contact Charles Canales of my staff at (209) 883-3454 or Jeff Adkins of Sierra Research at (916) 273-5127.

Sincerely,

George Davies, IV
Combustion Turbine Department Manager

Attachments

cc: Jeff Adkins, Sierra Research
Susan Strachan

San Joaquin Valley Air Pollution Control District

www.valleyair.org

COPY

Permit Application For:

[ ] AUTHORITY TO CONSTRUCT (ATC) - New Emission Unit
[√] 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: Turlock Irrigation District

2. MAILING ADDRESS:
STREET/P.O. BOX: P. O. Box 949
CITY: Turlock STATE: CA ZIP CODE (9-DIGIT): 95381-0949

3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:
STREET: 4500 Crows Landing Road CITY: Modesto
NW /4 SECTION 21 TOWNSHIP 4S RANGE 9E

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

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

4. GENERAL NATURE OF BUSINESS: Electric power production

INSTALL DATE: n/a

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)*? [ ] YES [√] NO

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

Application for minor revisions to conditions #41 and #47 of the Authorities to Construct issued by the District in February 2010 for three identical simple-cycle LM6000 gas turbines at the Almond 2 Power Plant. Authorities to Construct: N-3299-4-0, N-3299-5-0, and N-3299-6-0.

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.
[ ] 3-day review
[ ] 10-day review
[√] No review requested

8. HAVE YOU EVER APPLIED FOR AN ATC OR PTO IN THE PAST? [√] YES [ ] NO
If yes, ATC/PTO #: see #6 above

9. IS THIS APPLICATION FOR THE CONSTRUCTION OF A NEW FACILITY? [ ] YES [√] 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 [√] NO
If yes, NOV/NTC #:

Optional Section

11. DO YOU WANT TO RECEIVE INFORMATION ABOUT EITHER OF THE FOLLOWING VOLUNTARY PROGRAMS?

[ ] "HEALTHY AIR LIVING (HAL) BUSINESS PARTNER"

[ ] "INSPECT"

12. TYPE OR PRINT NAME OF APPLICANT:
George Davies, IV

TITLE OF APPLICANT:
Combustion Turbine Department Manager

13. SIGNATURE OF APPLICANT: GDavies IV DATE: 12/19/12

PHONE #: (209) 883-3451
FAX #: (209) 656-2188
E-MAIL: gadavies@tid.org

FOR APCD USE ONLY:

DATE STAMP: RECEIVED DEC 20 2012 SJVAPCD NORTHERN REGION OTC

FILING FEE RECEIVED: $ CHECK #:

DATE PAID:

PROJECT #: FACILITY ID:

San Joaquin Valley Air Pollution Control District

www.valleyair.org

Permit Application For:

[ ] ADMINISTRATIVE AMENDMENT [x] MINOR MODIFICATION [ ] SIGNIFICANT MODIFICATION

1. PERMIT TO BE ISSUED TO: Turlock Irrigation District

2. MAILING ADDRESS:

STREET/P.O. BOX: PO Box 949

CITY: Turlock STATE: CA 9-DIGIT ZIP CODE: 95381

3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:

STREET: 4500 Crows Landing Road CITY: Modesto

NW ¼ SECTION 21 TOWNSHIP 4S RANGE 9E

INSTALLATION DATE:

4. GENERAL NATURE OF BUSINESS: Electric power production

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

Application for minor revisions to conditions #41 and #47 of the Authorities to Construct issued by the District in February 2010 for three identical simple-cycle LM6000 gas turbines at the Almond 2 Power Plant. Authorities to Construct: N-3299-4-0, N-3299-5-0, and N-3299-6-0.

6. TYPE OR PRINT NAME OF APPLICANT:

George Davies, IV

TITLE OF APPLICANT:
Combustion Turbine Department Manager

7. SIGNATURE OF APPLICANT: DATE: 12/19/12

PHONE: (209) 883-3451
FAX: (209) 656-2188
EMAIL: gadavies@tid.org

For APCD Use Only:

DATE STAMP

RECEIVED
DEC 20 2012
SJVAPCD
NORTHERN REGION

FILING FEE RECEIVED: $ *CHECK#:*

DATE PAID:

PROJECT NO: *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: Turlock Irrigation District

EQUIPMENT DESCRIPTION

Equipment Details	☐ Industrial Frame ☒ Aero Derivative ☐ Other: _____		
	Manufacturer: General Electric	Model: LM6000 PG	Serial Number:
	☒ Simple Cycle ☐ Combined Cycle ☐ Co-generation ☐ Other: _____		
	Nominal (ISO) Rating: 54.2 MW (at 1 atm, 59°F, 60% Relative Humidity)		
	Is the unit equipped with an auxiliary/duct burner? ☐ Yes ☒ No (Note: If yes, please complete a *Boiler, Steam Generator, Dryer, and Process Heater Supplemental Application form* for the unit.)		
Rule 4703 Type of Use and Emissions Monitoring Provisions	☐ Peaking Unit - limited to no more than 877 hrs/yr of operation ☐ Emergency Standby - limited to less than 200 hrs/yr of operation ☒ Full Time - must have either a Continuous Emission Monitoring System (CEMS) or an alternate emissions monitoring plan (must be approved by the APCO) ☒ CEMS, please specify all pollutants monitored: ☒ NO_x ☒ CO ☒ O_2 ☐ Other: _____ ☐ Alternate Emissions Monitoring Plan (please provide details in additional documentation)		
Fuel Use Meter	☒ Gaseous Fuel Meter ☐ Liquid Fuel Meter ☐ None		
Process Data	Will this unit be used in an electric utility rate reduction program? ☐ Yes ☒ No		
Combustor(s)	Manufacturer: GE	Model:	Number of Combustors: 1
	Maximum Heat Input Rating (for all combustors @ ISO standard conditions): 523 MM Btu/hr		
	Water Injection: ☒ Yes ☐ No	Dry Low NO_x Technology: ☐ Yes ☒ No	
	Steam Injection: ☐ Yes ☒ No	Other NO_x Control Technology: N/A	

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 1021 Btu/scf			Sulfur Content: _____ % by weight or 1 gr/scf			
	Maximum Fuel Use @ HHV: 9095 scf/hr or _____ gal/hr			Rated Efficiency (EFF_{Mfg}): tbd %			
Primary Fuel Emissions Data	Operational Mode	Steady State (ppmv)	Steady State (lb/MMBtu)	Start-up (ppmv)	Start-up (lb/hr)	Shutdown (ppmv)	Shutdown (lb/hr)
	Nitrogen Oxides	2.5	0.0091		25		25
	Carbon Monoxide	4.0	0.0088		40		40
	Volatile Organic Compounds	2.0	0.0025		2		2
	Duration			2 hr/day	730 hr/yr	0.5 hr/day	182.5 hr/yr
	% O_2, dry basis, if corrected to other than 15%: N/A %						

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: Cormetech Model: CMHT-21 ☒ Ammonia (NH_3) ☐ Urea ☐ Other: _____
	☒ Oxidation Catalyst - Manufacturer: BASF Model: CAMET Oxidation Catalyst
	Control Efficiencies: NO_x 90 %, SO_x n/a %, PM_{10} n/a %, CO >90 %, VOC n/a %
	☐ 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: _____ hours per day, and _____ hours per year		
Receptor Data	Distance to nearest Residence	1750 feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest apartment, house, dormitory, etc.
	Direction to nearest Residence	NNE	Direction from the stack to the receptor, i.e. Northeast or South.
	Distance to nearest Business	~600 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	W	Direction from the stack to the receptor, i.e. North or Southwest.
Stack Parameters	Release Height	80 feet above grade	
	Stack Diameter	144 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: 661,894 acfm	Temperature: 850 °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
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: Turlock Irrigation District	FACILITY ID:N -3299
1. Type of Organization:[ ] Corporation [ ] Sole Ownership [ ] Government [ ] Partnership [✓] Utility	
2. Owner's Name: Turlock Irrigation District	
3. Agent to the Owner: George Davies, IV	

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]

Signature of Responsible Official

Date 12/19/12

George Davies, IV

Name of Responsible Official (please print)

Combustion Turbine Department Manager

Title of Responsible Official (please print)

WATER & POWER
Serving Central California since 1887
333 EAST CANAL DRIVE
POST OFFICE BOX 949
TURLOCK, CALIFORNIA 95381-0949
(209) 883-8300

CHECK NUMBER
28174

11-35
1210

DATE	CHECK AMOUNT
12/20/2012	$270.00

TURLOCK BRANCH
BANK OF AMERICA
National Trust & Savings Association

PAY EXACTLY

TURLOCK IRRIG. DIST. 270 DOLS 00 CTS

PAY TO ORDER OF

San Joaquin Valley Air Pollution
Control District

BY _____
TURLOCK IRRIGATION DISTRICT

⑈028174⑈ ⑆121000358⑆ 08320⑈80152⑈

DETACH BEFORE CASHING • KEEP FOR YOUR RECORDS

WATER & POWER
Serving Central California since 1887
333 EAST CANAL DRIVE
POST OFFICE BOX 949
TURLOCK, CALIFORNIA 95381-0949
(209) 883-8300

REVOLVING ACCOUNT

DATE 12/20/2012

CHECK NUMBER
28174

INVOICE DATE	REFERENCE	P. O. NUMBER	GROSS AMOUNT	DISCOUNT AMOUNT	ADJUSTMENT	NET AMOUNT
	Application for minor modification of Almond 2 Power Plant permits N-3299-4-0, -5-0, and -6-0					$270.00
	53310 751 064					

SAN JOAQUIN VALLEY UNIFIED APCD
4800 Enterprise Way
Modesto, CA 95356-9322

CASH RECEIPT

Date 12/20 20 12

308355

Received From TID

Address 333 East Canal Dr, Turlock

Dollars $ 270.00

For ATC filing fee

OK #28174

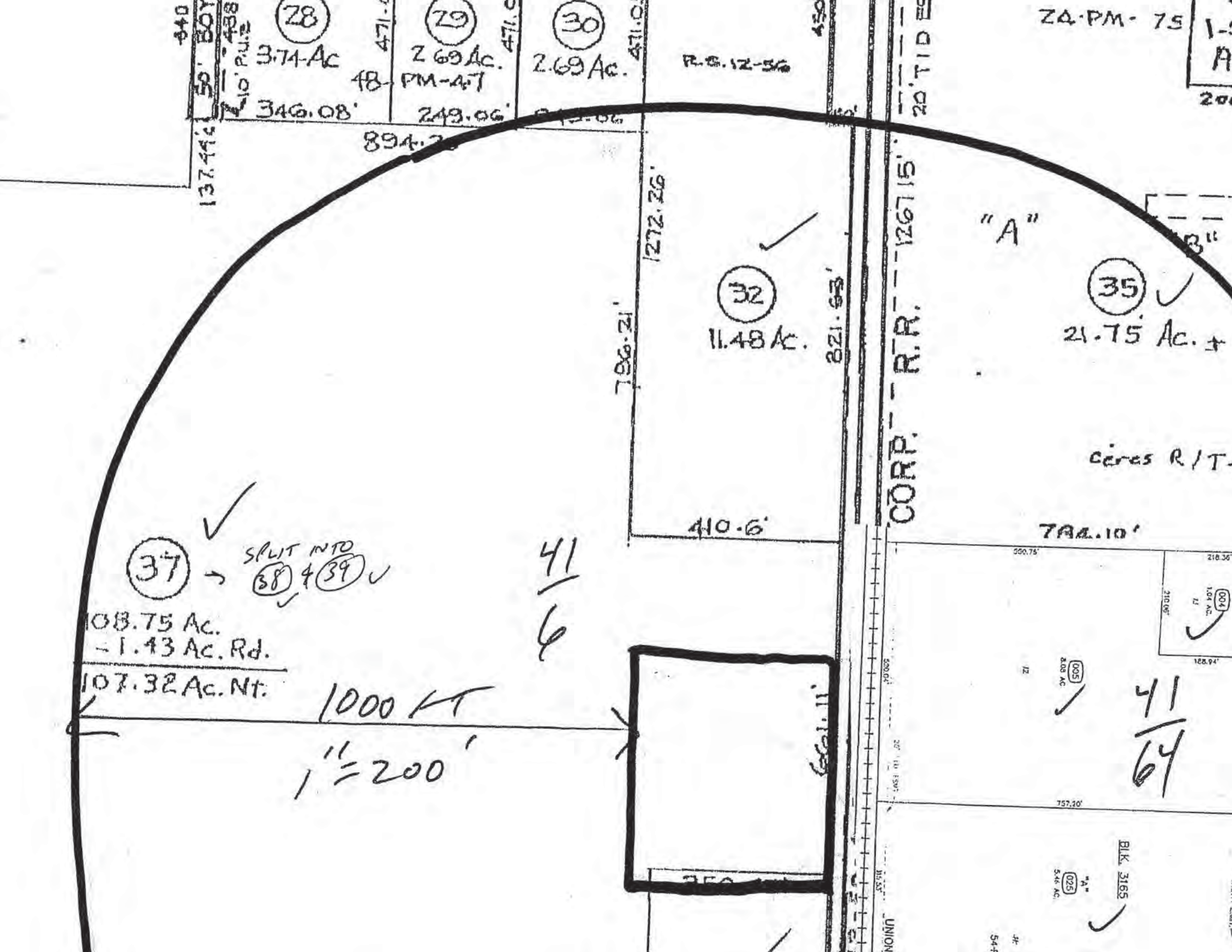
ACCOUNT			HOW PAID		
AMT. OF ACCOUNT			CASH		
AMT. PAID	270	00	CHECK	✓	
BALANCE DUE			MONEY ORDER		

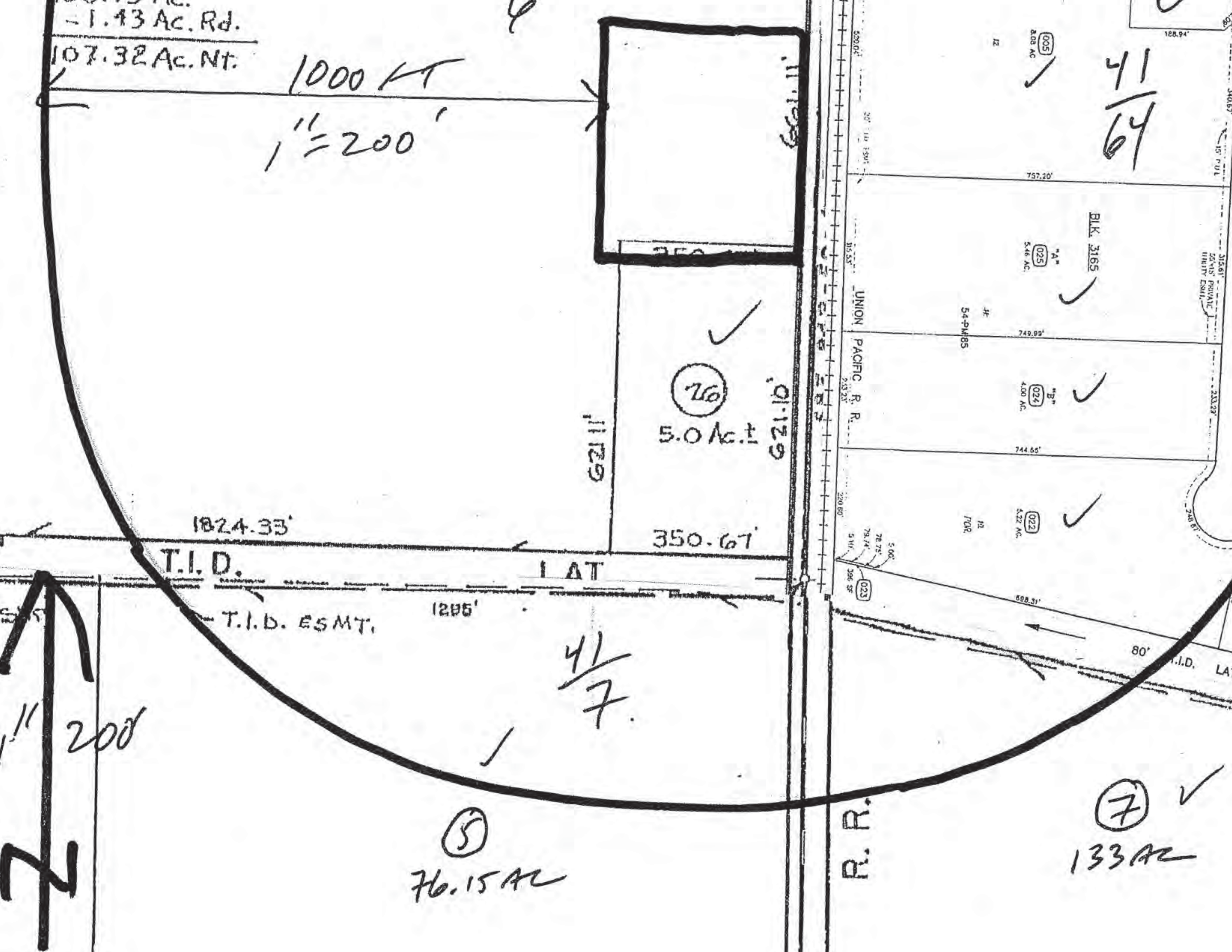
By Kim Crews

Attachment B

Property Owners Located within 1,000 feet of the Power Plant Site

	PARCEL	OWNERFIRST	OWNERLAST	MAILNUMBER	MAILSTREET	MAILCITY	MAILSTATE	MAILZIP	SITENUMBER	SITESTREET	SITECITY	SITESTATE	SITEZIP
1	041 006 026 000	Turlock Irrigation District			Po Box 949	Turlock	CA	95381		Crows Landing Rd	Ceres	CA	95307
2	041 006 029 000	Clarkson California Properties		480	E Service Rd	Modesto	CA	95358	480	E Service Rd	Modesto	CA	95358
3	041 006 030 000	Manuel & Dora I	Otero	1043	San Pedro Ave	Ceres	CA	95307	520	Service Rd	Ceres	CA	95307
4	041 006 032 000	Stanislaus Farm Supply Co		624	E Service Rd	Modesto	CA	95358	624	E Service Rd	Modesto	CA	95358
5	041 006 035 000	Stanislaus Farm Supply Co Inc		624	E Service Rd	Modesto	CA	95358	712	E Service Rd	Modesto	CA	95351
6	041 006 038 000	Winco Foods Llc			PO Box 35547	Tulsa	OK	74153	4400	Crows Landing Rd	Ceres	CA	95307
7	041 006 039 000	Turlock Irrigation District			PO Box 949	Turlock	CA	95381		Crows Landing Rd	Ceres	CA	95307
8	041 007 005 000	Emma F	Moore	6125	Crows Landing Rd	Ceres	CA	95307		Grayson & Tsrr	Ceres	CA	00000
9	041 007 007 000	Dairy	Marchy	943	E Grayson Rd	Ceres	CA	95307	943	E Grayson Rd	Ceres	CA	95307
10	041 063 027 000	Paul Dhoung	Nguyen	239	Money Ct	San Jose	CA	95111	991	Partee Ln	Ceres	CA	95307
11	041 063 035 000	Miller Investments LP		909	Foxcroft Ln	Modesto	CA	95355	4220	Farm Supply Dr	Ceres	CA	95307
12	041 064 002 000	Don	Baker	1015	Montclaire Dr	Ceres	CA	95307	1015	Montclaire Dr	Ceres	CA	95307
13	041 064 003 000	Benito	Perez	11459	W Belmont Ave	Fresno	CA	93723	991	Montclaire Dr	Ceres	CA	95307
14	041 064 004 000	Morgan Road Industrial Park LP		502	Fleetwood Dr	Modesto	CA	95350	4325	Farm Supply Dr	Ceres	CA	95307
15	041 064 005 000	Hsm Pacific LLC		3228	Long Lake Dr SE	Olympia	WA	98503	4375	Farm Supply Dr	Ceres	CA	95307
16	041 064 008 000	Fred & Leanne	Miller	5172	Kiernan Ct #d	Salida	CA	95368	992	Marchy Ln	Ceres	CA	95307
17	041 064 012 000	Arthur R & Mavis E	Bernal	1220	Cone Flower Ct	Modesto	CA	95355	1015	Marchy Ln	Ceres	CA	95307
18	041 064 013 000	Arthur R & Mavis E	Bernal	1220	Cone Flower Ct	Modesto	CA	95355	4476	Farm Supply Dr	Ceres	CA	95307
19	041 064 014 000	Paul	Huckaba	4112	Fern Grove Ct	Modesto	CA	95356	4456	Farm Supply Dr	Ceres	CA	95307
20	041 064 015 000	B & D United Bilders Inc		501	Bitritto Way	Modesto	CA	95356	1016	Premier Dr	Ceres	CA	95307
21	041 064 018 000	B & D United Bilders Inc		501	Bitritto Way	Modesto	CA	95356	1015	Premier Dr	Ceres	CA	95307
22	041 064 019 000	B & D United Bilders Inc		501	Bitritto Way	Modesto	CA	95356	991	Premier Dr	Ceres	CA	95307
23	041 064 020 000	William G	Johnston Jr.	3740	N Golden State Blvd	Turlock	CA	95382	4396	Farm Supply Dr	Ceres	CA	95307
24	041 064 021 000	Daniel & Karen	Garcia	16911	Schell Rd	Oakdale	CA	95361	4376	Farm Supply Dr	Ceres	CA	95307
25	041 064 022 000	Precision Investment Group LLC		5039	Pentecost Dr	Modesto	CA	95356	4475	Farm Supply Dr	Ceres	CA	95307
26	041 064 023 000	Precision Investment Group LLC		5039	Pentecost Dr	Modesto	CA	95356		Farm Supply Dr	Ceres	CA	95307
27	041 064 024 000	Mid Valley Development (Cal) LLC		7457	River Nine Dr	Modesto	CA	95356	4425	Farm Supply Dr	Ceres	CA	95307
28	041 064 025 000	Hsm Pacific LLC		3228	Long Lake Dr SE	Olympia	WA	98503		Farm Supply Dr	Ceres	CA	95307


28
3.74 Ac
29
2.69 Ac.
30
2.69 Ac.
48-PM-47
R.S. 12-56
24-PM-75
346.08'
249.06'
894.2
137.44'
10' P.U.E.
20' TID E
"A"
"B"
32
11.48 Ac.
1272.26'
786.21'
821.63'
1267.15'
410.6'
CORP. R.R.
35
21.75 Ac. ±
Ceres R/T
784.10'
37
SPLIT INTO 38 & 39
108.75 Ac.
-1.43 Ac. Rd.
107.32 Ac. Nt.
41
6
1000 FT
1" = 200'
601.11'
41
64
004
1.04 AC.
005
8.08 AC.
025
5.46 AC.
757.20'
BLK. 3165
UNION


-1.43 Ac. Rd.
107.32 Ac. Nt.
1000 FT
1" = 200'
350
621.11'
621.10'
26
5.0 Ac. ±
1824.33'
350.67'
T.I.D.
LAT
1285'
T.I.D. ESMT.
41/7
41/64
1" 200'
N
5
76.15 AC
7
133 AC
R. R.
UNION PACIFIC R. R.
BLK. 3165
54-PM-85
757.20'
749.89'
744.65'
698.31'
80' T.I.D. LA
005
8.05 AC.
025
"A"
5.46 AC.
024
"B"
4.00 AC.
022
5.22 AC.
023
188.94'
315.61'
233.23'