



SEP - 4 2018

Louis Giacomazzi
Central Valley Cooperative, Inc
9845 Hanford-Armona Rd
Hanford, CA 93230

Re: Notice of Preliminary Decision – Emission Reduction Credits
Facility Number: C-259
Project Number: C-1173456

Dear Mr. Giacomazzi:

Enclosed for your review and comment is the District's analysis of Central Valley Cooperative, Inc's application for Emission Reduction Credits (ERCs) resulting from shutdown of the cotton gin, at 9845 Hanford-Armona Rd, Hanford, CA. The quantity of ERCs proposed for banking is 95 lb-NOx/yr, 0 lb-SOx/yr, 10,927 lb-PM10/yr, 19 lb-CO/yr, 5 lb-VOC/yr and 56 metric tons CO2e/yr.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice comment period, the District intends to issue the ERCs. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Ms. Andrea Ogden of Permit Services at (559) 230-5886.

Sincerely,



Arnaud Marjollet
Director of Permit Services

AM:ao

Enclosures

cc: Tung Le, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

**Emission Reduction Credit Banking
Application Review
*Shutdown of a Cotton Ginning Operation***

Facility Name: Central Valley Cooperative Inc.	Date: August 1, 2018
Mailing Address: 9845 Hanford-Armona Rd Hanford, CA 93230	Engineer: Andrea Ogden
Contact Person: Louis Giacomazzi	Lead Engineer: Joven Refuerzo
Telephone: (559) 816-1364	
Facility: C-259	
Project #: C-1173456	
Deemed Complete: February 12, 2018	

I. Summary

Central Valley Cooperative Inc. operated a cotton ginning facility in Hanford, CA. On December 11, 2017, the District received an application from the operator who surrendered the Permit to Operate, C-259-1-6 and -2-6 for the cotton gin and requested Emission Reduction Credits (ERCs) for VOC, NO_x, CO, PM₁₀, SO_x, and CO_{2e}. A copy of the surrendered Permit to Operate (PTO) is attached (Attachment A) and the permit has been cancelled. During the last season of operation in 2015, the facility processed 4,997 bales of cotton.

Based on the historical operating data prior to the shutdown, the amounts of bankable ERCs (as calculated in Section V of this document) are shown in the table below. The calculations in Section V are according to the provisions of District Rules 2201 and 2301.

Bankable Emissions Reductions Credits (ERCs)				
Pollutant	1st Qtr ERC (lb/qtr)	2nd Qtr ERC (lb/qtr)	3rd Qtr ERC (lb/qtr)	4th Qtr ERC (lb/qtr)
NO _x	10	0	0	85
SO _x	0	0	0	0
PM ₁₀	1,206	0	0	9,721
CO	2	0	0	17
VOC	1	0	0	4

The District is also proposing to issue the Greenhouse Gas (GHG) ERCs for carbon dioxide equivalent (CO_{2e}). The amount of bankable CO_{2e} emissions, shown in the table below, are calculated in Section V of this document according to the provisions of District Rules 2201 and 2301.

Bankable GHG Emissions	
Pollutant	ERC (metric tons/year)
CO ₂ e	56

II. Applicable Rules

Rule 2301 - Emission Reduction Credit Banking (Last amended 1/19/12)

III. Location of Reductions

Physical location of equipment: 9845 Hanford-Armona Rd in Hanford, Kings County, CA.

IV. Method of Generating Reductions

The AER's were generated by the shutting down a cotton gin. The equipment description for the units are as follows:

C-259-1-6: COTTON GIN (#1 EAST SIDE) WITH 3 MMBTU/HR PRECLEANER DRYER #1, 3 MMBTU/HR CLEANER DRYER #2 AND ONE 3 MMBTU/HR LINT CLEANER DRYER #3 FIRED ON NATURAL GAS OR PROPANE, MOTE SYSTEM (SHARED WITH -2), BATTERY CONDENSER, SEED STORAGE SHELTER WITH TWO BLOWERS FOR SEED AERATION AND PNEUMATIC SEED TRANSPORTATION

C-259-2-6: COTTON GIN (#2 WEST SIDE) WITH 3 CONTINENTAL SAW GIN STANDS, 6 LINT CLEANERS AND CONDENSERS, 3 MMBTU/HR PRECLEANER DRYER #1, 3 MMBTU/HR CLEANER DRYER #2 AND ONE 1 MMBTU/HR LINT CLEANER DRYER #3, FIRED ON NATURAL GAS OR PROPANE, MOTE SYSTEM (SHARED WITH -1), BATTERY CONDENSER, TRASH SYSTEM AND MODULE FEEDER

The gin was limited by permit condition to a ginning rate of not to exceed 720 bales per day for saw gin operation #1 and not to exceed 720 bales per day for saw gin operation #2. PTOs C-259-1-6 and C-259-2-6 were surrendered on December 11, 2017.

V. Calculations

A. Assumptions

Particulate Emissions from Ginning Operation:

- Annual criteria pollutant emissions are rounded to the nearest pound and annual GHG emissions are rounded to the nearest metric ton (District practice).
- Ginning rate not to exceed 720 bales, corrected to 500 lb-bales (permit limit).
- Based on applicant information for the operating seasons prior to the shutdown (from 2011 to 2015), shown below, the typical operating schedule is 24 hours per day, 54

days average per year in the fourth quarter, and 7 days average per year in the first quarter.

- PM_{2.5} fraction (% of the PM₁₀ that is also PM_{2.5}) = 1.9% (Attachment F).

Cotton Gin Operating Dates					
Season	2011	2012	2013	2014	2015
Start date	Oct 18, 2011	Oct 18, 2012	Oct 1, 2013	Oct 14, 2014	Oct 12, 2015
End date	Jan 17, 2012	Jan 17, 2013	Nov 16, 2013	Dec 9, 2014	Dec 1, 2015
4 th Quarter days	60	60	46	56	50
1 st Quarter days	17	17	0	0	0
No of Bales	17,847	17,293	10,941	8,095	4,997

Natural Gas Combustion from Cotton Dryers:

- The cotton gins included one 1 MMBtu/hr burner and five 3.0 MMBtu/hr burners for a total maximum input heat rating of 16 MMBtu/hr. All burners were fired on natural gas.
- The GHG emission factor for fuel combustion includes emissions of CO₂, CH₄, and N₂O
- Conversion: 1,000 kg = 1 metric ton.
- Conversion: 1 MMBtu = 10 therm.

The applicant provided production and fuel usage records for the last ten years. In instances where the applicant-provided production rate or fuel quantity does not match the emissions inventory submitted for that year, the most conservative (lowest) values will be used in calculations. The following table shows the most conservative (lowest) cotton production and fuel usage data from either the applicant or the emission inventory.

Production and Fuel Use Data		
Year	Total Production (Bales)	Natural Gas Used (Therms)
2006	25,766	--
2007	16,172	--
2008	10,508	--
2009	11,629	--
2010	15,536	--
2011	17,847	--
2012	17,293	13,740
2013	10,941	7,348
2014	8,095	4,934
2015	4,997	1,548
Average	13,878	6,893

B. Emission Factors (EF)

Cotton Ginning Emissions

The PTO allowed the operation of two saw-type cotton gins and included emission limits for for both operations. The overall emission limit on the PTO for saw-type gin #1 operation was

1.02 lb-PM₁₀/bale (see Attachment A, permit condition # 8) and the overall emission limit for saw-type gin #2 operation was 0.92 lb-PM₁₀/bale (see Attachment A, permit condition # 8).

District Policy APR 1110 *Use of Revised Generally Accepted Emission Factors* establishes “criteria for the use of emission factors and to address New Source Review (NSR) and Emission Reduction Credits (ERCs) issues when using revised Generally Accepted Emission Factors”. Basically, the policy directs the use of emission factors (EF) that reflect “best data” when estimating emissions. For example, where facility-specific Continuous Emissions Monitoring or source test data is available, it will be used (unless it is in violation of permit conditions or other requirements).

There are no source test results for operation of the saw-gin equipment. For equipment where there are no facility-specific source test data, the most accurate EF information is data from the California Cotton Ginners Association Handbook (CCGAH) which is based on a compilation of EFs from source tests on Valley cotton gins.

The source test results and the EFs from the CCGAH and the PTO are shown in the following table for saw-type cotton gins. The following table also summarizes the best emission factor for use in calculations. Note that no emission factor that is higher than the permit limit will be used for calculating emissions for the operations.

Saw Gin

Comparison of 2010 CCGAH Emission Factors and the Permitted Emissions Factors Saw Gin				
System	Cyclone Design	Source Test Result (lb-PM ₁₀ /bale)	CCGAH EFs (lb-PM ₁₀ /bale)	EF Used for Calculations (lb-PM ₁₀ /bale)
Unloading	1D-3D	No Data	0.11	0.11
#1 Pre-cleaner	1D-3D	No Data	0.11	0.11
#2 Pre-cleaner	1D-3D	No Data	0.09	0.09
Overflow	1D-3D	No Data	0.04	0.04
Feeder Dust System	1D-3D	No Data	0.08	0.08
Gin Stand / Feeder Trash System	1D-3D	No Data	0.08	0.08
Lint Cleaning	1D-3D	No Data	0.09	0.09
Battery Condenser	1D-3D	No Data	0.03	0.03
Lint Trash / Robber	1D-3D	No Data	0.06	0.06
Motes	1D-3D	No Data	0.07	0.07
Motes Transfer	1D-3D	No Data	0.07	0.07
Motes Cleaner Trash	1D-3D	No Data	0.03	0.03
Total		No Data	0.86	0.86

As shown above, the total emissions factor for the saw gin operation is 0.86 lb-PM₁₀/bale based on the use of the best data in the CCGAH.

Summary of Total EFs for Saw Gin

The following table summarizes the emission factors for the saw gin for use in calculations.

Determine EF for Calculations	
	Total EF, lb-PM ₁₀ /ton
Saw Gin	0.86

Natural Gas Combustion:

The cotton gin included burners that provided heated air to control the moisture content of the cotton. These burners were fired on natural gas and ERCs are requested from their shutdown. The PTO indicates natural gas combustion emission factors, so the EFs from the permit shall be used.

Burner Emission Factors		
Operation	Emission Rate	Source
Natural Gas combustion in the heater	0.1 lb-NO _x /MMBtu	PTO
	0.0003 lb-SO _x /MMBtu	PTO
	O ²	AP-42, Table 1.5-1 (10/96)
	0.02 lb-CO/MMBtu	PTO
	0.006 lb-VOC/MMBtu	PTO

² Since combustion emissions from the dryers are discharged through the cyclones, the dryer PM₁₀ emissions are included with the ginning cyclone emission factors.

For combustion sources, GHGs include the following three “well-mixed” compounds: carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). The following greenhouse gas (GHG) EFs are from 40 CFR Part 98, Subpart C, Tables C-1 and C-2:

Greenhouse Gas Emission Factors for Natural Gas		
GHG	EF, kg/MMBtu	EF, lb/MMBtu
CO ₂	53.06	116.98
CH ₄	0.001	0.0022
N ₂ O	0.0001	0.0002

Carbon dioxide equivalents (CO₂e) are determined by multiplying the mass emission factor by the Global Warming Potential (GWP) for the GHG pollutant. The following GWPs are from District Rule 2301 (*Emission Reduction Credit Banking*):

GHG GWP	
GHG	GWP, lb-CO ₂ e/lb-GHG
CO ₂	1
CH ₄	21
N ₂ O	310

An overall CO₂e emission factor is determined by combining the GHG EFs with the GWP for the respective pollutant as follows:

$$\begin{aligned}\text{CO}_2\text{e EF} &= (116.98 \text{ lb-CO}_2\text{/MMBtu} \times 1 \text{ lb-CO}_2\text{e/lb-CO}_2) + (0.0022 \text{ lb-CH}_4\text{/MMBtu} \times 21 \\ &\quad \text{lb-CO}_2\text{e/lb-CH}_4) + (0.0002 \text{ lb-N}_2\text{O/MMBtu} \times 310 \text{ lb-CO}_2\text{e/lb-N}_2\text{O}) \\ &= 117.09 \text{ lb-CO}_2\text{e/MMBtu} \\ &= 117.09 \text{ lb-CO}_2\text{e/MMBtu} \times \text{kg}/2.2046 \text{ lb} \times \text{metric ton}/1,000 \text{ kg} \\ &= 0.0531 \text{ metric tons-CO}_2\text{e/MMBtu}\end{aligned}$$

C. Baseline Period Determination and Data

Baseline Period Determination

In accordance with District Rule 2201, Section 3.8, the baseline period is the two consecutive years of operation immediately prior to the submission of the complete application, or another period of at least two consecutive years within the five years immediately prior to the submission of the complete application, if it is more representative of normal source operations.

The PTO for the cotton ginning operation was surrendered by the facility on December 11, 2017, and the application to bank the ERCs from the shutdown of the operation was received on December 11, 2017. The applicant provided Ginning Summary records from the Visalia Classing Office of the United States Department of Agriculture (USDA), Agricultural Marketing Service, Cotton Program (see Appendix C this document) that show the last production season ended in 2015 (December 1, 2015 was the end of the last production season for this site per the applicant's records).

Since cotton ginning is a seasonal operation, as shown previously in Section V.A of this document in the table "Cotton Gin Operation Dates", the periods in between operating seasons cannot be used to determine normal source operation. Therefore, the period from October 2011 through the end of 2015 will be used as the five year period of normal operation from which the baseline period will be determined.

Baseline Period Determination Data

The ginning operations were seasonal with the actual annual throughput depending on the size of the cotton harvest. Because the harvest can vary significantly from year to year, a ten-year average is used in this evaluation to determine the normal source operation (NSO). Cotton throughput and natural gas usage was provided by the operator or gathered from the emissions inventories submitted by the facility for the specific year, whichever is more conservative (as previously discussed). The appropriate cotton throughput and fuel usage values are shown in the table below.

The difference between the two-year average and NSO is calculated using the following formula:

$$\text{Difference} = [(\text{Year 1 Rate} + \text{Year 2 Rate}) \div 2] - (\text{5-year Average Rate})$$

An example calculation of the difference (absolute value) is shown below for the 2011 and 2012 period.

$$\begin{aligned} \text{Difference} &= [(17,847 \text{ bales} + 17,293 \text{ bales}) \div 2] - 11,835 \text{ bales} \\ &= 17,570 \text{ bales} - 11,835 \text{ bales} \\ &= 5,735 \text{ bales/year} \end{aligned}$$

The calculation is repeated in the following table for cotton production and fuel usage for each two-year period in the five year period from 2011 to 2015. Note that, as previously discussed in Section V.A, production records for the past 10 years are shown for the purpose of determining the normal source operation (NSO).

Historical Production and Fuel Use Data				
Year	Throughput (bales/year)	Fuel Used (therms/year)	Difference between two-year average and NSO (bales/year)	Difference between two-year average and NSO (therms/year)
2006	25,766	--		
2007	16,172	--		
2008	10,508	--		
2009	11,629	--		
2010	15,536	--		
2011	17,847	--		
			5,735	1,356
2012	17,293	13,740		
			2,282	5,030
2013	10,941	7,348		
			-2,317	629
2014	8,095	4,934		
			-5,289	-2,273
2015	4,997	1,548		
10-year Average	13,878	5,514		

For the five years immediately preceding the shutdown (2011-2015), the period matching the normal source operation (NSO) ten-year average is 2012-2013. Therefore, the baseline period is 2012-2013.

- During the baseline period of 2012-2013, the facility was operated in the fourth and first quarters.
- The average annual cotton throughput during the baseline period of 2012-2013 was 14,117 bales $[(17,293 + 10,941) \div 2]$
- The calculated average throughput for the baseline period of 2012-2013 resulted in PM₁₀ emissions that were less than the annual limit for PM₁₀ emissions. The following calculations demonstrate that the permitted emissions limits were not exceeded. For the purpose of this demonstration, the following calculations show the annual emissions using the emission limits from the PTO.

$$\begin{aligned} \text{Saw gin emissions, lb/year} &= 0.86 \text{ lb-PM}_{10}/\text{bale} \times 14,117 \text{ bales/year} \\ &= 12,141 \text{ lb-PM}_{10}/\text{year} < 65,127 \text{ lb-PM}_{10}/\text{year (PTO conditions \#7 \& 8)} \end{aligned}$$

- The average annual Natural Gas consumption during the baseline period of 2012-2013 was 10,544 therms [(13,740 + 7,348) ÷ 2].
- Natural Gas consumption was not limited by a permit condition (either a daily or annual limit).

D. Historical Actual Emission (HAE) Calculations

The Historical Actual Emissions (HAE) are calculated using the following formulas and the emission factors and throughputs as discussed above. Results are shown in the following tables:

Cotton Ginning HAE – Saw Gin Operation

$$HAE_{\text{saw ginning}} = EF, \text{ lb/bale} \times 14,117 \text{ bales/year}$$

Historical Actual Emissions (HAE _{saw ginning})			
Pollutant	EF (lb-PM ₁₀ /bale)	Throughput (bales/year)	HAE lb/year
PM ₁₀	0.86	14,117	12,141

Natural Gas Combustion HAE

$$HAE_{\text{NG}} = EF, \text{ lb/MMBtu} \times 0.1 \text{ MMBtu/therm} \times 10,544 \text{ therm/year}$$

Historical Actual Emissions (HAE _{LPG})				
Pollutant	EF lb/MMBtu	Throughput therm/year	Conversion MMBtu/therm	HAE lb/year
NO _x	0.1	10,544	0.1	105
SO _x	0.0003	10,544	0.1	0
PM ₁₀	0	10,544	0.1	0
CO	0.02	10,544	0.1	21
VOC	0.006	10,544	0.1	6

Greenhouse Gases (GHG) HAE

$$HAE_{\text{GHG}} = EF, \text{ lb/MMBtu} \times 0.094 \text{ MMBtu/therm} \times 102,634 \text{ therm/year}$$

Historical Actual Emissions (HAE _{GHG})				
Pollutant	EF metric tons- CO _{2e} /MMBtu	Throughput therm/year	Conversion MMBtu/therm	HAE metric tons- CO _{2e} /year
CO _{2e}	0.0531	10,544	0.1	56

E. Adjustment to Historical Actual Emissions (HAE)

Emissions Adjusted for Rule 4204 - Cotton Gins

Rule 4204 (Cotton Gins) requires cotton gins to use 1D-3D cyclones, with emissions equivalent to the emission factors from the latest revision of the CCGA handbook, by July 1, 2008. Pursuant to Section 3.22 of Rule 2201, Historical Actual Emissions must be discounted for any emissions reduction which is: required or encumbered by any laws, rules, regulations, agreements, orders, or, proposed in the District Air Quality Plan for attaining the annual reductions required by the California Clean Air Act. The cotton gin was in compliance with this rule at the time of the ERC application submittal. All the cotton gin's systems were controlled by 1D-3D cyclones. Therefore, no adjustments are needed for these systems.

Emissions Adjusted for Rule 4309 - Dryers, Dehydrators, and Ovens

District Rule 4309 (Dryers, Dehydrators, and Ovens), Section 4.1.6 specifically exempts units used to dry lint cotton or cotton at cotton gins. The dryers at this facility are used to dry cotton; therefore, the dryers in this operation are exempt from requirements of this rule and no adjustment is necessary.

Total Adjusted Historical Actual Emissions (HAE)

The total adjustment is equal to the sum of the adjusted parts. There were no adjustments made to the Historical Actual Emissions for NO_x, SO_x, PM₁₀, CO, or VOC. Therefore the HAE will be equal to the values calculated in Section V.C of this evaluation.

F. Post Project Potential to Emit (PE2)

As discussed above, the subject equipment has been permanently shut down and the PTO was surrendered to the District. Therefore, the PE2 = 0 for all emissions.

G. Air Quality Improvement Deduction

The air quality improvement deduction (AQID), per Rule 2201, Section 3.6, is 10% of the Actual Emission Reductions (AER), before the AER is eligible for banking. The criteria pollutant AER are adjusted for the AQID in the following table:

$$\text{AQID} = \text{AER} \times 10\%$$

AER Calculations		
Pollutant	AER lb/year	AQID lb/year
NO _x	105	10
SO _x	0	0
PM ₁₀	12,141	1,214
CO	21	2
VOC	6	1
Pollutant	HAE metric ton/year	AQID metric ton/year
CO ₂ e	56	0 ¹

¹ The AQID requirement is part of Rule 2201 and therefore only applies to criteria pollutants that are governed by that rule. Calculations for GHG emission reductions are detailed in Rule 2301, Section 4.5, which does not include a provision for an AQID.

H. Emission Reductions Eligible for Banking

As shown previously in Section V.A of this evaluation, for the 2012 and 2013 operating seasons, the facility operated for 76 days in the 4th quarter 2012 and 15 days in the 1st quarter 2013 and 41 days in the 4th quarter 2013 and 0 days in the 1st quarter 2014. Since there were actual emissions in the 1st and 4th quarters of the baseline period, the AER will be split between the two operating quarters. Since the facility does not have operating records of bales and fuel used per quarter, the following formula will be used to determine the quantity of 1st quarter AER as a percentage of the total AER. Calculations are shown in the table below.

$$1^{\text{st}} \text{ Qtr AER} = (\# \text{ of } 1^{\text{st}} \text{ Qtr Days} \div \text{Total \# of days}) \times 100$$

Determine 1 st Quarter % of Total Operation			
Operating Year	1 st Qtr Days	Total Days	% Operation of Total in the 1 st Qtr
2012	17	77	22.08
2013	0	46	0.00
Average	8.5	61.5	11.04

As calculated in the table above, 11.04% of the bankable AER will be distributed to the first quarter and the remaining 88.96% (100% - 11.04% = 88.96%) will be distributed to the fourth quarter. The bankable ERCs for criteria pollutants are presented in lb/quarter in the following tables while the bankable ERCs for GHG are expressed in metric-tons/year.

First Quarter (Criteria Pollutants)

Bankable AER 1st Quarter				
Pollutant	AER lb/year	AQID lb/year	1 st Qtr Operation %	Bankable AER 1 st Qtr lb/quarter
NO _x	105	10	11.04	10
SO _x	0	0	11.04	0
PM ₁₀	12,141	1,214	11.04	1,206
CO	21	2	11.04	2
VOC	6	1	11.04	1

Fourth Quarter (Criteria Pollutants)

Bankable ERCs 4th Quarter				
Pollutant	AER lb/year	AQID lb/year	4 th Qtr Operation %	Bankable AER 4 th Qtr lb/quarter
NO _x	105	10	88.96	85
SO _x	0	0	88.96	0
PM ₁₀	12,141	1,214	88.96	9,721
CO	21	2	88.96	17
VOC	6	1	88.96	4

Greenhouse Gases

Bankable GHG AER		
Pollutant	AER metric tons/year	Bankable AER metric tons/year
CO _{2e}	56	56

VI. Compliance

Rule 2301 - Emission Reduction Credit Banking

Section 4.0 - Eligibility of Emission Reductions

Section 4.2, specifies the criteria by which emission reductions, that have occurred after September 19, 1991, are eligible for banking. The emission reductions in this project occurred when the PTO for the cotton ginning equipment was surrendered, effective December 11, 2017. As these emission reductions occurred after September 19, 1991, the criteria in Section 4.2 must be satisfied.

Section 4.2.1 requires that the emission reductions are real, surplus, permanent, quantifiable, and enforceable. The following is a discussion of compliance with Section 4.2.1 requirements for criteria pollutant emissions.

Criteria Pollutant Emissions

Emission Reductions are Real

The emission reductions were generated by the shutdown of cotton gins consisting of one 1 MMBtu/hr burner and five 3.0 MMBtu/hr burners for a total maximum input heat rating of 16 MMBtu/hr. The real emissions were calculated from actual historic production throughput and fuel-use data and recognized emission factors. The ginning equipment has been removed from service and the permit was subsequently surrendered to the District. Therefore, the emission reductions satisfy the real requirement.

Emission Reductions are Surplus

There are no laws, rules, regulations, agreements, orders, or permits requiring any of the emission reductions which generated the ERC:

- Shutdown of the gin was voluntary and not required by any law, rule, agreement, or regulation.
- These ERCs are not needed for their current or proposed operations.
- The emission factors are not subject to additional adjustments and are therefore surplus to the requirements of the District's 2007 PM₁₀ Maintenance Plan, 2008, 2012, 2015, and 2016 PM_{2.5} Attainment Plans, and District Rule 4204.
- According to the attached records, the gin did not exceed the permitted baling rates and there were no limits on natural gas consumption, so no adjustments are necessary on that basis.
- There are no laws, rules, regulations, agreements, orders, or permits requiring any GHG emission reductions from cotton ginning operations.
- The emission reductions are not the result of an action taken by the permittee to comply with any requirement of Rule 4204 Cotton Gins.

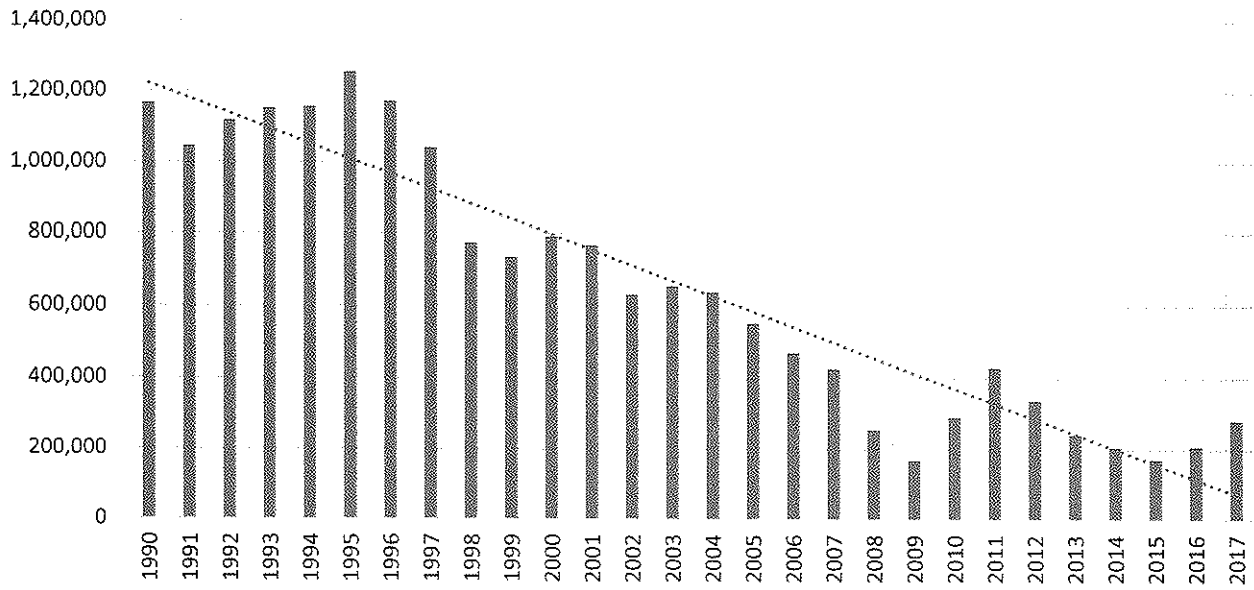
Therefore, the emission reductions satisfy the surplus requirement.

Emission Reductions are Permanent

The gin has been shut down and the PTO has been surrendered. Further operation requires an application to the District for a new operating permit.

Due to the high transportation costs, it is not cost effective to ship field cotton to other locations for processing. As such, the cotton processed at this facility was produced in the surrounding area. As shown in the following table, cotton acreage in the District dropped significantly in the last 28 years. According to the applicant, this decline in cotton production led the closure of this facility. Because of the decline in cotton production, it is expected that there will be no shifting of the past emissions to a similar facility. Therefore, the emission reductions satisfy the surplus requirement.

District-Wide Cotton Production



Cotton acreage as reported by the California Cotton Ginners Association.

Emission Reductions are Quantifiable

Actual Emission Reductions (AER) amounts were calculated from historic process throughput data, source test results from similar operations, California Cotton Ginners Association emission factors, and methods according to District Rule 2201. Therefore, the reductions are quantifiable. Therefore, the emission reductions satisfy the quantifiable requirement.

Emission Reductions are Enforceable

The PTO for this facility has been surrendered and the gins cannot be operated without a valid PTO. Due to the size and complexity of the operation, the large bulk of the material processed, and the amount of lint, seeds, and waste material generated, it would be readily apparent if it were to be operated in the future. Therefore, the emission reductions satisfy the enforceable requirement.

Section 4.2.2 requires that AER be calculated in accordance with the procedure in Rule 2201 (New and Modified Stationary Source Review Rule), including any adjustments for use of Community Bank offsets. As detailed in Section V - Calculations, the AER were calculated according to the procedure in Rule 2201 and the past permitting of the facility did not include Community Bank ERC. Therefore, the emission reductions satisfy the requirements of this section.

Section 4.2.3 requires that an application be filed no later than 180 days after the reduction occurred. The ERC banking application was filed on December 11, 2017, and the PTO was surrendered on December 11, 2017. According to District Policy APR 1805, the date of the shutdown is considered to be the date on which the PTO is surrendered, unless the equipment was removed or the District determines the owner did not intend to operate again.

Since the District has no evidence that either of these were the case, the gin is considered to be operational at time of permit surrender. The application is considered timely and the requirement of this section is satisfied.

Section 4.2.4 applies to emissions from non-permitted units. The gin was permitted so this section is not applicable.

Section 4.3 applies to banking offsets which were provided for cancelled Authorities to Construct. These emissions were not previously banked so this section is not applicable.

Section 4.4 refers to source categories which are not eligible for ERC. The categories do not include gin shutdowns, so this section is not applicable.

Section 4.5 details criteria for determining eligibility of Green House Gas (GHG) emissions for banking. The applicant has requested to bank the GHG AER so this section is applicable.

Section 4.5.1 requires that the GHG emission reductions must have occurred after January 1, 2005. As stated above, the gin was shutdown effective December 11, 2017, so the GHG emission reductions satisfy the requirements of this section.

Section 4.5.2 requires that the reductions must have occurred within the San Joaquin Valley Air Pollution Control District. The emissions occurred at 19813 Madison Ave in Stratford, CA. This location is in Kings County located within the San Joaquin Valley Air Pollution Control District boundaries. Therefore, the GHG emission reductions satisfy the location requirement of this section.

Section 4.5.3 requires that the GHG emission reductions must be real, surplus, permanent, quantifiable, and enforceable. The following is a discussion of compliance with Section 4.5.3 requirements for greenhouse gas emissions

GHG Emissions:

Emission Reductions are Real

The GHG emission reductions were generated by the shutdown of cotton gins consisting of one 1 MMBtu/hr burner and five 3.0 MMBtu/hr burners for a total maximum input heat rating of 16 MMBtu/hr. The GHG emissions were calculated from actual historic production throughput and fuel-use data and recognized GHG emission factors. The ginning equipment has been removed from service and the permit was subsequently surrendered to the District. Therefore, the GHG emission reductions satisfy the real requirement.

Emission Reductions are Surplus

There are no laws, rules, regulations, agreements, orders, or permits requiring any of the GHG emission reductions which generated the ERC:

- The shutdown of the gin was voluntary and not required by any law, rule, agreement, or regulation.

- These GHG ERCs are not needed for their current or proposed operations.
- The GHG emission factors are not subject to additional adjustments and are therefore surplus to the requirements of the District's 2007 PM₁₀ Maintenance Plan, 2008, 2012, 2015, and 2016 PM_{2.5} Attainment Plans, and District Rule 4204.
- According to the attached records, the gin did not exceed the permitted baling rates and there were no limits on LPG consumption, so no adjustments are necessary on that basis.
- The facility is not in one of the categories subject to CARB GHG cap and trade regulations and there are no other laws, rules, regulations, agreements, orders, or permits requiring any GHG emission reductions from cotton ginning operations.
- The GHG emission reductions are not the result of an action taken by the permittee to comply with any requirement of Rule 4204 Cotton Gins.

Therefore, the GHG emission reductions satisfy the surplus requirement.

Emission Reductions are Permanent

The gin has been shut down, and the PTO has been surrendered. Further operation requires an application to the District.

Due to the high transportation costs, it is not cost effective to ship field cotton to other locations for processing. As such, the cotton processed at this facility was produced in the surrounding area. As was shown in the earlier section, cotton acreage in Kings County dropped significantly in the last 10 years. According to the applicant, this decline in cotton production led the closure of this facility. Because of the decline in production, it is expected that there will be no shifting of the past GHG emissions to a similar facility. Therefore, the GHG emission reductions satisfy the permanent requirement.

Emission Reductions are Quantifiable

Actual Emission Reductions (AER) amounts were calculated from historic process throughput data, EPA and District emission factors, and methods according to District Rules. Therefore, the GHG emission reductions satisfy the quantifiable requirement.

Emission Reductions are Enforceable

The PTO for this facility has been surrendered and the gins cannot be operated without a valid PTO. Due to the size and complexity of the operation, the large bulk of the material processed, and the amount of lint, seeds, and waste material generated, it would be readily apparent if it were to be operated in the future. Therefore, the GHG emission reductions satisfy the enforceable requirement.

Section 4.5.4 requires that GHG emission reductions be calculated as the difference between the historic annual average GHG emissions (as CO_{2e}) and the PE₂ after the reduction is complete. The historical GHG emissions must be calculated using the consecutive 24 month period immediately prior to the date the emission reductions occurred, or another consecutive 24 month period in the 60 months prior to the date the emission reduction occurred if determined by the APCO as being more representative of normal operations.

The GHG emission reductions were calculated according to the baseline period identified above. Since this is a permanent shutdown of the cotton ginning operation and its associated equipment, with none of the load being shifted to any other cotton gin within the boundaries of the San Joaquin Valley Air Pollution Control District jurisdiction, there is no post-project potential to emit GHG.

Section 4.5.5 requires that GHG emission reductions be quantified using CARB-approved emission reduction project protocols. Since the GHG emission reductions are not subject to an applicable CARB-approved emission reduction project protocol, this section is not applicable.

Section 4.5.6 requires that ERCs shall be made enforceable through permit conditions or legally binding contract. The cotton gin operators held a legal District operating permit. That permit has been surrendered to the District. Since the operation of the equipment would require new ATCs, as discussed above, the GHG emission reduction is enforceable.

Section 5.0 - ERC Application Procedures

Section 5.5 of Rule 2301 states that ERC certificate applications for reductions shall be submitted within 180 days after the emission reduction occurs. The ERC banking application was filed and the PTO was surrendered on December 11, 2017, and the operations at this location were permanently ceased effective December 11, 2017. Therefore, the application was submitted in a timely fashion.

Section 6.0 - Registration of ERC Certificates

The APCO may only grant an ERC Certificate after the emission reductions have actually occurred upon satisfaction of the following applicable provisions:

Section 6.14 GHG emission reductions shall be banked as metric tons of CO_{2e} per year, rounded to the nearest metric ton.

The draft GHG ERC is identified as metric tons of CO_{2e} per year, rounded to the nearest metric ton.

Section 6.15 specifies the registration requirements for GHG ERCs.

This emission reduction is surplus and additional of all requirements pursuant to Section 4.5.3.4. Therefore the ERC certificate shall include the following notation:

“This emission reduction is surplus and additional to all applicable regulatory requirements.”

Compliance with Rule 2301 has been demonstrated and no adjustments are required under this rule.

VII. Recommendation

Pending a successful Public Noticing period, issue Emission Reduction Credit (ERC) certificate to Central Valley Cooperative Inc. in accordance with the amounts specified on the draft ERC certificates in Attachment E.

Attachments:

- Attachment A: Surrendered PTO C-259-1-6 and -2-6
- Attachment B: ERC Application
- Attachment C: Cotton Ginning Throughput and natural gas Usage Records
- Attachment D: GHG Emission Factors (40 CFR Part 98, Tables A-1, C-1 and C-2) and Global Warming Potentials (GWP) (Rule 2301, Table 1)
- Attachment E: Draft ERC Certificates
- Attachment F: PM_{2.5} Fraction

Attachment A

Surrendered PTO C-259-1-6 and -2-6

Attachment B
ERC Application

Attachment C

Cotton Ginning Throughput and Natural Gas Usage Records

Attachment D

**GHG Emission Factors (EFs) and
Global Warming Potentials (GWP)**

Attachment E

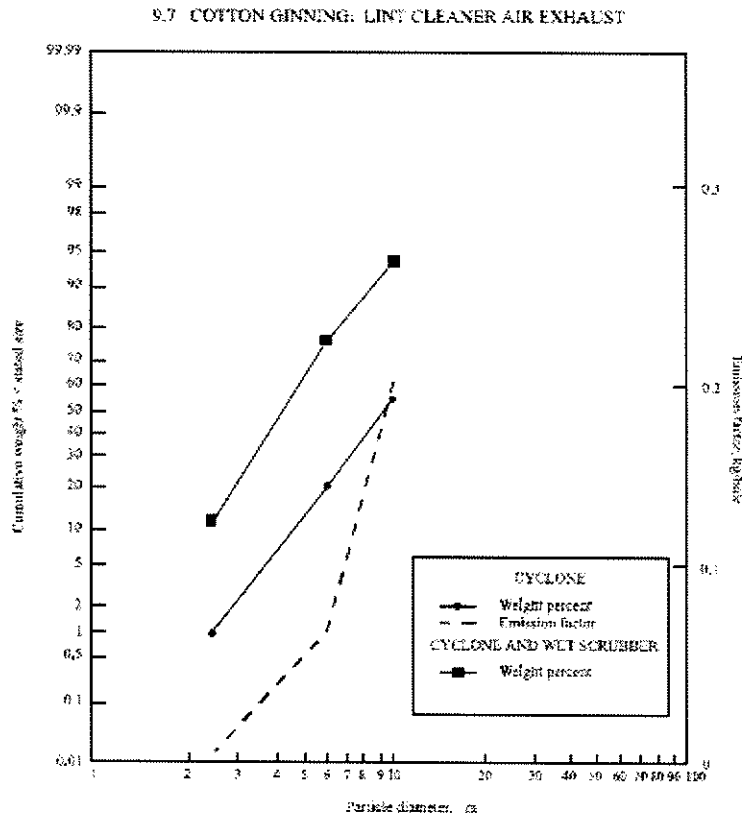
Draft ERC Certificates

Attachment F

PM_{2.5} Fraction

PM_{2.5} Fraction from EPA AP-42 Section 9.7 Appendix B-1

9.7 COTTON GINNING: LINT CLEANER AIR EXHAUST



Aerodynamic particle diameter, μ	Cumulative wt. % of dust size		Emission factor, kg/ton
	After cyclone	After cyclone & wet scrubber	Controlled with fabric filter
2.5	1	11	0.004
6.0	20	76	0.07
10.0	54	92	0.25

Lint cleaners are the largest source of emissions from the cotton ginning process. Therefore, the PM_{2.5} fraction of the PM₁₀ from lint cleaners is representative of the PM_{2.5} fraction from the entire cotton gin. Based on the data in the chart above, the final PM_{2.5} fraction is calculated to be:

$$PM_{2.5} \text{ Fraction} = \frac{1 \text{ lb } PM_{2.5}}{54 \text{ lb } PM_{10}} \times 100\% = 1.851 \rightarrow 1.9\% \frac{PM_{2.5}}{PM_{10}}$$