DRAFT/PROPOSED

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MEMORANDUM **November 5, 2020**

TO: Phillip Fielder, P.E., Chief Engineer

THROUGH: Rick Groshong, Sr. Environmental Programs Manager, Compliance and Enforcement

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THROUGH: Joseph K. Wills, P.E., Engineering Section

FROM: Amalia Talty, P.E., New Source Permits Section

SUBJECT: Evaluation of Permit Application No. **2016-1240-C (M-2)**
CP Kelco US, Inc.
CP Kelco Okmulgee Biogum Plant (SIC 2099/NAICS 311999)
Facility ID: 1516
Latitude 35.60958°N, Longitude 95.98450°W
N/2, NE/4 of Section 13, T13N, R12E, Okmulgee County
Directions: 1200 West 20th Street, 1.3 miles west of State Hwy 75 and 20th Street in Okmulgee.

SECTION I. INTRODUCTION

CP Kelco US, Inc. (CP Kelco) has submitted an application for a significant modification to their Biogum Plant in Okmulgee, Oklahoma. The facility is currently permitted under Permit No. 2016-1240-TVR3 issued on October 24, 2017. This facility is a Prevention of Significant Deterioration (PSD) major source and a minor source of Hazardous Air Pollutants (HAP).

CP Kelco plans on expanding operations at the facility. The expansion will include adding a new processing line (Line 6) and a new packaging line. A water heater will be added at the wastewater treatment plant to pre-heat the wastewater feed to the anaerobic reactor. The expansion will also involve replacing the existing Purasiv isopropyl alcohol (IPA) recovery device with a new two-stage IPA Recovery Scrubber (to increase IPA recovery efficiency) and adding an additional distillation column (to decrease steam demand). The net result of the expansion will be an increased production of biogums, with less IPA loss, lower steam demand (and resulting lower natural gas use) and lower IPA (VOC) emissions to the atmosphere.

The project will require a construction permit modification to add the new equipment but will not trigger PSD permitting requirements. CP Kelco is also proposing to restructure some of the Emission Unit Groups (EUGs), revise the emission limits for the wastewater bioreactor, and to add clarifying language to several existing permit conditions.

SECTION II. PROJECT DESCRIPTION

Existing Facility Description

CP Kelco presently operates a biogum (polymerized sugar) plant (SIC 2099). In the process, polysaccharide rheological agents are produced by aerobic fermentation of various nutrients in a series of large fermentation vessels. The gums, soluble in the fermentation broth ("beer"), are precipitated upon the addition of isopropyl alcohol (IPA). The precipitated product, along with any entrained alcohol, goes to a series of dryers where most of the alcohol is vaporized. The exhaust gases from the dryers pass through cyclones, a series of plenums, and a baghouse to control particulates before going to the Purasiv, which is a vapor recovery device, or to the boiler system. Spent alcohol from the precipitation step is recovered in dilute aqueous form, reconcentrated in a closed distillation system, and transferred to storage tanks for recycling. Heat is currently supplied to the process from natural gas fired boilers. The facility also has two 125,000 gallon concentrated IPA storage tanks, three 40,000 gallon spent IPA settling vessels, three 90,000 gallon spent IPA vessels, a 4,500 gallon mixing vessel, a waste gum centrifuge, a "spent pot" which collects alcohol, and a waste water treatment facility (WWTF).

Emissions from the concentrated IPA (CBM) storage tanks, spent IPA settling vessels, spent IPA vessels, and mixing vessel are vented to a small environmental packed tower wet scrubber (tank farm scrubber). Emissions from the waste gum centrifuge system, which reclaims product from the settling vessels, are vented to the boilers. Emissions from the A Dryers with first and second stage dryer cyclones are collected by the primary plenum and then either processed by the Purasiv for recovery of IPA or vented to the boilers. The emissions and flow rates from the Purasiv during operation and to the boiler are monitored and recorded. Emissions from the B Dryers with third stage dryer cyclones are collected by the secondary plenum and can be processed by the Purasiv, vented to the boilers, or vented to the atmosphere. Emissions from the C Dyers with milling cyclones are collected by the mill plenum and vented to the atmosphere or to the boilers. Emissions from the press enclosures (including GTO press, screen, and spent pot added with Permit No. 2011-1028-TVR2 (M-2)) are vented to the boilers or to atmosphere.

The Nutsche Filter filtration process receives biogum from the dryers. Except during loading, the gases from the filtration process are routed through a condenser. The uncondensed vapors are vented to the boilers. The spent IPA from the condenser and filtration process are transferred to the storage tanks for recycling. The dry filtered biogum is then packaged.

The WWTF receives wastewater related to the production of biogum. The WWTF relies on biological media to degrade the constituents. The WWTF anaerobic processes occur in an enclosed system, except for influent equalization. The wastewater enters the WWTF and goes to an anaerobic reactor. The biogas generated in the reactor (primarily methane ~85%) is vented to a flare or sent to the boilers to be burned as fuel. The sludge from the reactors is sent to the sludge treatment area.

Proposed Project Changes

CP Kelco is proposing to make several related changes to the facility to increase gellan production capacity, increase IPA recovery rates, and reduce energy demands. These changes are described below. Facility-wide VOC emissions will remain below the current limit of 721.3 TPY, and no change to this existing emissions cap is proposed.

Installation of Line 6

CP Kelco proposes to install a new line (Line 6) to produce gellan. Gellan can currently only be produced on existing GTO Line 5. Gellan production on Line 6 will use a sealed centrifuge and stripper instead of the older press and screen technology. Line 6 dryer technology will also be an improvement over the existing technology, resulting in increased production efficiency and reduced emissions. An additional distillation column will be added to increase energy efficiency and result in lower boiler steam demand. Upstream, an additional beer well and seed tanks will be added to provide additional production capacity (this equipment does not emit VOC's).

The new equipment will consist of:

- Line 6 Centrifuge and Spent Pot (vented to new IPA Recovery Scrubber)
- Line 6 Vacuum Stripper and Condenser (vented to new IPA Recovery Scrubber)
- Line 6 Dryer (vented to atmosphere)
- Line 6 Precipitation/Centrifuge room fugitives (vented to atmosphere)
- New Distillation Column (vented to atmosphere)
- New piping (fugitive equipment leak components)
- New Line 6 Product Transfer Separators (insignificant particulate sources)

Installation of IPA Recovery Scrubber

The new IPA Recovery Scrubber will be a two-stage unit designed to recover a minimum of 98% of the IPA in the vapor streams vented to it. It will replace the existing Purasiv unit, a carbon adsorption/stripping and condensation system, which is designed to recover 90% of the IPA in vapor stream vents.

IPA recovered by the IPA Recovery Scrubber will be returned to the existing Spent Vessels, where it will be sent to distillation and then re-used in the process. The IPA Recovery Scrubber will be process equipment and not be an air pollution abatement operation (air pollution control device). Its primary purpose will be to recover IPA for reuse in the process. OAC 252:100-1-3 defines "Air pollution abatement operation" as "any operation which has as its essential purpose a significant reduction in: (A) the emissions of air contaminants, or (B) the effect of such emission". The facility could not economically operate without recovering IPA. The emission reduction is an added benefit of this process, but not its primary purpose.

The IPA Recovery Scrubber will be used to recover IPA from certain vapor streams from the new Line 6 and certain existing Lines 1-5 equipment vapor streams.

CP Kelco will continuously monitor and record the IPA Recovery Scrubber make-up water flow rate to ensure proper operation of the recovery system. CP Kelco will also perform an emissions test of the scrubber, after installation, to verify the design 98% IPA vent recovery rate used in the potential to emit emission estimates. CP Kelco will also maintain the make-up water daily average flow rate greater than or equal to the average flow rate established during the emissions test. This will ensure that the scrubber achieves the design 98% vent IPA recovery for reuse in the process on an ongoing basis.

Installation of New Packaging System

As part of this project, CP Kelco also plans to install a new packaging system to serve the new Line 6. The equipment will also be used to package product produced by CP Kelco's San Diego plant.

Material processed by the system will be xanthan gum, gellan, and sugar. Packaging system emission points will consist of pneumatic conveying to equipment, bagging operation dedusting, bag splitter and bag unloading dedusting, and housekeeping vacuums. Process material will be collected by integral dust collectors with filters guaranteed by the manufacturer to emit no more than 0.0045 grains/DSCF of air. Some emission points will be equipped with a secondary dust filter (after filter) to further reduce emissions, although the project emission increases do not take credit for this additional reduction. Actual criteria (PM) emissions from each dust collector will be less than 5 tons per year (TPY) and the equipment will qualify as Insignificant Activities as defined at OAC 252:100-8-2 for Part 70. However, the emissions are still included in the PSD review.

Installation of New Wastewater Heater

CP Kelco is proposing to install a water heater to pre-heat the wastewater influent to the anaerobic reactor. Pre-heating will enhance biological destruction of VOCs in the anaerobic reaction. The heater burner will heat water, which will be circulated through a plate and frame heat exchanger system to pre-heat the wastewater. The heater burner will be rated at 20-MMBTUH heat input capacity and will burn both biogas generated by the anaerobic reactor and natural gas. Currently, biogas from the anaerobic reactor is burned in the wastewater treatment plant flare. The new heater will burn this same biogas that would otherwise by burned in the flare.

Other Changes That Are Not Related to the New Equipment

Clarification that Venting Dryers to Atmosphere is Allowed When No Process Material Remains in the Equipment

The current permit requires that "all emissions from the first and second stage product dryer cyclones shall be processed by the Purasiv or an equivalent air pollution control system" [Specific Condition No. 1, EUG 3 (e)]. The first and second stage product dryer cyclones vent to the primary plenum, which in turn currently vents to either the Purasiv or boilers. After installation of the IPA Recovery Scrubber, the primary plenum will vent to the new IPA Recovery Scrubber instead. During scrubber downtime, up to 120 hours per year, the primary plenum will vent to the atmosphere.

The permit is being clarified to specify that venting the dryer cyclones directly to atmosphere is allowed when no process material remains in the dryers. During start-ups and shutdowns, there are periods when there are no process materials (bio gum product) present in the equipment. During these times, the only emissions are air and water. The intent of the permit condition is to require venting of VOC emissions to a recovery or control device, not air and water vapor. The permit is being revised to state that the dryers can be vented to the atmosphere after material processing has been stopped and the dryer is empty of process material.

Emission Unit Group (EUG) Designation

CP Kelco requested several revisions to the EUG groupings in the current permit. Currently, existing Line 1 through 5 equipment is included in EUG 3 (RCVY-STREAM), with equipment in the EUG being permitted to vent to the Purasiv, Boiler, or directly to the atmosphere. The proposed EUG groupings will consolidate existing Line 1 through 5 equipment plus new Line 6 equipment that will be vented to the new IPA Recovery Scrubber during normal operations under a new EUG 16 (RCVY-SCRUB), and consolidates Line 1 through 6 equipment that can be vented to the atmosphere under a separate new EUG 17 (RCVY-ATM). It will also group vessels into a single EUG.

The requested changes are:

- Move equipment in existing EUG 3 (RCVY-STREAM) into two EUGs (EUG 16 RCVY-SCRUB and EUG 17 RCVY-ATM) depending on how the equipment is vented. EUG 3 will no longer be needed and will be removed.
- Move equipment in existing EUG 6 (Waste Gum Centrifuge and Spent Pot) into new EUG 16 since this equipment will be vented to the IPA Recovery Scrubber. EUG 6 will no longer be needed and will be removed.
- Move equipment in existing EUG 7 (Storage Tanks) to existing EUG 5 (Vessels) to combine all the vessels into one EUG. These vessels are all vented to the existing Tank Farm Scrubber. EUG 7 will no longer be needed and will be removed.
- Existing EUG 4 (Purasiv) will be deleted since this equipment will be removed from the facility.

Also, several descriptive changes to the EUG, Point, and Name/Model text in the permit are being proposed to clarify the descriptions and make it easier for the facility to determine which equipment is being described.

EUG 9 Specific Condition Compliance Demonstration

CP Kelco requested revisions to the EUG 9 monitoring and recordkeeping requirements for demonstrating compliance with the emission limits. In addition to these changes, the emission calculations have been revised.

SECTION III. EQUIPMENT

EUG 1 Pre-NSPS Boilers

EU	Manufacturer	MMBTUH	Serial #	Const. Date
Boiler-601	Erie City Zurn/Keystone	202	99217	1975
Boiler-602	Erie City Zurn/Keystone	202	99216	1975

EUG 2 NSPS Subpart Db Boiler

EU	Manufacturer	MMBTUH	Serial #	Const. Date
Boiler-603	Combustion Engineering	210	37291-3	1992

EUG 3 RCVY-STREAM

Equipment in EUG 3 is being moved to EUG 16 and 17 for clarity and EUG 3 is being removed.

EUG 4 Purasiv Unit

EUG is being deleted since equipment has been removed from the facility.

EUG 5 Vessels and Tanks

EU	Point	Name/Model	Gallons	Const. Date
SET-VESSELS	Tank Farm Scrubber or Atmosphere	Settling Vessel	40,000	1993
		Settling Vessel	40,000	1993
		Settling Vessel	40,000	1993
SPENT-VESSELS	Tank Farm Scrubber or Atmosphere	Spent Vessel	90,000	1993
		Spent Vessel	90,000	1993
		Spent Vessel	90,000	1993
MIX-VESSEL	Tank Farm Scrubber or Atmosphere	Mixing Vessel	4,500	1993
CBM-TANKS	Tank Farm Scrubber	Concentrated Isopropyl Alcohol Tank	125,000	1975
		Concentrated Isopropyl Alcohol Tank	125,000	1975

EUG 6 Centrifuge

Equipment in EUG 6 is being moved to EUG 16 for clarity and EUG 6 is being removed.

EUG 7 Storage Tanks

Equipment in EUG 7 is being moved to EUG 5 and EUG 7 is being removed.

EUG 8 Miscellaneous Fugitives

EU	Number Items[1]	Type of Equipment	Construction/ Modification Date
Pipe Leak Fugitives	1,315	Valves	1975-2020
	2,820	Connectors	
	101	Pump Seals	
	3	Compressor Seals	
	30	Pressure Relief Valves	
	87	Other	
WW System	EQ Tanks	WW Treatment Facility Equalization Tanks	2003
	WW Flume	WW Production Plant Flume	

[1] - Estimated; WW – Wastewater.

EUG 9 Anaerobic Reactors Flare

EU	Point	Name/Model	MMBTUH	Const. Date
Anaerobic Reactors	Flare	UASB	22	2003

EUG 12 Temporary Boiler

EU	Name	MMBTUH	Const. Date
Boiler-604	Mobile Steam Boiler	98.5	TBD

EUG 13 Reciprocating Engines

EU	Name	HP	Serial #	Mfg. Date
WWTU-EG	Cummins	435	30369469	10/30/2002
FWP-1	Caterpillar	165	9ON69459	7/17/1987

EUG 15 Filtration Process

EU	Name/Model	Const. Date
FILT	Nutsche Filter W/Recovery Condenser	2017

EUG 16 Equipment Vented to Recovery Scrubber

EU	Name/Model	Const. Date
RCVY-SCRUB	Press Enclosures (Line 1 – 4) and GTO Line 5 Press, Screen and Spent Pot	1975/2016
	Line 6 Centrifuge and Spent Pot	2020
	A Dryer with First and Second Stage Dryer Cyclones (Lines 1 – 5) to Primary Plenum	1975

EU	Name/Model	Const. Date
	Line 6 Vacuum Stripper and Condenser	2020
	B Dryer with Third Stage Dyer Cyclones (Lines 1 – 5) to Secondary Plenum	1975
	Waste Gum Centrifuge and Spent Pot	1993

EUG 17 Equipment Vented to Atmosphere

EU	Name/Model	Const. Date
RCVY-ATM	Recovery Fugitives (Line 1 – 5)	1975
	C Dryer with Fourth Stage Milling Cyclones (Lines 1 – 5) to Mill Plenum	1975
	Line 6 Dryer	2020
	Precip/Centrifuge Room Fugitives for Line 6	2020
	Distillation Column	2020

EUG 18 Wastewater Heater

EU	Name/Model	MMBTUH	Const. Date
WW HEATER	Wastewater Heater	20	2020

SECTION V. EMISSIONS

Air emissions from the facility consist of both point-source and fugitive emissions. Point sources include the boilers' stacks, the two IPA storage tanks, the seven other tanks that are vented to the wet scrubber, and the IPA Recovery Scrubber stack. Fugitive emissions sources include the components of the alcohol distillation system, the precipitation system, and filtration process.

CP Kelco has submitted excerpts from an EPA report titled *Estimating Releases and Waste Treatment Efficiency for the Toxic Chemical Release Inventory Form*. In this report, volatilization of two alcohols were studied: methanol, a one-carbon alcohol, and n-butanol, a four-carbon alcohol. IPA, which is a three-carbon alcohol, was not included in the study but is assumed to have similar emissions. Of the two alcohols studied, methanol in wastewater showed an average volatilization of five percent, while n-butanol was listed as zero percent. The remainder of the alcohols were either biodegraded or accumulated in the treatment sludge. This data implies the minimal amount of the IPA released into the wastewater will actually result in an insignificant amount of air emissions.

Potential emissions for the boilers are listed in the emission tables and are based on combustion of natural gas and continuous operation, except for EU Boiler-604, which will only operate 180 days in any rolling 12-month period (4,320 hours/year). The highest hourly and ton per year values for the three boilers are used to calculate the maximum potential emissions.

Emission estimates from the natural gas-fired boilers are based on AP-42 (7/98), Section 1.4, Tables 1.4-1 and 1.4-2 except for emissions of NO_X. Emissions of NO_X for Boiler-601, Boiler-602, and Boiler-603 are based on the allowable emission limit of OAC 252:100-33 for natural gas fired fuel-burning equipment (0.20 lb/MMBTU). Annual emissions of NO_X for Boiler-603 are based on manufacturer's data (0.105 lb/MMBTU). Emissions of NO_X for Boiler-604 are based on the AP-42 emission factor for controlled (Low-NO_X burners) small boilers (0.049 lb/MMBTU). Emissions of VOC from the boilers are included in the facility-wide emission limit. Only two of the following boilers can be operated at one time: Boiler-601, Boiler-602, and Boiler-603 except during periods of start-up, shutdown, repair or malfunction, and short-term tests not to exceed 16 hours per quarter. Boiler-604 is expected to operate in place of one of the other boilers. The total hourly and annual emission limits are based on the highest emissions from the boilers.

Potential Emissions from the Boilers

EU	NO_X		CO		PM_{10}		SO_2	
	lb/hr	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
Boiler-601	40.40	176.95	16.64	72.86	1.51	6.59	0.12	0.52
Boiler-602	40.40	176.95	16.64	72.86	1.51	6.59	0.12	0.52
Boiler-603	42.00	96.58	17.29	75.75	1.56	6.85	0.12	0.54
Boiler-604	4.83	10.43	8.11	17.52	0.73	1.59	0.06	0.13
Totals	**87.23**	**364.33**	**42.04**	**166.13**	**3.80**	**15.03**	**0.30**	**1.19**

Potential emissions of NO_X and CO from the flare are based on the estimated annual average waste gas flow rate of the flare (7,397 SCFH at 820 BTU/SCF), AP-42 (1/95), Section 13.5. Potential emissions of PM and SO_2 from the flare are based on the estimated annual average waste gas flow rate of the flare (7,397 SCFH at 820 BTU/SCF), AP-42 (7/98), Section 1.4, an average sulfur content of the waste gases of 6,000 ppmv based on 24.75% of the sulfur in the wastewater being emitted, and a 100% control efficiency of the waste gas. VOC emissions from the flare are based on 1% of the waste gases being emitted as IPA and a control efficiency of 98%. Emissions from combustion of natural gas for the flare pilot are based on AP-42 (7/98), Section 1.4 and a natural gas flow rate of 250 SCFH.

Emission estimates from the WW-Heater are based on the maximum heat input, AP-42 (7/98), Section 1.4, Tables 1.4-1 and 1.4-2, and continuous operation. When combusting waste gas, which accounts for less than 30% of the rated capacity, emissions are based on the same AP-42 (7/98), Section 1.4 emission factors which are adjusted based on the ratio of the heat content of the waste gas compared to the heat content of natural gas.

Emission estimates from the diesel-fired engines are based on AP-42 (10/06), Section 3.3, Table 3.3-1, except for SO_2 emissions, which are based on AP-42 (10/06), Section 3.4 and a fuel sulfur content of 0.05%, and 500 hours of operation.

Emissions from the fugitive piping equipment (pumps, valves, connectors, pressure relief devices, and sampling connection system) in VOC service that will be installed, were estimated using estimated component counts and Synthetic Organic Chemicals Manufacturing Industry (SOCMI) Average Emission Factors without ethylene (from the Texas Commission for Environmental

Quality (TCEQ) publication "Air Permit Technical Guidance for Chemical Sources Fugitive Guidance", APDG 6422, June 2018, Appendix A, Table 1).

Emissions from Misc. Sources

EU	NO_X		CO		PM_{10}		SO_2	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Flare	----	1.88	----	8.58	----	0.21	----	32.32
WW-Heater	1.96	8.59	1.65	7.21	0.15	0.65	0.01	0.05
WWTU-EG	13.49	3.37	2.87	0.72	0.96	0.24	0.18	0.04
FWP-1	5.12	1.28	1.09	0.27	0.36	0.09	0.07	0.02
Totals	**20.57**	**15.12**	**5.61**	**16.78**	**1.47**	**1.19**	**0.26**	**32.43**

Facility-Wide VOC Emissions Cap

Pollutant	Units TPY*
VOC	**721.3**

* - Total VOC emissions are based on a twelve (12) month rolling total.

Facility-Wide Emissions

EU	NO_X		CO		PM_{10}		SO_2	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Boilers	87.23	364.33	42.04	166.13	3.80	15.03	0.30	1.19
Misc.	20.57	15.12	5.61	16.78	1.47	1.19	0.26	32.43
Totals	**107.80**	**379.45**	**47.65**	**182.91**	**5.27**	**16.22**	**0.56**	**33.62**

SECTION IV. PSD REVIEW

The emissions from the project have been reviewed to determine if it is a major modification and subject to PSD review. A significant emission increase of a regulated NSR pollutant will occur if the sum of emissions increases for each emission unit equals or exceeds the significant emission rate (SER) for that pollutant. For the new emission units, emission increases were based on their potential to emit with a baseline of zero. CP Kelco included both emissions increases and decreases resulting from the project when calculating the sum of project emissions changes. To be conservative, the future emissions estimates include malfunction emissions. The future emissions include emissions emitted directly to the atmosphere from equipment normally vented to the IPA Recovery Scrubber that could occur during scrubber malfunctions or breakdowns. The future emissions estimates are based on a maximum of 120 hours per year of atmospheric venting due to scrubber malfunction/breakdowns. All past actual emissions were calculated using the 24-month period from January 2015 through December 2016. For existing potential affected equipment, future projected actual emissions were estimated as the maximum annual emission rate projected

to occur during the five years after the project. To be conservative, capable of accommodating emissions and increase utilization emissions due to demand growth were not excluded.

EUG 1/2: Boilers

The proposed changes will result in an overall reduction in the steam demand of the facility. In the PSD review, PAE are conservatively assumed to be equal to BAE. BAE emissions are based on AP-42 (7/98), Section 1.4, except for emissions of NO_X. The projected NO_X emissions were estimated based on an average emission factor of 0.15 lb/MMBTU, a heat content of 1,020 BTU/SCF, and the projected heat input.

Baseline and Projected Fuel Usage for Boilers

Boilers	Baseline (MMSCF)	Projected (MMSCF)
Boiler-601	555.58	----
Boiler-602	268.48	----
Boiler-602	524.26	----
Totals	**1,348.32**	**1,247.40**

BAE for the Boilers

	Demand (MMSCF/yr)	NO_X (TPY)	CO (TPY)	$PM_{2.5}$ (TPY)	SO_2 (TPY)	VOC (TPY)
BAE	1,348.32	95.93	56.94	5.15	0.41	3.73

EUG 5: Vessels

The proposed project changes will result in a small increase in throughput to the existing IPA vessels due to the overall biogum production increase and increased recovered alcohol throughput. Past actual and future projected actual emissions have been calculated using EPA AP-42 (1/95), Section 7.1 methodology. Emissions from the vessels are controlled by the existing Tank Farm Scrubber, which is 98% efficient (although control is not required by the Title V permit).

Throughputs and Associated BAE/PAE for Storage Vessels

Vessels	Baseline (GPY)	Projected (GPY)	BAE [1] (TPY)	PAE [1] (TPY)
CBM	168,429,445	195,004,028	0.28	0.31
Spent	251,058,740	306,334,390	0.22	0.29
Settling	251,058,740	306,334,390	0.031	0.037
Mix	2,000,000	2,000,000	0.001	0.001

[1] – Controlled emissions; GPY – Gallons per year.

EUG 8: Miscellaneous fugitives

Emissions from the new piping equipment were calculated as described in the emissions section.

Changes in Fugitive Equipment

Component Type	Count	Emissions (TPY)
Valve Light Liq	73	0.94
Valve Light Liq	51	0.47
Valve-Vapor/Gas	26	1.26
Valve-Vapor/Gas	64	2.04
Valve-Vapor/Gas	28	0.03
Valve Heavy Liq	49	<0.01
Compressor Seals Gas	3	0.07
PSV's Gas	(8)	(4.10)
PSV's Gas	2	0.04
PSV's Gas	17	10.24
Psv's Liq	2	0.02
Connection	273	2.08
Connection Liq	228	0.30
Connection	103	1.10
Connection Liq	(22)	(0.18)
Connection	164	0.06
Connection Liq	324	0.60
Total		**14.97**

Fugitive VOC emissions from the wastewater treatment plant are projected to decrease as a result of the project. The project will result in increased IPA recovery and therefore less IPA entrained in the wastewater sent to the treatment plant. Past actual and future projected actual emissions were calculated using emissions factors previously developed for the wastewater treatment system using EPA's WATER9 software, and past actuals and future projected isopropyl loading.

Wastewater Treatment Plant Emissions EQ Tank, Flume, SBR's

	2015/16	Projected
Total Stills WW, Gal/day	237,640	305,772
IPA in WW, Gal/day based on ppm	32.79	30.58
VOC emissions, TPY	**7.27**	**6.73**

EUG 9: Anaerobic Reactor Flare

Biogas from the anaerobic reactors is burned in a flare or in the new wastewater heater. The project is projected to increase sulfur loading to the reactors due to increased gellan production, which uses more sulfur in raw materials than xanthan gum. Past actual and future projected actual emissions were estimated using biogas flow rates and sulfur content. Past actual sulfur content was estimated using a sulfur mass balance and past actual operating conditions, and future sulfur content was estimated using a sulfur mass balance at worst-case future production rates.

SO_2 emissions are a function of the amount of biogas generated by the anaerobic reactors and the sulfur content of the biogas. The sulfur content is a function of the product produced in the fermenters (gellan or xanthan). Where the biogas is burned (flare or wastewater heater) does not affect SO_2 emissions. For purposes of accounting for the emissions increase, it was assumed that all biogas generated would be burned by the flare. Therefore, all future projected actual biogas SO_2 emissions were assigned to the flare. The PAE for the flare were used to establish the new emission limits for the flare.

WWTF Flare BAE and PAE

	Production (MMSCF/yr)	**NO_X (TPY)**	**CO (TPY)**	**$PM_{2.5}$ (TPY)**	**SO_2 (TPY)**	**VOC (TPY)**
BAE	62.99	1.83	8.35	0.20	9.50	0.99
PAE	64.80	1.88	8.58	0.21	32.32	1.02

EUG 16: RCVY-SCRUB

The new IPA Recovery Scrubber will recover IPA from certain vapor streams from existing Line 1 – 5 equipment and new Line 6 equipment. Past actual emissions from the existing equipment were calculated using actual operating parameters. Future emissions were calculated to be projected actual for the existing Line 1 – 5 equipment, and future potential for the proposed new Line 6 equipment. Future projected emissions were calculated using the IPA Recovery Scrubber recovery rate (98% VOC).

Press Enclosures (Lines 1 – 4) and GTO Line 5 Press, Screen, and Spent Pot

There is no atmospheric vent on the Press Enclosure fans so they cannot be vented to the atmosphere and will be sent to the new IPA Recovery Scrubber. Line 5 GTO press and screen will not run with Line 5 changes. A new centrifuge and stripper will replace the Line 5 press and screen. The vapors from the spent pot, centrifuge, and stripper are collected, condensed, and then sent to the new IPA Recovery Scrubber.

Line 6 Centrifuge and Spent Pot

The centrifuge removes liquid IPA and recovers it in the new spent pot, from there liquid IPA is pumped to the existing settling tanks. The cake from the centrifuge is conveyed to the stripper via gravity and a rotary valve. The stripper removes IPA from the cake using steam injection and agitation. The vapors from the centrifuge, spent pot, and stripper are collected, routed through a condenser, and sent to the new IPA Recovery Scrubber.

A Dryers (Lines 1 – 5)

Product is transferred from the presses and processed in the A Dryers to remove IPA and water. Currently, the primary plenums cannot vent to atmosphere and are vented to the Purasiv or the boilers as control devices. When the new IPA Recovery Scrubber is installed, these streams will be diverted to the IPA Recovery Scrubber.

Line 6 Vacuum Stripper and Condenser

Product is centrifuged to remove IPA and water, and then sent to a vacuum stripper followed by a dryer to remove the remaining IPA. IPA from the stripper will be recovered by a condenser and sent to the settling tanks for reuse in the process. Emissions from the condenser are routed to the new IPA Recovery Scrubber.

B Dryers (Lines 1 – 5)

Product is transferred from the A Dryers and processed in the B Dryers to remove IPA and water. Currently, the Secondary Plenums can be vented to the Purasiv, Boilers, or atmosphere. When the new IPA Recovery Scrubber is installed, these streams will be routed to the IPA Recovery Scrubber. The ability to send some of these streams to the boilers will be retained. However, due to reduced steam demand the boilers will not be able to handle all of the potential streams as supply for the boiler fans.

Waste Gum Centrifuge and Spent Pot

Waste gum separated from spent IPA/water mixture in the settling tanks is sent to the mixing tank, and then to a centrifuge for further liquid removal. Waste gum from the centrifuge is drummed and landfilled, and the centrifuged liquid flows to a spent pot and then back to the settling tanks. The mixing tank and centrifuge are nitrogen blanketed. Centrifuge and spent pot emissions are currently required to be routed to the boiler or to an equivalent control system. Future emissions will be vented to the new IPA Recovery Scrubber. No changes in emissions are expected.

IPA Recovery Scrubber Malfunction or Breakdown (120 hrs/yr)

Scrubber malfunction and breakdown emissions are based on venting the emissions from the primary and secondary plenums to the atmosphere. Breakdown potential hours assume the system is down for five days, until spare parts are installed, as a worst case.

BAE and PAE for the RCVY-SCRUB Streams

Stream Routed to RCY-SCRUB	Uncontrolled		Controlled	
	BAE (TPY)	PAE (TPY)	BAE (TPY)	PAE (TPY)
Press Enclosures (Lines 1 - 4) and GTO Line 5 Press, Screen, and Spent Pot	143	117 [1]	2.87	2.34
Line 6 Centrifuge and Spent Pot	----	92.7	----	1.85
A Dryers (Lines 1 - 5)	7,380	1,785 [2]	147.59	35.69
Line 6 Vacuum Stripper and Condenser	----	124	----	2.48
B Dryers (Lines 1 - 5)	842 [3]	821 [4]	230.35	16.42
Waste Gum Centrifuge and Spent Pot	41	41	0.41	0.41
IPA Recovery Scrubber Malfunction or Breakdown	----	46 [5]	----	46.26

[1] - Based on 81.6% of baseline production.

[2] - Based on recent testing of primary plenums, hours of operation, and three lines operating which accounts for the large reduction in uncontrolled emissions.
[3] - Based on 625 TPY vented to the boilers and 218 TPY vented directly to the atmosphere.
[4] - Based on recent testing of secondary plenums, hours of operation, and three lines operating.
[5] - Based on recent testing of primary and secondary plenums, hours of operation, and one line operating.

EUG 17: RCVY-ATM

Some of the Line 1 through 6 equipment is designed to be vented directly to the atmosphere. As with EUG 16, this EUG contains both existing Line 1 – 5 equipment and new Line 6 equipment. Past actual emissions from the existing equipment were calculated using actual operating parameters. Future emissions were calculated to be projected actual for the existing Line 1 – 5 equipment, and future potential emissions for the new Line 6 equipment.

Recovery Fugitives (Lines 1 - 5)

This represents existing recovery roof fans. No changes are expected to occur with the new project. Annual emissions were adjusted for line run time.

C Dryers (Lines 1 – 5)

Product is transferred from the B Dryers and processed in the C Dryers to remove IPA and water. The final C Dryers have a milling cyclone venting to the milling plenum. The milling plenum can vent to atmosphere. Calculations assume only 1 milling cyclone vented to the IPA Recovery Scrubber.

Line 6 Dryer

Product from the vacuum stripper is dried for final water removal, air conveyed to mills for size reduction, and then air conveyed to screeners. VOC emissions are estimated based on worst case IPA concentration in the product leaving the vacuum strippers. All IPA present in the product at that point is conservatively assumed to be emitted during drying/milling. Note: these minor amounts of IPA are double counted since all IPA in the centrifuged product is already included in calculated emissions at the vacuum stripper.

Fugitives for Line 6

These emissions are based on CETCON room vent testing from 2006. This also includes emissions from pipe leaks, which are estimated in the fugitive equipment emissions. In addition to being double-counted, those emissions have also been reduced since 2006 by increased attention to leak detection and repair. However, emissions from these roof vents have not been re-tested so the 2006 test results are used to be conservative.

New Distillation Column

These emissions are from a small non-condensables vent from the distillation column to the atmosphere via a chilled water condenser. The new vacuum distillation column vents non-

condensables to atmosphere from the reflux tank and from the reboiler IPA condensate separator pot, via a cooling water condenser, liquid seal vacuum pump system, and final chilled water condenser. The system will be started up using steam under vacuum and no IPA feed to drive off non-condensables. After startup, a steady state is reached and small quantities of IPA entrained in the flow to the vacuum pump will be condensed prior to emission of non-condensables.

BAE and PAE for the RCVY-ATM Streams

Stream Routed to ATM	Uncontrolled		Controlled	
	BAE (TPY)	PAE (TPY)	BAE (TPY)	PAE (TPY)
Recovery Fugitives (Lines 1 - 5)	60.34	47.77	60.34	47.77 [1]
C Dryers (Lines 1 - 5)	11.82	92.16 [2]	11.82	69.60
Line 6 Dryer	----	2.89	----	2.89
Fugitives for Line 6	----	6.07	----	6.07
New Distillation Column	----	188	----	3.72

[1] - Based on 81.6% of baseline production.

[2] - Based on venting four lines at 23.04 lb/hr with control of a single line at 98%.

EUG 18: Wastewater Heater

Future potential wastewater heater emissions were calculated using the rated heat input capacity of the heater and AP-42 (7/98), Section 1.4, natural gas emission factors. SO_2 emissions from burning biogas are accounted at EUG 9 in the table below. Baseline emissions for the WW-Heater are zero. The projected emissions estimates for the heater are based on PTE.

Baseline Actual Emissions (2015-2016)

EUG	Description	NO_X TPY	CO TPY	$PM_{10}/_{2.5}$ TPY	SO_2 TPY	VOC TPY
EUG 1/2	Boilers B-601, B-602, & B-603	95.93	56.94	5.15	0.41	3.73
EUG 5	Three (3) 40,000 gal IPA Settling vessels	--	--	--	--	0.031
	Three (3) 90,000 gal IPA Settling vessels	--	--	--	--	0.22
	One (1) 4,500 Mixing Vessel	--	--	--	--	0.0014
	Two (2) 125,000-gal IPA Tanks	--	--	--	--	0.28
EUG 8	WW Treatment Tanks and Flume	--	--	--	--	7.27
EUG 9	Sludge Digester and Flare	1.83	8.35	0.20	9.50	0.99
EUG 16	Press Enclosures (Lines 1 – 4) and GTO Line 5 Press, Screen and Spent Pot	--	--	--	--	2.87
	A Dryers (Lines 1 – 5)	--	--	--	--	147.59
	B Dryers (Lines 1 – 5)	--	--	--	--	230.35
	Waste Gum Centrifuge and Spent Pot	--	--	--	--	0.41
EUG 17	Recovery Fugitives (Lines 1 - 5)	--	--	--	--	60.34
	C Dryers (Lines 1 – 5)	--	--	--	--	11.82
Totals		**97.76**	**65.29**	**5.35**	**9.91**	**465.90**

Project and Potential Emissions

EUG	Description	NO_X TPY	CO TPY	$PM_{10}/_{2.5}$ TPY	SO_2 TPY	VOC TPY
EUG 1/2	Boilers B-601, B-602, & B-603	95.93	56.94	5.15	0.41	3.73
EUG 5	Three (3) 40,000 gal IPA Settling vessels	--	--	--	--	0.037
	Three (3) 90,000 gal IPA Settling vessels	--	--	--	--	0.29
	One (1) 4,500 Mixing Vessel	--	--	--	--	0.0014
	Two (2) 125,000-gal IPA Tanks	--	--	--	--	0.31
EUG 8	Pipe Leak Fugitives (added equipment)	--	--	--	--	14.97
	WW Treatment Tanks and Flume	--	--	--	--	6.73
EUG 9	Sludge Digester and Flare	1.88	8.58	0.21	32.32	1.02
EUG 16	Press Enclosures (Lines 1 – 4) and GTO Line 5 Press, Screen and Spent Pot	--	--	--	--	2.34
	Line 6 Centrifuge and Spent Pot	--	--	--	--	1.85
EUG 16	A Dryers (Lines 1 – 5)	--	--	--	--	35.69
	Line 6 Vacuum Stripper and Condenser	--	--	--	--	2.48
	B Dryers (Lines 1 – 5)	--	--	--	--	16.42
	Waste Gum Centrifuge and Spent Pot	--	--	--	--	0.41
	IPA Recovery Scrubber Malfunction or Breakdown (120 hrs/yr)	--	--	--	--	46.26
EUG 17	Recovery Fugitives (Lines 1 - 5)	--	--	--	--	47.77
	C Dryers (Lines 1 – 5)	--	--	--	--	69.60
	Line 6 Dryer	--	--	--	--	2.89
	Fugitives for Line 6	--	--	--	--	6.07
	New Distillation Column	--	--	--	--	3.72
EUG 18	Wastewater Heater	8.60	7.20	0.65	0.052	0.47
Insig. Activity	Line 6 Product Transfer Station	--	--	1.90	--	--
	Line 6 Packaging System Dust Collectors	--	--	2.65	--	--
Totals		**106.41**	**72.72**	**10.56**	**32.78**	**263.06**

PSD Applicability Analysis Summary

	NO_X TPY	CO TPY	PM_{10} TPY	$PM_{2.5}$ TPY	SO_2 TPY	VOC TPY
Projected Actual Emissions	106.41	72.72	10.56	10.56	32.78	263.06
Baseline Emissions	97.76	65.29	5.35	5.35	9.91	465.90
Project Emission Increase	**8.65**	**7.43**	**5.21**	**5.21**	**22.87**	**-202.84**
PSD SER	40	100	15	10	40	40
PSD Triggered	No	No	No	No	No	No

The project emission increases for this modification are below the significance levels for all regulated pollutants. The permittee is required to keep records of emissions per OAC 252:100-8-36.2(c) to demonstrate that the emission increases from the project will not exceed the PSD significance levels.

Relationship to other projects

GTO Project (Line 5)

On May 31, 2016, CP Kelco received permit revision 2011-1028-TVR2 (M-2) authorizing the conversion of existing Line 4 from xanthan gum production to the swing line (GTO Line 5) for xanthan or gellan. This GTO Line 5 project was a modification to the existing facility to produce a new, higher value biogum product (gellan). The separate expansion project described in this application will produce the same new biogum product, but the new Line 6 installation project is not the same physical change as the GTO Line 5 project. Line 6 will be a separate line. EPA's November 15, 2018, Federal Register notice specifically clarified that nominally separate projects are not sustainably related if they are only related to the extent that they both support the sources' "overall basic purpose".

The GTO project was separately funded (separate capital authorization) and separately planned from the currently project. At the time of the GTO project, CP Kelco did not have a design or funding for the current project. The GTO project was not technically or economically dependent on the current project. The GTO project permit 2011-1028-TVR2 (M-2) was a minor permit revision and did not change any existing permit limits nor establish new permit limits. Therefore, the current project does not request the relaxation of any permit limits imposed for the GTO project.

The GTO project is significantly separated in time from the current project. The GTO project was authorized by the permit issued on May 31, 2016. The current project is not expected to begin construction until early 2021.

Nutsche Filter Project

On December 20, 2016, CP Kelco submitted a minor permit revision application for the installation and testing of a new filtration process. The equipment began construction in early 2017 and was subsequently permitted as part of the Title V renewal permit [2012-1240-TVR3] issued on October 24, 2017. The project was for the installation of a process to allow a dry product and isopropanol to be combined, and then filtered to produce another higher value biogum product. The project described in the application related to this permit action is completely unrelated to the Nutsche Filter Project. The processes are separate and occur on separate equipment. The Filter project was not technically or economically dependent on the current project, was funded under a separate capital authorization, and was designed separately. The current project does not request the relaxation of any permit limits imposed for the Filter project.

SECTION VI. INSIGNIFICANT ACTIVITIES

The insignificant activities identified and justified in the application are duplicated below. Appropriate recordkeeping of activities indicated below with "*" is specified in the Specific Conditions. Any activity to which a state or federal applicable requirement applies is not insignificant, even if it is included on this list.

1. * Emissions from fuel storage/dispensing equipment operated solely for facility owned vehicles if fuel throughput is not more than 2,175 gallons/day, averaged over a 30-day period. There is a tank, which is used to store and dispense diesel fuel and has an average monthly throughput of approximately 30 gallons/day.

2. * Emissions from storage tanks constructed with a capacity less than 39,894 gallons, which store VOC with a vapor pressure less than 1.5 psia at maximum storage temperature. The waste oil tank has a capacity of less than 39,894 gallons and stores products having a vapor pressure less than 1.5 psia.

3. Cold degreasing operations utilizing solvents that are denser than air. One parts washer is located at the facility that uses approximately 30 gallons/quarter of a solvent that is denser than air. Most of the solvent is recycled.

4. Welding and soldering operations utilizing less than 100 pounds of solder and 53 tons per year of electrodes. However, welding is conducted as a part of routine maintenance and is considered a trivial activity and recordkeeping will not be required in the Specific Conditions.

5. Torch cutting and welding of under 200,000 tons of steel fabricated per year. However, torch cutting and welding is conducted as a part of routine maintenance and is considered a trivial activity and recordkeeping will not be required in the Specific Conditions.

6. * Non-commercial water washing operations (less than 2,250 barrels/year) and drum crushing operations of empty barrels less than or equal to 55 gallons with less than three percent residual material. No non-commercial water washing operations or drum crushing operations were identified but they may be used in the future.

7. Hand wiping and spraying of solvents from containers with less than 1 liter capacity used for spot cleaning and/or degreasing in ozone attainment areas. Small amounts of solvent used for degreasing are applied to facility components using a rag.

8. * Activities that have the potential to emit no more than 5 TPY (actual) of any criteria pollutant. The facility has an emergency fire suppression pump that will have emissions of less than 5 TPY (actual) of any criteria pollutant and the facility will have other activities in the future.

SECTION VII. OKLAHOMA AIR POLLUTION CONTROL RULES

OAC 252:100-1 (General Provisions) [Applicable]
Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]
This subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations. These requirements are addressed in the "Federal Regulations" section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]
Primary Standards are in Appendix E and Secondary Standards are in Appendix F of the Air Pollution Control Rules. At this time, all of Oklahoma is in attainment of these standards.

OAC 252:100-5 (Registration of Air Contaminant Sources) [Applicable]
Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants. Emission inventories have been submitted and fees paid for the past years.

OAC 252:100-8 (Permits for Part 70 Sources) [Applicable]
Part 5 includes the general administrative requirements for Part 70 permits. Any planned changes in the operation of the facility which result in emissions not authorized in the permit and which exceed the "Insignificant Activities" or "Trivial Activities" thresholds require prior notification to AQD and may require a permit modification. Insignificant activities mean individual emission units that either are on the list in Appendix I (OAC 252:100) or whose actual calendar year emissions do not exceed the following limits:

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for a HAP that the EPA may establish by rule

The facility-wide VOC emission cap for all emission units and the other emission limits have been incorporated from Permit No. 2016-1240-TVR3, issued on October 24, 2017.

OAC 252:100-9 (Excess Emission Reporting Requirements) [Applicable]
Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Request for mitigation, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Open Burning) [Applicable]
Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter) [Applicable]
This subchapter specifies a particulate matter (PM) emissions limitation of 0.6 lb/MMBTU from fuel-burning equipment with a rated heat input of 10 MMBTUH or less. This subchapter specifies a particulate matter (PM) emissions limitation of approximately 0.33, 0.34, 0.35, and 0.51 lb/MMBTU from fuel-burning equipment with a rated heat input of 202, 210, 98.5, and 20 MMBTUH, respectively. AP-42 (7/98), Table 1.4-2 lists the total PM emissions from natural gas

combustion to be 7.6 lb/MMft^3 or about 0.0076 lb/MMBTU. AP-42 (10/96), Section 3.3 lists the total PM emissions for diesel fired industrial engines less than 600-hp to be 0.31 lb/MMBTU. These emission factors are in compliance with this subchapter. The permit will require the use of natural gas for all fuel-burning equipment except the emergency generator engines to ensure compliance with Subchapter 19. The flare does not meet the definition of fuel-burning equipment and is not subject to Subchapter 19.

This subchapter also limits emissions of PM from direct-fired fuel-burning equipment and industrial processes based on their process weight rates. Emissions from the recovery stream are processed through a baghouse that the facility considers integral to the process and not subject to Subchapter 19. The carbon bead recovery system will have an insignificant amount of PM emissions.

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]
No discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. When burning natural gas in the boilers and the flare, there is very little possibility of exceeding the opacity standards, therefore no periodic observation is necessary.

OAC 252:100-29 (Fugitive Dust) [Applicable]
No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. Under normal operating conditions, this facility will not cause a problem in this area, therefore it is not necessary to require specific precautions to be taken.

OAC 252:100-31 (Sulfur Compounds) [Applicable]
Part 2 limits the ambient air concentration of hydrogen sulfide (H_2S) emissions from any facility to 0.2 ppmv (24-hour average) at standard conditions which is equivalent to 283 $\mu g/m^3$. H_2S emissions from the wastewater treatment facility anaerobic reactor are routed to a flare. Ambient impacts of the H_2S emission from the flare (0.10 lb/hr) were estimated using AERSCREEN at less than 1 $\mu g/m^3$ which is in compliance with the standard.
Part 5 limits sulfur dioxide (SO_2) emissions from new fuel-burning equipment (constructed after July 1, 1972). For gaseous fuels the limit is 0.2 lb/MMBTU heat input averaged over three hours. For fuel gas having a gross calorific value of 1,000 BTU/SCF, this limit corresponds to fuel sulfur content of 1,203 ppmv. AP-42 (7/98), Table 1.4-2 lists the total SO_2 emissions for natural gas to be 0.6 lb/MMft^3 or about 0.0006 lb/MMBTU which is in compliance with Subchapter 31. For liquid fuels, the limit is 0.8 lb/MMBTU heat input averaged over three hours. This is equivalent to approximately 0.8 weight percent sulfur in the fuel oil. AP-42, Table 3.4-1 (10/96) lists the total SO_2 emissions for diesel fuel to be 1.01*(% S by weight) lb/MMBTU or about 0.0505 lb/MMBTU for a fuel oil sulfur content of 0.05 weight percent which is in compliance with Subchapter 31. The permit will require the use of pipeline natural gas as defined in 40 CFR Part 72 or gases with a maximum sulfur content of 343 ppmv for the large boilers and a maximum sulfur content of 1,203 ppmv for the WW-Heater and diesel fuel with a maximum sulfur content of 0.05 weight percent for the emergency generator engines to ensure compliance with Subchapter 31.

Part 5 allows combustion of alternative fuels. The requirements of this section apply to any fuel-burning equipment that uses an alternative fuel, unless another limit representing BACT or equivalent is specified in the source's permit. Use of an alternative fuel in fuel-burning equipment is allowed, provided its use is authorized under an enforceable permit. Use of an alternative fuel in fuel-burning equipment is subject to any applicable restrictions or prohibitions that may exist in other provisions of state or federal statutes or rules, e.g., OAC 252:100-8-32.1, 252:100-31-7, 252:100-42, and/or 40 CFR Parts 60, 61, and/or 63. The WW-Heater uses an alternative fuel but has not applied for a BACT determination to approve use of fuel with emissions exceeding 0.2 lb/MMBTU. The bioreactor can produce waste gases containing up to 6,000 ppmv H_2S at 820 BTU/SCF which equates to 1.2 lb/MMBTU. Therefore, the gases from the bioreactor cannot be combusted in the WW-Heater unless treated to below the 0.2 lb/MMBTU emissions limit or a BACT analysis is submitted.

OAC 252:100-33 (Nitrogen Oxides) [Applicable]
NO_X emissions are limited to 0.20 lb/MMBTU from all new gas-fired fuel-burning equipment with a rated heat input of 50 MMBTUH or greater. All of the boilers are subject to this requirement except for the new heater which is rated at 20 MMBTUH. Stack testing of one of the pre-NSPS boilers (Boiler-601 or Boiler-602) conducted in March of 2000, indicated emissions of NO_X from these boilers are approximately 0.184 lb/MMBTU which is in compliance with this subchapter. Boiler-603 is subject to the NSPS, Subpart Db, NO_X emission limit of 0.2 lb/MMBTU, which is as stringent as Subchapter 33. CEM data from Boiler-603 indicates that emissions from this boiler are within the SC 33 limitation of 0.2 lb/MMBTU. Boiler-604 has emissions of 0.049 lb/MMBTU, which is in compliance with this subchapter.

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]
None of the following affected processes are located at this facility: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic cracking, petroleum catalytic reforming unit.

OAC 252:100-37 (Volatile Organic Compounds) [Applicable]
Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. Pure IPA at actual storage temperatures has a vapor pressure less than 1.5 psia. The other tanks store an IPA water mixture, which also will have a vapor pressure of less than 1.5 psia under actual storage conditions.
Part 3 requires VOC loading facilities with a throughput equal to or less than 40,000 gallons per day to be equipped with a system for submerged filling of tank trucks or trailers if the capacity of the vehicle is greater than 200 gallons. This facility does not have the physical equipment (loading arm and pump) to conduct this type of loading and is not subject to this requirement.
Part 5 limits the VOC content of coatings used in coating lines or operations. This facility does not normally conduct coating or painting operations except for routine maintenance of the facility and equipment, which is exempt.
Part 7 requires fuel-burning and refuse-burning equipment to be operated and maintained so as to minimize emissions. Temperature and available air must be sufficient to provide essentially complete combustion.

Part 7 requires all effluent water separators openings or floating roofs to be sealed or equipped with an organic vapor recovery system. There are no effluent water separators located on-site. Distillation units do not meet the definition of an effluent water separator.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]
This subchapter regulates toxic air contaminants (TAC) that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director. Since no AOC has been designated, there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]
This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

The following Oklahoma Air Pollution Control Rules are not applicable to this facility:

OAC 252:100-11	Alternative Emissions Reduction	not requested
OAC 252:100-15	Mobile Sources	not in source category
OAC 252:100-17	Incinerators	not type of emission unit
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Grain Elevators	not in source category
OAC 252:100-39	Nonattainment Areas	not in area category
OAC 252:100-47	Municipal Solid Waste Landfills	not in source category

SECTION VIII. FEDERAL REGULATIONS

PSD, 40 CFR Part 52 [Not Applicable for this Modification]
Total potential emissions for NO_X and VOC are greater than the level of significance of 250 TPY. The project emission increases from the modification do not exceed the PSD significant emission rates (SER). Any future increases of emissions must be evaluated for PSD if they exceed a SER (NO_X, SO_2, & VOC - 40 TPY; CO - 100 TPY; and $PM_{10}/PM_{2.5}$ - 15/10 TPY).

NSPS, 40 CFR Part 60 [Subparts Db and Dc are Applicable]

Subpart D, Fossil-Fuel-Fired Steam Generators. The two older boilers were constructed after the applicability date of this subpart (August 17, 1971) but are below the de minimis level of 250 MMBTUH.

Subpart Da, Electric Utility Steam Generating Units. The units at this plant were constructed prior to the applicability date of this subpart (September 18, 1978). All of the boilers are below the de minimis level of 250 MMBTUH and do not meet the definition of electric utility steam generating unit.

Subpart Db, Industrial-Commercial-Institutional Steam Generating Units. This subpart affects steam generating units with a heat input capacity greater than 100 MMBTUH and that commence construction, modification, or reconstruction after June 19, 1984. The two older boilers were constructed prior to the effective date of this subpart. The Boiler-603 has a heat input of 210 MMBTUH and is applicable to this subpart. The Boiler-603 is permitted to combust natural gas. With a firebox heat release of 93,000 BTU/cubic foot, the Boiler-603 is defined as a "high heat release rate unit" (more than 75,000 BTUH per cubic foot of firebox) and is subject to the NO_X emission limit of § 60.44b(a)(1)(ii) (0.2 lb/MMBTU) and all applicable requirements when fired with natural gas. Boiler-603 has a continuous emission monitor for NO_X, which is used to determine excess emissions. In accordance with § 60.13(i), an alternative span value of 250 ppm was approved by AQD in a letter dated October 15, 1996. All applicable requirements have been incorporated into the permit.

Subpart Dc, Small Industrial-Commercial-Institutional Steam Generating Units. This subpart affects steam generating units with a heat input capacity between 10 and 100 MMBTUH and that commence construction, modification, or reconstruction after June 9, 1989. Boiler-604 will be limited to a maximum heat input of 98.5 MMBTUH and is subject to the recordkeeping requirements of this subpart. The owner or operator of an affected facility that only burns gaseous fuels shall record and maintain records of the fuels combusted during each calendar month per § 60.48c(g)(2). All applicable requirements have been incorporated into the permit. The new wastewater heater (WW-Heater) meets the definition of a steam generating unit, is rated at 20 MMBTUH, and is also subject to the recordkeeping requirements of this subpart. The facility may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month per § 60.48c(g)(3).

Subpart K, Ka, Petroleum Liquids Storage Vessels. Subparts K and Ka only affect storage vessels that store petroleum liquids. IPA is not considered a petroleum liquid.

Subpart Kb, Volatile Organic Liquid (VOL) Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984. The large IPA storage vessels were built prior to the effective date of Subpart Kb. Subpart Kb does not affect "process tanks," tanks used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. While the throughput of the tanks will increase as a result of this project, per 40 CFR § 60.14(e)(2), an increase in production at an affected facility is not a modification "if the increase can be accompanied without a capital expenditure on that facility." There will be no capital expenditures on the storage tanks themselves, so the change will not be a modification and NSPS Subpart Kb applicability will not be triggered. The other tanks are used primarily as settling vessels, i.e., low-velocity areas where residual gum is allowed to settle out before the IPA is distilled.

Subpart IIII, Stationary Compression Ignition (CI) Internal Combustion Engines (ICE). This subpart affects CI ICE manufactured after 2007. There are no CI ICE manufactured after 2007 at this facility.

NESHAP, 40 CFR Part 61 [Not Applicable]
There are no emissions of any of the regulated pollutants: arsenic, asbestos, beryllium, benzene, coke oven emissions, mercury, radionuclides or vinyl chloride.

NESHAP, 40 CFR Part 63 [Subpart ZZZZ is Applicable]
Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart affects any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions. Owners and operators of the following new or reconstructed RICE must meet the requirements of Subpart ZZZZ by complying with either 40 CFR Part 60 Subpart IIII (for CI engines) or 40 CFR Part 60 Subpart JJJJ (for SI engines):

1) Stationary RICE located at an area source;
2) The following Stationary RICE located at a major source of HAP emissions:
   i) 2SLB and 4SRB stationary RICE with a site rating of ≤ 500 brake HP;
   ii) 4SLB stationary RICE with a site rating of < 250 brake HP;
   iii) Stationary RICE with a site rating of ≤ 500 brake HP which combust landfill or digester gas equivalent to 10% or more of the gross heat input on an annual basis;
   iv) Emergency or limited use stationary RICE with a site rating of ≤ 500 brake HP; and
   v) CI stationary RICE with a site rating of ≤ 500 brake HP.

No further requirements apply for engines subject to NSPS under this part. This facility is a minor source of HAP and the existing emergency generator engine and fire pump engine are subject to this subpart.

Existing CI RICE

EU	Name	HP
WWTU-EG	Cummins	435
FWP-1	Caterpillar	165

Facilities with existing stationary CI RICE located at an area source of HAP emissions must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. Existing emergency stationary CI RICE at area sources must comply with the following management practices:

- Change oil and filter every 500 hours of operation or annually, whichever comes first;
- Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;
- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary; and
- Minimize the engine's time spent at idle and minimize the engine's start-up time at start-up to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-start-up emission limitations apply.

Sources have the option to utilize an oil analysis program as described in § 63.6625(i) in order to extend the specified oil change requirement. CI RICE are limited to a fuel sulfur limit of 15 ppmw. Additionally, there are limitations on the hours that an emergency engine may operate. Total operating hours are limited to 100 hours/year for maintenance and readiness checks unless Federal, State, or local standards require maintenance and testing beyond 100 hours per year. The 100 hours/year includes up to 50 hours of non-emergency operations. The 50 hours cannot include peak shaving or other income generating power production. The 50 hours includes up to 15 hours of power generation as part of a demand response program in the event of a potential electrical blackout situation. All applicable requirements have been incorporated into the permit.

Subpart DDDDD, Industrial, Commercial, and Institutional Boilers and Process Heaters. This subpart affects any boiler or process heater located at a major source of HAP. This facility is not a major source of HAP and is not subject.

Subpart JJJJJJ, Commercial and Institutional Boilers. This subpart affects new and existing boilers located at area sources of HAP, except for gas-fired boilers. Gas fired boilers are defined as any boiler that burns gaseous fuel not combined with any solid fuels, liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. Periodic testing under this definition shall not exceed a combined total of 48 hours during any calendar year. The boilers at this facility meet the definition of gas fired boilers and are not subject to this subpart.

CAM, 40 CFR Part 64 [Applicable]

Compliance Assurance Monitoring (CAM), as published in the Federal Register on October 22, 1997, applies to any pollutant specific emission unit at a major source, that is required to obtain a Title V permit, if it meets all of the following criteria:

- It is subject to an emission limit or standard for an applicable regulated air pollutant
- It uses a control device to achieve compliance with the applicable emission limit or standard
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant of 100 TPY

The processes use an IPA recovery scrubber, baghouses, and combustion in a boiler to achieve compliance with a facility wide emissions cap. The new IPA recovery scrubber is material recovery equipment installed and operated primarily to recover isopropyl alcohol and return it to the process. IPA recovery is essential to the economic viability of the process. The VOC emission control from the recovery scrubber is an added benefit, but not the main reason for installing the device. Therefore, the IPA scrubber will not be subject to CAM. The product transfer separator baghouses for the new Line 6 and the product collector baghouses for the new Packaging system will also be inherent process equipment and not air pollution abatement equipment. The baghouses are inherent to separating conveyance air from the product, and the collected product is returned to the process. The Packaging System will also include housekeeping vacuum system dust collector baghouses, where collected material is disposed of as waste. However, these baghouses are integral to the design of the housekeeping vacuum system, and uncontrolled emissions from the housekeeping vacuum systems are under the 100 TPY major source thresholds. Therefore, none of the baghouses will be subject to CAM. None of the other emission units use a control device to achieve compliance with the applicable emission limit or standard. Therefore, the facility is not subject to this rule.

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable]
This facility does not process or store more than the threshold quantity of any regulated substance (Section 112r of the Clean Air Act 1990 Amendments). More information on this federal program is available on the web page: *www.epa.gov/rmp*.

Stratospheric Ozone Protection, 40 CFR Part 82 [Subparts A and F are Applicable]
These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations which meet phase out requirements and which maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).
Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.
Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.

The standard conditions of the permit address the requirements specified at §82.156 for persons opening appliances for maintenance, service, repair, or disposal; §82.158 for equipment used during the maintenance, service, repair, or disposal of appliances; §82.161 for certification by an approved technician certification program of persons performing maintenance, service, repair, or disposal of appliances; §82.166 for recordkeeping; § 82.158 for leak repair requirements; and §82.166 for refrigerant purchase records for appliances normally containing 50 or more pounds of refrigerant.

SECTION IX. COMPLIANCE

Tier Classifications
This application has been determined to be **Tier II** based on the request for a construction permit to make a physical change that will result in a significant modification of a Part 70 source operating permit.

Public Review
The applicant published a "Notice of Filing a Tier II Application" on February 7, 2020, in the Okmulgee Times, in Okmulgee County where the facility is located. The notice stated the application was available for public review at the Okmulgee Public Library or the DEQ office in Oklahoma City.

When the draft permit is ready, the applicant will publish a Notice of Tier II Draft Permit for a thirty (30) day public review period. The notice shall state where the draft permit will be available for public review.

Information on all permit actions is available for review by the public in the Air Quality section of the DEQ Web page: https://www.deq.ok.gov.

State Review
This facility is not located within 50 miles of the border of Oklahoma and any other state.

EPA review
The applicant has requested that the 30-day public review and 45-day EPA review run concurrently. The draft/proposed permit was provided to EPA for review.

Landowner Notification
The permittee has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant owns the land used to accomplish the permitted purpose.

Fee Paid
A significant modification of a Part 70 permit fee of $6,000 has been paid. However, a major source construction permit fee is $5,000.

SECTION X. SUMMARY

The applicant has demonstrated the ability to comply with the requirements of the applicable Air Quality rules and regulations. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance or enforcement actions for this facility which would prevent the issuance of this permit. Issuance of the construction permit is recommended contingent on Public and EPA reviews.

DRAFT/PROPOSED

PERMIT TO CONSTRUCT
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS

CP Kelco US, Inc. **Permit Number 2016-1240-C (M-2)**
CP Kelco Okmulgee Biogum Plant **Facility ID: 1516**

The permittee is authorized to construct in conformity with the specifications submitted to Air Quality on January 12, 2020, and all supplemental information. The Evaluation Memorandum, dated November 5, 2020, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein:

1. Points of emissions and limitations for each point: [OAC 252:100-8-6(a)(1)]

EUG 1: Emission limitations for emission units (EU) Boiler-601 and Boiler-602. VOC emissions shall be included in the facility-wide cap. Compliance with the emission limits shall be based on fuel consumption and the following: NO_X - The most recent stack test data; CO - AP-42 (7/98), Section 1.4; SO_2 - Mass balance.

Natural Gas/Biogas

Emission Unit	Permitted Emissions		
	Units	**NO_X**	**CO**
Boiler-601 Keystone 202 MMBTUH	**lb/hr**	40.40	16.64
	TPY	176.95	72.86
Boiler-602 Keystone 202 MMBTUH	**lb/hr**	40.40	16.64
	TPY	176.95	72.86

a. Except during periods of start-up, shutdown, repair or malfunction, and short-term tests not to exceed 16 hours per quarter, only one of these boilers (Boiler-601 or Boiler-602) shall be operated at any time when Boiler-603 is operating. During periods of start-up, shutdown, repair or malfunction, and short-term tests, one of the three boilers will be shut down within two hours of the third boiler being put into operation. Operation is defined as when the boiler is at pressure and generating steam into the header.

b. When Boiler-603 is operating, the permittee shall record the hours of operation of Boiler-601, Boiler-602, and Boiler-603.

c. Boiler-601 and Boiler-602 shall only be fueled with pipeline natural gas as defined in Part 72 having a sulfur content of 0.5 grains/100 SCF or less or gases from the RCVY-SCRUB with a sulfur content of less than 343 ppmv. Compliance can be shown by the following methods: for pipeline natural gas, a current gas company bill; for other gaseous fuel, a current lab analysis, stain-tube analysis, gas contract, tariff sheet, or

other approved methods. Compliance shall be demonstrated at least once every calendar year. [OAC 252:100-31]

EUG 2: Emission limitations for EU Boiler-603. VOC emissions shall be included in the facility wide cap. Compliance with the emission limits shall be based on fuel consumption and the following: NO_X - CEM data; CO - AP-42 (7/98), Section 1.4; SO_2 - Mass balance.

Natural Gas/Biogas

Emission Unit	Permitted Emissions		
	Units	**NO_X**	**CO**
Boiler-603 Combustion Engineering 210 MMBTUH	**lb/hr**	42.00	17.29
	TPY	96.58	75.75
	lb/MMBTU[1]	0.20	--

[1] – Three hour average

a. Boiler-603 shall only be fueled with pipeline natural gas as defined in Part 72 having a sulfur content of 0.5 grains/100 SCF or less or gases from the RCVY-SCRUB with a sulfur content of less than 343 ppmv. Compliance can be shown by the following methods: for pipeline natural gas, a current gas company bill; for other gaseous fuel, a current lab analysis, stain-tube analysis, gas contract, tariff sheet, or other approved methods. Compliance shall be demonstrated at least once every calendar year. [OAC 252:100-31]

b. The permittee shall comply with all applicable requirements of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS Subpart Db, for emission unit Boiler-603, the 210 MMBTUH Combustion Engineering Boiler, including but not limited to the following: [40 CFR §§ 60.40b through 60.49b]

(1) The affected facility when combusting natural gas or natural gas with byproduct/waste shall not discharge into the atmosphere any gases that contain nitrogen oxides (NO_X) (expressed as NO_2) in excess of the following emission limit: [§§ 60.44b(a) & (e)]

i) High heat release rate: 86 ng/J (0.20 lb/MMBTU) [§ 60.44b(a)(1)(ii)]

(2) For purposes of § 60.44b(i) (determining compliance), the NO_2 standard of § 60.44b(a)(1)(ii) shall apply at all times including periods of start-up, shutdown, or malfunction. [§ 60.44b(h)]

(3) Compliance with the NO_2 emission limit shall be determined on a 30-day rolling average basis. [§ 60.44b(i)]

(4) Compliance with the NO_2 emission standards under § 60.44b shall be determined through performance testing under § 60.46b(e). [§ 60.46b(c)]

(5) The owner or operator shall upon request determine compliance with the NO_2 standards under § 60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, NO_2 emissions data collected pursuant to § 60.48b(g)(1) or § 60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the NO_2 emission

standard. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NO_2 emission data for the preceding 30 steam generating unit operating days. [§ 60.46b(e)(4)]

(6) The owner or operator of an affected facility subject to the NO_2 standards under § 60.44b shall install, calibrate, maintain, and operate a continuous monitoring system and record the output of the system, for measuring NO_2 emissions discharged to the atmosphere. [§ 60.48b(b)(1)]

(7) The continuous monitoring systems required under § 60.48b(b) shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data shall be recorded during calibration checks and zero and span adjustments. [§ 60.48b(c)]

(8) The 1-hour average NO_2 emission rates measured by the continuous NO_2 monitor required by § 60.48b(b) and required under § 60.13(h) shall be expressed in ng/J or lb/MMBTU heat input and shall be used to calculate the average emission rates under § 60.44b. The 1-hour averages shall be calculated using the data points required under § 60.13(h)(2). [§ 60.48b(d)]

(9) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. [§ 60.48b(e)]

i) For affected facilities combusting natural gas and natural gas with byproduct/waste the span value for NO_2 is 500 ppm. [§ 60.48b(e)(2)]

ii) See Specific Condition 1, EUG 2(c) for Approved Alternative Span Value.

(10) When NO_2 emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days. [§ 60.48b(f)]

(11) The owner or operator of an affected facility that has a heat input capacity of 73 MW (250 MMBTUH) or less, and which has an annual capacity factor for natural gas greater than 10 percent (0.10) shall comply with the provisions of §§ 60.48b(b), (c), (d), (e)(2), (e)(3), and (f). [§ 60.48b(g)(1)]

(12) The owner or operator of each affected facility subject to the NO_2 emission limits under § 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in Appendix B. [§ 60.49b(b)]

(13) The owner or operator of an affected facility shall record and maintain records of the amounts of natural gas combusted during each day and calculate the annual capacity factor for natural gas for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. [§ 60.49b(d)]

(14) The owner or operator of an affected facility subject to the NO_X standards under § 60.44b shall maintain records of the following information for each steam generating unit operating day: [§ 60.49b(g)]

i) Calendar date.

ii) The average hourly NO_X emission rates (expressed as NO_2) (ng/J or lb/MMBTU heat input) measured or predicted.

iii) The 30-day average NO_2 emission rates (ng/J or lb/MMBTU heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly NO_2 emission rates for the preceding 30 steam generating unit operating days.

iv) Identification of the steam generating unit operating days when the calculated 30-day average NO_2 emission rates are in excess of the NO_X emissions standards under § 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken.

v) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.

vi) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.

vii) Identification of ''F'' factor used for calculations, method of determination, and type of fuel combusted.

viii) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.

ix) Description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3.

x) Results of daily CEMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1.

(15) The owner or operator of any affected facility in any category listed § 60.49b(h)(1) or (2) is required to submit excess emission reports for any excess emissions which occurred during the reporting period. [§ 60.49b(h)]

i) Any affected facility that is subject to the NO_X standard of § 60.44b, and that: [§ 60.49b(h)(2)]

(A) Combusts natural gas; or

(B) Has a heat input capacity of 73 MW (250 MMBTU/hour) or less and is required to monitor NO_X emissions on a continuous basis under § 60.48b(g)(1) or steam generating unit operating conditions under § 60.48b(g)(2).

ii) For purposes of § 60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average NO_X emission rate, as determined under § 60.46b(e), which exceeds the applicable emission limits in § 60.44b. [§ 60.49b(h)(4)]

(16) The owner or operator of any affected facility subject to the continuous monitoring requirements for NO_2 under § 60.48b(b) shall submit reports containing the information recorded under § 60.49b(g). [§ 60.49b(i)]

(17) All records required under § 60.49b shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record. [§ 60.49b(o)]

(18) The owner or operator of an affected facility may submit electronic quarterly reports for NO_2 in lieu of submitting the written reports required under §§

60.49b(h) and (i). The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format. [§ 60.49b(v)]

(19) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period. [§ 60.49b(w)]

c. Approved Alternative Span Value

(1) A span value of 250 ppmv can be used for the nitrogen oxides continuous emission monitor.

EUG 1, EUG 2, EUG 5, EUG 8, EUG 9, EUG 12, EUG 15, EUG 16, EUG 17, and EUG 18:

VOC emission limits for EU Boiler-601, Boiler-602, Boiler-603, SET-VESSELS, SPENT-VESSELS, MIX-VESSEL, CBM-Tanks, Pipe Leak Fugitives, Wastewater Treatment Facility Fugitives (EQ Tanks, WW Flume), Anaerobic Reactor, Boiler-604, FILT, RCVY-SCRUB, RCVY-ATM, and WW-Heater. The emission limit is based on a rolling 12-month total. This permit authorizes the facility to make minor changes in the operation and control of processes that do not result in the facility-wide cap established by the permit being exceeded. This authorization does not allow the installation of additional production lines or emission units.

EUG 5 Vessels

EU	Point	Name/Model	Gallons
SET-VESSELS	Tank Farm Scrubber or Atmosphere	Spent IPA Settling Vessel	40,000
		Spent IPA Settling Vessel	40,000
		Spent IPA Settling Vessel	40,000
SPENT-VESSELS	Tank Farm Scrubber or Atmosphere	Spent IPA Vessel	90,000
		Spent IPA Vessel	90,000
		Spent IPA Vessel	90,000
MIX-VESSEL	Tank Farm Scrubber or Atmosphere	Mixing Vessel	4,500
CBM-TANKS	Tank Farm Scrubber	Concentrated IPA (CBM) Tank	125,000
		Concentrated IPA (CBM) Tank	125,000

EUG 8 Miscellaneous Fugitives

EU	Number Items[1]	Type of Equipment
Pipe Leak Fugitives	1,315	Valves
	2,820	Connectors
	101	Pump Seals
	3	Compressor Seals
	30	Pressure Relief Valves
	87	Other
WW System	EQ Tanks	WW Treatment Facility Equalization Tanks
	WW Flume	WW Production Plant Flume

[1] - Estimated; WW – Wastewater.

EUG 9 Anaerobic Reactors Flare

EU	Point	Name/Model	MMBTUH
Anaerobic Reactors	Flare	UASBs	22

EUG 15 Filtration Process

EU	Point	Name/Model
FILT	IPA Recovery Scrubber/Atmosphere	Nutsche Filter W/Recovery Condenser

EUG 16 RCVY-SCRUB (New Equipment)

EU	Point	Name/Model
RCVY-SCRUB	IPA Recovery Scrubber or Atmosphere	Press Enclosures (Lines 1 - 4) and GTO Line 5, Press, Screen, and Spent Pot
		Line 6 Centrifuge and Spent Pot
		A Dryer and First and Second Stage Dryer Cyclones (Lines 1 - 5) to Primary Plenum
		Line 6 Vacuum Stripper and Condenser
		B Dryer with Third Stage Dryer Cyclones (Lines 1 - 5) to Secondary Plenum
		Waste Gum Centrifuge and Spent Pot

EUG 17 RCVY-ATM

EU	Point	Name/Model
RCVY-ATM	Atmosphere	Recovery Fugitives (Lines 1 – 5) (Precip room, dryer rooms, and chiller building venting through roof fans and floor exhausts
	Atmosphere or IPA Recovery Scrubber	C Dryers with Fourth Stage Milling Cyclones (Lines 1 – 5) to Mill Plenum
	Atmosphere	Line 6 Dryer
	Atmosphere	Precip/Centrifuge Room Fugitives for Line 6
	Atmosphere	Distillation Column

Facility-Wide VOC Emissions Cap

	TPY*
VOC	721.3

* - Based on a twelve (12) month rolling total.

a. Facility-wide VOC emissions shall be calculated each month and each month the permittee shall total all of the VOC emissions from the facility during the last 12 months to show compliance with this limit.

b. The permittee shall calibrate, maintain, and operate a continuous monitoring system that measures and records the make-up water flow rate of the IPA Recovery Scrubber. The system shall calculate and record the daily average make-up flow rate. A daily average flow rate less than the average flow rate during the most recent scrubber compliance test shall be reported as an excursion.

c. The permittee shall develop and implement a quality assurance and quality control program for the IPA Recovery Scrubber make-up water flow rate monitoring system that shall describe in detail, complete, step-by-step monitoring procedures and operations.

d. VOC emissions from EUG 16 shall be vented to the IPA Recovery Scrubber. VOC emissions may be vented to atmosphere for up to 120 hours per year during scrubber downtime. VOC emissions when venting to the atmosphere shall be determined and recorded. The permittee shall calibrate, maintain and operate a VOC analyzer and flow meter that measures and records the VOC concentration and flow of VOC emissions from EUG 16 to atmosphere during scrubber downtime. A Dryer (Primary Plenum) and B Dryer (Secondary Plenum) may be vented to atmosphere after material processing has stopped and the dryer is empty of process material. The following shall be used to determine emissions.
   i. IPA Recover Scrubber (Normal Operation): measurement of the emissions and hours of operation.
   ii. IPA Recovery Scrubber (Downtime): measurement of emissions and number of hours scrubber is down and emissions are being vented directly to the atmosphere.

iii. B Dryers (Lines 1 - 5) (Boiler Emissions): measurement of the emissions, control efficiency of the boilers, and number of hours and lines emission routed to the boilers.
iv. Measurement of emissions may be based on existing test results.

e. VOC emissions from the EUG 17 shall be vented to the IPA Recovery Scrubber or determined and recorded when being emitted to the atmosphere. The following shall be used to determine emissions.
   i. Recovery Lines (Fan Exhausts): measurement of the emissions and hours of operation.
   ii. C Dryers (Milling Cyclones Lines 1-5): measurement of the emissions and hours of operation.
   iii. Line 6 Dryer (IPA in Cake): measurement of concentration of IPA in product and amount of product produced.
   iv. Line 6 Fugitives (Room Vent): measurement of the emissions from the condenser outlet and the number of hours operated.
   v. Distillation Column (Condenser Outlet): measurement of the emissions from the condenser outlet and the number of hours operated.
   vi. Measurement of emissions may be based on existing test results.
f. The filtration process condenser shall be vented to the boilers.

EUG 9: Emission limits for the Anaerobic Reactor Flare.

NO_X		CO		SO_2[1]	
lb/hr	**TPY**	**lb/hr**	**TPY**	**lb/hr**[2]	**TPY**
----	1.88	----	8.58	----	32.32

[1] - The SO_2 limit is for the total anaerobic reactor SO_2 emitted from EUG 9 (Flare) and EUG 18 (WW-Heater). The NO_X and CO limits are for EUG 9 only. EUG 18 has separate NO_X and CO limits.

a. All emissions from the Anaerobic Reactor shall be vented to a flare system, burned in the Wastewater Heater or sent to the biogas handling system for consumption in the boilers.
b. To demonstrate compliance with the 12-month rolling total SO_2 emission limit, the sulfur concentration in the flare gas shall not exceed 6,000 ppmv on a monthly average basis.
c. The facility shall determine and record the sulfur concentration of the waste gases vented to the flare at least twice a week when in use. A “stain tube” analysis of a grab sample is acceptable for the determination of the biogas sulfur content. A portable analyzer is also acceptable.
d. The facility shall determine and record the flow rate of the gases from the bioreactor at least monthly.
e. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. Records of pilot flame(s) outages shall be maintained along with the time and duration of all periods during which the pilot flame is/was absent.

EUG 12: Emission limitations for EU Boiler-604. VOC emissions shall be included in the facility wide cap.

Scenario I & II (Natural Gas)

Emission Unit	Permitted Emissions		
	Units	**NO_X**	**CO**
Boiler-604 98.5 MMBTUH	**lb/hr**[1]	4.83	8.11
	TPY	10.43	17.52
	lb/MMBTU[1]	0.049	

[1] – Three-hour average (contiguous)

a. Boiler-604 shall only be fueled with pipeline natural gas as defined in Part 72 having a sulfur content of 0.5 grains/100 SCF or less or gases from the RCVY-SCRUB with a sulfur content of less than 343 ppmv. Compliance can be shown by the following methods: for pipeline natural gas, a current gas company bill; for other gaseous fuel, a current lab analysis, stain-tube analysis, gas contract, tariff sheet, or other approved methods. Compliance shall be demonstrated at least once every calendar year. [OAC 252:100-31]

b. Boiler-604 shall not be operated at the facility for more than 180 days (4,320 hours) within any 12-month period. [OAC 252:100-8-6(a)]

c. Boiler-604 shall be equipped with low-NO_X burners. [OAC 252:100-8-6(a)]

d. The permittee shall comply with all applicable requirements of the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, NSPS Subpart Dc, for EU Boiler-604. [40 CFR §§ 60.40c through 60.48c]

(1) The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day. [§ 60.48c(g)(1)]

(2) As an alternative to meeting the requirements of § 60.48c(g)(1), the owner or operator of an affected facility that combusts only natural gas, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month. [§ 60.48c(g)(2)]

(3) As an alternative to meeting the requirements of § 60.48c(g)(1), the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, and/or fuels not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month. [40 CFR § 60.48c(g)(3)]

EUG 13: Emission limitations for EU WWTP-EG and FWP-1. There are no emission limits established for EU WWTP-EG or FWP-1 but they are subject to NESHAP, Subpart ZZZZ.

EU	Name	HP	Serial #
WWTU-EG	Cummins	435	30369469
FWP-1	Caterpillar	165	9ON69459

a. The engines shall only be fueled with distillate fuel oil containing 0.05% sulfur by weight or less. Compliance can be shown by the following methods: for fuel oil, supplier's latest delivery ticket(s). Compliance shall be demonstrated at least once every calendar year. [OAC 252:100-31]

b. The owner/operator shall comply with all applicable requirements of the NESHAP: Reciprocating Internal Combustion Engines, Subpart ZZZZ, no later than May 3, 2013, for each affected facility including but not limited to:
[40 CFR §§ 63.6580 through 63.6675]

(1) § 63.6580 What is the purpose of subpart ZZZZ?
(2) § 63.6585 Am I subject to this subpart?
(3) § 63.6590 What parts of my plant does this subpart cover?
(4) § 63.6595 When do I have to comply with this subpart?
  (i) If you have an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. [§ 63.6595(a)(1)]
(5) § 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary CI RICE located at an area source of HAP emissions?
  (i) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d of 40 CFR Part 63, Subpart ZZZZ which apply to you. [§ 63.6603(a)]
    (A) Change oil and filter every 500 hours of operation or annually, whichever comes first or utilize an oil analysis program as described in § 63.6625(i) in order to extend the specified oil change requirement.
    [Table 2d, 40 CFR part 63, Subpart ZZZZ]
    (B) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and
    [Table 2d, 40 CFR part 63, Subpart ZZZZ]
    (C) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
    [Table 2d, 40 CFR part 63, Subpart ZZZZ]
(6) § 63.6605 What are my general requirements for complying with this subpart?
(7) § 63.6625 What are my monitoring, installation, operation, and maintenance requirements?
  (i) You must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must

provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [§ 63.6625(e)(2)]

(ii) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed. [§ 63.6625(f)]

(iii) You have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Table 2d of 40 CFR Part 63, Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2d of 40 CFR Part 63, Subpart ZZZZ. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [§ 63.6625(i)]

(8) § 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?

(9) § 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

(i) You must demonstrate continuous compliance with each emission limitation and operating limitation in Table 2d of 40 CFR Part 63, Subpart ZZZZ that apply to you according to methods specified in Table 6 of 40 CFR Part 63, Subpart ZZZZ. [§ 63.6640(a)]

(ii) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in §§ 63.6640 (f)(1) through (4). In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in §§ 63.6640(f)(1) through (4), is prohibited. If you do not operate the engine according to the requirements in §§ 63.6640(f)(1) through (4), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. [§ 63.6640(f)]

(A) There is no time limit on the use of emergency stationary RICE in emergency situations. [§ 63.6640(f)(1)]

(B) You may operate your emergency stationary RICE for any combination of the purposes specified in §§ 63.6640(f)(2)(i) through (iii) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by §§ 63.6640(f)(3) and (4) counts as part of the 100 hours per calendar year allowed by § 63.6640(f)(2). [§ 63.6640(f)(2)]

(C) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year. [§ 63.6640(f)(2)(i)]

(D) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3. [§ 63.6640(f)(2)(ii)]

(E) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. [§ 63.6640(f)(2)(iii)]

(F) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in § 63.6640(f)(2). Except as provided in §§ 63.6640(f)(4)(i) and (ii), the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [§ 63.6640(f)(4)]

(10) § 63.6655 What records must I keep?

(i) You must keep the records required in Table 6 of 40 CFR Part 63, Subpart ZZZZ to show continuous compliance with each emission or operating limitation that applies to you. [§ 63.6655(d)]

(ii) if you own or operate an existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d of

40 CFR Part 63, Subpart ZZZZ, you must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan. [§ 63.6655(e)(3)]

(iii) If you own or operate an existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in §63.6640(f)(2)(ii) or (iii) or §63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes. [§ 63.6655(f)(2)]

(11) § 63.6660 In what form and how long must I keep my records?

(i) Your records must be in a form suitable and readily available for expeditious review according to § 63.10(b)(1). [§ 63.6660(a)]

(ii) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [§ 63.6660(b)]

(iii) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). [§ 63.6660(c)]

(12) § 63.6665 What parts of the General Provisions apply to me?

(i) Table 8 of 40 CFR Part 63, Subpart ZZZZ shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you. [§ 63.6665(a)]

(13) § 63.6670 Who implements and enforces this subpart?

(14) § 63.6675 What definitions apply to this subpart?

EUG 18: Emission Limitations for EU WW-Heater. VOC emissions shall be included in the facility-wide cap. Compliance with the emission limits shall be based on fuel consumption and the following: NO_X and CO – AP-42 (7/98), Section 1.4, SO_2 emissions from biogas are accounted for in the SO_2 limit for EUG 9.

Emission Units	**Permitted Emissions**		
	Units	**NO_X**	**CO**
WW-Heater 20 MMBTUH	**lb/hr**	2.94	2.50
	TPY	12.90	10.80

a. The WW-Heater shall only be fueled with pipeline natural gas as defined in Part 72 having a sulfur content of 0.5 grains/100 SCF or less or gases from the Anaerobic Reactor with a sulfur content of less than 1,203 ppmv.

[OAC 252:100-31-25(1)(A) & 25(4)]

b. Sulfur dioxide emissions from burning biogas in the WW-Heater shall be included when determining compliance with the sulfur dioxide emission limit for EUG 9.

c. The permittee shall comply with all applicable requirements of the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, NSPS Subpart Dc, for EU WW-Heater. [40 CFR §§ 60.40c through 60.48c]

(1) The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day. [§ 60.48c(g)(1)]

(2) As an alternative to meeting the requirements of § 60.48c(g)(1), the owner or operator of an affected facility that combusts only natural gas, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month. [§ 60.48c(g)(2)]

(3) As an alternative to meeting the requirements of § 60.48c(g)(1), the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, and/or fuels not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month. [40 CFR § 60.48c(g)(3)]

2. The permittee shall be authorized to operate this facility continuously (24 hours per day, every day of the year). [OAC 252:100-8-6(a)]

3. Boiler-601, Boiler-602, Boiler-603, and Boiler-604 shall have a permanent identification plate attached that shows the make, model number, and serial number. [OAC 252:100-43]

4. When calculation of the Facility-Wide VOC Emission Cap, as a 12-month rolling total, exceeds the established limit, the owner or operator shall comply with the provisions of OAC 252:100-9. [OAC 252:100-9]

5. The permittee shall keep records of operations as listed below. These records shall be maintained on-site for inspection by regulatory personnel upon request. Required records shall be retained for a period of at least five years following the date of recording. [OAC 252:100-8-6(a)(3)(B)]

a. Total fuel usage for each boiler (annual).
b. Records required by Specific Condition 1, EUG 1 (c), EUG 2 (a), EUG 12 (a), EUG 13 (a), and EUG 18 (a) including sulfur content of the diesel combusted in the emergency generator (analysis or supplier statement for each delivery).
c. Specific hours of day of operation for each boiler as required by Specific Condition 1, EUG 1, (b) when EU B-603 is operating in conjunction with EU B-601 and/or B-602.
d. Daily average flow rate of the make-up water for the IPA Recovery Scrubber.
e. VOC emissions from the EUG 16 RCVY-SCRUB (daily and cumulative annual).
f. VOC emissions from the EUG 17 RCVY-ATM (daily and cumulative annual).
g. IPA Scrubber downtime.

h. Monthly throughput of EUG 15 - Filtration Process (Biogum and IPA).
i. Monthly Facility Wide VOC emission calculations and 12-month rolling total Facility Wide VOC emission calculations used to show compliance with the Facility Wide VOC Emissions Cap in Specific Condition 1.
j. Monthly SO_2 emissions calculations from EUG 9 and EUG 18 and 12-month rolling total emission calculations used to show compliance with the SO_2 Emissions Cap in Specific Condition 1.
k. Flare pilot outages for EUG 9.
l. Number of days Boiler-604 is located at the facility (daily).
m. Records required by NSPS, Subparts Db and Dc.
n. Records required by NESHAP, Subpart ZZZZ.

6. The following records shall be maintained on-site to verify Insignificant Activities. No recordkeeping is required for those operations that qualify as Trivial Activities.
[OAC 252:100-8-6 (a)(3)(B)]

a. For stationary reciprocating engines burning natural gas, gasoline, aircraft fuels, or diesel fuel used exclusively for emergency power generation or for peaking power service not exceeding 500 hours/year: records of the number of hours operated (annual).
b. For fuel storage/dispensing equipment operated solely for facility owned vehicles: records of the type and amount of fuel dispensed (annual).
c. For fluid storage tanks with a capacity of less than 39,894 gallons and a true vapor pressure less than 1.5 psia: records of the capacity of the tanks and the contents.
d. For activities (except for trivial activities) that have the potential to emit less than 5 TPY (actual) of any criteria pollutant: the type of activity and the amount of emissions or a surrogate measure of the activity (annual).

7. At least once during the term of the permit, the permittee shall conduct tests of NO_X and CO concentrations in exhaust gases from Boiler-601 and Boiler-602 when operating under representative conditions. Testing shall be conducted using approved reference methods.
[OAC 252:100-8-6 (a)(3)(A)]

8. No later than 30 days after each anniversary date of the issuance of the original Title V operating permit (November 21, 2000), the permittee shall submit to Air Quality Division of DEQ, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit.

9. This facility is considered an existing Prevention of Significant Deterioration (PSD) facility. As such, the facility is subject to the provisions of OAC 252:100-8-36.2(c) for any project using "projected actual emissions." If the permittee materially fails to comply with these provisions, then emissions are presumed to equal the source's potential to emit.

10. The Permit Shield (Standard Conditions, Section VI) is extended to the following requirements that have been determined to be inapplicable to this facility, or the listed emissions unit groups: [OAC 252:100-8-6(d)(2)]

a. Facility
   (1) 40 CFR Part 60, NSPS, **except** for Subpart A, General Provisions, Subpart Db, Industrial-Commercial-Institutional Steam Generating Units, Subpart Dc, Small Industrial-Commercial-Institutional Steam Generating Units, and Subpart IIII Compression Ignition Internal Combustion Engines.
   (2) 40 CFR Part 61, NESHAP, except for Subpart M
   (3) 40 CFR Part 68, Chemical Accident Prevention Previsions
   (4) 40 CFR Part 72, Acid Rain
   (5) OAC 252:100-11, Alternative Emission Reduction Permits
   (6) OAC 252:100-15, Motor Vehicle Pollution Control Devices
   (7) OAC 252:100-17, Incinerators
   (8) OAC 252:100-23, Control of Emissions from Cotton Gins
   (9) OAC 252:100-24, Control of Emissions from Grain Elevators
   (10) OAC 252:100-31-12, Sulfur Oxides (Existing Equipment Standards)
   (11) OAC 252:100-31-26, Requirements for new petroleum and natural gas processes
   (12) OAC 252:100-35, Control of Emission of Carbon Monoxide
   (13) OAC 252:100-39, Emissions of VOCs in Nonattainment and Former Nonattainment Areas

b. EUG 1 (Pre-NSPS Boilers)
   (1) 40 CFR Part 60, NSPS
   (2) 40 CFR Part 63, NESHAP, Subpart JJJJJJ

c. EUG 2 (NSPS Boiler)
   (1) 40 CFR Part 60, NSPS, Subpart D, Fossil-Fuel-Fired Steam Generators
   (2) 40 CFR Part 60, NSPS, Subpart Da, Electric Utility Steam Generating Units
   (3) 40 CFR Part 60, NSPS, Subpart Dc, Small Industrial-Commercial-Institutional Steam Generating Units
   (4) OAC 252:100-25, Visible Emissions and Particulates
   (5) 40 CFR Part 63, NESHAP, Subpart JJJJJJ

d. EUG 5 (Vessels)
   (1) 40 CFR Part 60, NSPS, Subparts K, Ka, Kb, VOL Storage Vessels

e. EUG 18 (WW Heater)
   (1) 40 CFR Part 63, NSPS, Subpart JJJJJ

11. Within 180 days of commencement of operation of the modifications authorized by this construction permit, the owner/operator shall submit an administratively complete operating permit application to incorporate these modifications into the Title V operating permit.

[OAC 252:100-8-4(b)(5)]

MAJOR SOURCE AIR QUALITY PERMIT
STANDARD CONDITIONS
(June 21, 2016)

SECTION I. DUTY TO COMPLY

A. This is a permit to operate / construct this specific facility in accordance with the federal Clean Air Act (42 U.S.C. 7401, et al.) and under the authority of the Oklahoma Clean Air Act and the rules promulgated there under. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

B. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ). The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed.
[40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

D. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. [OAC 252:100-8-6(a)(7)(B)]

SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS

A. Any exceedance resulting from an emergency and/or posing an imminent and substantial danger to public health, safety, or the environment shall be reported in accordance with Section XIV (Emergencies). [OAC 252:100-8-6(a)(3)(C)(iii)(I) & (II)]

B. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements.
[OAC 252:100-8-6(a)(3)(C)(iv)]

C. Every written report submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.
[OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

[OAC 252:100-8-6 (a)(3)(B)(ii), OAC 252:100-8-6(c)(1), and OAC 252:100-8-6(c)(2)(B)]

B. Records of required monitoring shall include:

(1) the date, place and time of sampling or measurement;
(2) the date or dates analyses were performed;
(3) the company or entity which performed the analyses;
(4) the analytical techniques or methods used;
(5) the results of such analyses; and
(6) the operating conditions existing at the time of sampling or measurement.

[OAC 252:100-8-6(a)(3)(B)(i)]

C. No later than 30 days after each six (6) month period, after the date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to AQD a report of the results of any required monitoring. All instances of deviations from permit requirements since the previous report shall be clearly identified in the report. Submission of these periodic reports will satisfy any reporting requirement of Paragraph E below that is duplicative of the periodic reports, if so noted on the submitted report. [OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions. [OAC 252:100-8-6(a)(3)(C)(iii)]

E. In addition to any monitoring, recordkeeping or reporting requirement specified in this permit, monitoring and reporting may be required under the provisions of OAC 252:100-43, Testing, Monitoring, and Recordkeeping, or as required by any provision of the Federal Clean Air Act or Oklahoma Clean Air Act. [OAC 252:100-43]

F. Any Annual Certification of Compliance, Semi Annual Monitoring and Deviation Report, Excess Emission Report, and Annual Emission Inventory submitted in accordance with this permit shall be certified by a responsible official. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f), OAC 252:100-8-6(a)(3)(C)(iv), OAC 252:100-8-6(c)(1), OAC 252:100-9-7(e), and OAC 252:100-5-2.1(f)]

G. Any owner or operator subject to the provisions of New Source Performance Standards ("NSPS") under 40 CFR Part 60 or National Emission Standards for Hazardous Air Pollutants ("NESHAPs") under 40 CFR Parts 61 and 63 shall maintain a file of all measurements and other information required by the applicable general provisions and subpart(s). These records shall be maintained in a permanent file suitable for inspection, shall be retained for a period of at least five years as required by Paragraph A of this Section, and shall include records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 C.F.R. §§60.7 and 63.10, 40 CFR Parts 61, Subpart A, and OAC 252:100, Appendix Q]

H. The permittee of a facility that is operating subject to a schedule of compliance shall submit to the DEQ a progress report at least semi-annually. The progress reports shall contain dates for achieving the activities, milestones or compliance required in the schedule of compliance and the dates when such activities, milestones or compliance was achieved. The progress reports shall also contain an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. [OAC 252:100-8-6(c)(4)]

I. All testing must be conducted under the direction of qualified personnel by methods approved by the Division Director. All tests shall be made and the results calculated in accordance with standard test procedures. The use of alternative test procedures must be approved by EPA. When a portable analyzer is used to measure emissions it shall be setup, calibrated, and operated in accordance with the manufacturer's instructions and in accordance with a protocol meeting the requirements of the "AQD Portable Analyzer Guidance" document or an equivalent method approved by Air Quality. [OAC 252:100-8-6(a)(3)(A)(iv), and OAC 252:100-43]

J. The reporting of total particulate matter emissions as required in Part 7 of OAC 252:100-8 (Permits for Part 70 Sources), OAC 252:100-19 (Control of Emission of Particulate Matter), and OAC 252:100-5 (Emission Inventory), shall be conducted in accordance with applicable testing or calculation procedures, modified to include back-half condensables, for the concentration of particulate matter less than 10 microns in diameter (PM_{10}). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

K. The permittee shall submit to the AQD a copy of all reports submitted to the EPA as required by 40 C.F.R. Part 60, 61, and 63, for all equipment constructed or operated under this permit subject to such standards. [OAC 252:100-8-6(c)(1) and OAC 252:100, Appendix Q]

SECTION IV. COMPLIANCE CERTIFICATIONS

A. No later than 30 days after each anniversary date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to the AQD, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit and of any other applicable requirements which have become effective since the issuance of this permit.

[OAC 252:100-8-6(c)(5)(A), and (D)]

B. The compliance certification shall describe the operating permit term or condition that is the basis of the certification; the current compliance status; whether compliance was continuous or intermittent; the methods used for determining compliance, currently and over the reporting period. The compliance certification shall also include such other facts as the permitting authority may require to determine the compliance status of the source. [OAC 252:100-8-6(c)(5)(C)(i)-(v)]

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." [OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

D. Any facility reporting noncompliance shall submit a schedule of compliance for emissions units or stationary sources that are not in compliance with all applicable requirements. This schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the emissions unit or stationary source is in noncompliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the emissions unit or stationary source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based, except that a compliance plan shall not be required for any noncompliance condition which is corrected within 24 hours of discovery.
[OAC 252:100-8-5(e)(8)(B) and OAC 252:100-8-6(c)(3)]

SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification. [OAC 252:100-8-6(c)(6)]

SECTION VI. PERMIT SHIELD

A. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC 252:100-8) shall be deemed compliance with the applicable requirements identified and included in this permit. [OAC 252:100-8-6(d)(1)]

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit. [OAC 252:100-8-6(d)(2)]

SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.
[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

SECTION VIII. TERM OF PERMIT

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance. [OAC 252:100-8-6(a)(2)(A)]

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration. [OAC 252:100-8-7.1(d)(1)]

C. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-8-1.4(b)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-8-1.4(a)]

D. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation. [OAC 252:100-8-4(b)(5)]

SECTION IX. SEVERABILITY

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
[OAC 252:100-8-6 (a)(6)]

SECTION X. PROPERTY RIGHTS

A. This permit does not convey any property rights of any sort, or any exclusive privilege.
[OAC 252:100-8-6(a)(7)(D)]

B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued. [OAC 252:100-8-6(c)(6)]

SECTION XI. DUTY TO PROVIDE INFORMATION

A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing,

terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.
[OAC 252:100-8-6(a)(7)(E)]

B. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 27A O.S. § 2-5-105(18). Confidential information shall be clearly labeled as such and shall be separable from the main body of the document such as in an attachment.
[OAC 252:100-8-6(a)(7)(E)]

C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer.
[Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

SECTION XII. REOPENING, MODIFICATION & REVOCATION

A. The permit may be modified, revoked, reopened and reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition.
[OAC 252:100-8-6(a)(7)(C) and OAC 252:100-8-7.2(b)]

B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances: [OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]

(1) Additional requirements under the Clean Air Act become applicable to a major source category three or more years prior to the expiration date of this permit. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.
(2) The DEQ or the EPA determines that this permit contains a material mistake or that the permit must be revised or revoked to assure compliance with the applicable requirements.
(3) The DEQ or the EPA determines that inaccurate information was used in establishing the emission standards, limitations, or other conditions of this permit. The DEQ may revoke and not reissue this permit if it determines that the permittee has submitted false or misleading information to the DEQ.
(4) DEQ determines that the permit should be amended under the discretionary reopening provisions of OAC 252:100-8-7.3(b).

C. The permit may be reopened for cause by EPA, pursuant to the provisions of OAC 100-8-7.3(d). [OAC 100-8-7.3(d)]

D. The permittee shall notify AQD before making changes other than those described in Section XVIII (Operational Flexibility), those qualifying for administrative permit amendments, or those defined as an Insignificant Activity (Section XVI) or Trivial Activity (Section XVII). The notification should include any changes which may alter the status of a "grandfathered source," as defined under AQD rules. Such changes may require a permit modification.
[OAC 252:100-8-7.2(b) and OAC 252:100-5-1.1]

E. Activities that will result in air emissions that exceed the trivial/insignificant levels and that are not specifically approved by this permit are prohibited. [OAC 252:100-8-6(c)(6)]

SECTION XIII. INSPECTION & ENTRY

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(17) for confidential information submitted to or obtained by the DEQ under this section):

(1) enter upon the permittee's premises during reasonable/normal working hours where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
(2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
(3) inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
(4) as authorized by the Oklahoma Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit.

[OAC 252:100-8-6(c)(2)]

SECTION XIV. EMERGENCIES

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.

[OAC 252:100-8-6 (a)(3)(C)(iii)(I) and (IV)]

B. Any exceedance that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to AQD as soon as is practicable; but under no circumstance shall notification be more than 24 hours after the exceedance. [OAC 252:100-8-6(a)(3)(C)(iii)(II)]

C. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. [OAC 252:100-8-2]

D. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that: [OAC 252:100-8-6 (e)(2)]

(1) an emergency occurred and the permittee can identify the cause or causes of the emergency;

(2) the permitted facility was at the time being properly operated;
(3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

E. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [OAC 252:100-8-6(e)(3)]

F. Every written report or document submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.
[OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION XV. RISK MANAGEMENT PLAN

The permittee, if subject to the provision of Section 112(r) of the Clean Air Act, shall develop and register with the appropriate agency a risk management plan by June 20, 1999, or the applicable effective date. [OAC 252:100-8-6(a)(4)]

SECTION XVI. INSIGNIFICANT ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate individual emissions units that are either on the list in Appendix I to OAC Title 252, Chapter 100, or whose actual calendar year emissions do not exceed any of the limits below. Any activity to which a State or Federal applicable requirement applies is not insignificant even if it meets the criteria below or is included on the insignificant activities list.

(1) 5 tons per year of any one criteria pollutant.
(2) 2 tons per year for any one hazardous air pollutant (HAP) or 5 tons per year for an aggregate of two or more HAP's, or 20 percent of any threshold less than 10 tons per year for single HAP that the EPA may establish by rule.
[OAC 252:100-8-2 and OAC 252:100, Appendix I]

SECTION XVII. TRIVIAL ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate any individual or combination of air emissions units that are considered inconsequential and are on the list in Appendix J. Any activity to which a State or Federal applicable requirement applies is not trivial even if included on the trivial activities list.
[OAC 252:100-8-2 and OAC 252:100, Appendix J]

SECTION XVIII. OPERATIONAL FLEXIBILITY

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating. [OAC 252:100-8-6(a)(10) and (f)(1)]

B. The permittee may make changes within the facility that:

(1) result in no net emissions increases,
(2) are not modifications under any provision of Title I of the federal Clean Air Act, and
(3) do not cause any hourly or annual permitted emission rate of any existing emissions unit to be exceeded;

provided that the facility provides the EPA and the DEQ with written notification as required below in advance of the proposed changes, which shall be a minimum of seven (7) days, or twenty four (24) hours for emergencies as defined in OAC 252:100-8-6 (e). The permittee, the DEQ, and the EPA shall attach each such notice to their copy of the permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield provided by this permit does not apply to any change made pursuant to this paragraph. [OAC 252:100-8-6(f)(2)]

SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS

A. The following applicable requirements and state-only requirements apply to the facility unless elsewhere covered by a more restrictive requirement:

(1) Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning Subchapter. [OAC 252:100-13]
(2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU. [OAC 252:100-19]
(3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for: [OAC 252:100-25]

(a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
(b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
(c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or
(d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.

(4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]

(5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]
(6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system. [OAC 252:100-37-15(b)]
(7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

SECTION XX. STRATOSPHERIC OZONE PROTECTION

A. The permittee shall comply with the following standards for production and consumption of ozone-depleting substances: [40 CFR 82, Subpart A]

(1) Persons producing, importing, or placing an order for production or importation of certain class I and class II substances, HCFC-22, or HCFC-141b shall be subject to the requirements of §82.4;
(2) Producers, importers, exporters, purchasers, and persons who transform or destroy certain class I and class II substances, HCFC-22, or HCFC-141b are subject to the recordkeeping requirements at §82.13; and
(3) Class I substances (listed at Appendix A to Subpart A) include certain CFCs, Halons, HBFCs, carbon tetrachloride, trichloroethane (methyl chloroform), and bromomethane (Methyl Bromide). Class II substances (listed at Appendix B to Subpart A) include HCFCs.

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant. [40 CFR 82, Subpart B]

C. The permittee shall comply with the following standards for recycling and emissions reduction except as provided for MVACs in Subpart B: [40 CFR 82, Subpart F]

(1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;
(2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158;
(3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161;
(4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;
(5) Persons owning commercial or industrial process refrigeration equipment must comply

with leak repair requirements pursuant to § 82.158; and

(6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

SECTION XXI. TITLE V APPROVAL LANGUAGE

A. DEQ wishes to reduce the time and work associated with permit review and, wherever it is not inconsistent with Federal requirements, to provide for incorporation of requirements established through construction permitting into the Source's Title V permit without causing redundant review. Requirements from construction permits may be incorporated into the Title V permit through the administrative amendment process set forth in OAC 252:100-8-7.2(a) only if the following procedures are followed:

(1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.

(2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).

(3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).

(4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R.§ 70.8(a) and (c).

(5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.

(6) The DEQ complies with 40 C.F.R. § 70.8(d).

(7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).

(8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.

(9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).

(10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

B. To the extent that these conditions are not followed, the Title V permit must go through the Title V review process.

SECTION XXII. CREDIBLE EVIDENCE

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any provision of the Oklahoma implementation plan, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. [OAC 252:100-43-6]

PART 70 PERMIT

AIR QUALITY DIVISION
STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
707 NORTH ROBINSON, SUITE 4100
P.O. BOX 1677
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit No. 2016-1240-C (M-2)

CP Kelco US, Inc.,

having complied with the requirements of the law, is hereby granted permission to construct within the boundaries of the CP Kelco Okmulgee Biogum Plant in the N/2, NE/4 of Section 13, T13N, R12E, Okmulgee County, Oklahoma, subject to the Standard Conditions dated June 21, 2016, and the Specific Conditions, both of which are attached:

In the absence of construction commencement, this permit shall expire 18 months of the issuance date, except as authorized under Section VIII of the Standard Conditions.

Kendal Stegmann, Director **Date**

SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

CP Kelco US, Inc.
Attn.: Mr. Joe Littleton
1200 West 20th Street
Okmulgee, OK 74447

Re: Operating Permit No. **2016-1240-C (M-2)**
CP Kelco Okmulgee Biogum Plant (Facility ID: 1516)
N/2, NE/4 of Section 13, T13N, R12E, Okmulgee County, Oklahoma

Dear Mr. Littleton:

Enclosed is the permit authorizing construction of the referenced facility. Please note that this permit is issued subject to the standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed through DEQ's electronic reporting system by April 1st of every year. Any questions concerning the submittal process should be referred to the Emissions Inventory Staff at (405) 702-4100.

Thank you for your cooperation in this matter. If we may be of further service, please contact me at richard.kienlen@deq.ok.gov, or (405) 702-4181.

Sincerely,

Richard Kienlen, P.E.
New Source Permits Section
AIR QUALITY DIVISION

Enclosures

SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

CP Kelco US, Inc.
Attn.: Mr. Joe Littleton
1200 West 20th Street
Okmulgee, OK 74447

Re: Operating Permit No. **2016-1240-C (M-2)**
CP Kelco Okmulgee Biogum Plant (Facility ID: 1516)
N/2, NE/4 of Section 13, T13N, R12E, Okmulgee County, Oklahoma

Dear Mr. Littleton:

Air Quality has received the permit application for the referenced facility and completed initial review. This application has been determined to be a Tier II application. In accordance with 27A O.S. 2-14-301 and 302 and OAC 252:4-7-13(c) the enclosed draft permit is now ready for public review. The requirements for public review of the draft permit include the following steps, which you must accomplish:

1. Publish at least one legal notice (one day) for each notice in at least one newspaper of general circulation within the county where the facility is located. (Instructions enclosed)
2. Provide for public review (for a period of 30 days following the date of the newspaper announcement) a copy of the application and draft permit at a convenient location (preferentially at a public location) within the county of the facility.
3. Send AQD a written affidavit of publication for the notices from Item #1 above together with any additional comments or requested changes, which you may have for the permit application within 20 days of publication.

The permit review time is hereby tolled pending the receipt of the affidavit of publication. Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact the permit writer at eric.milligan@deq.ok.gov or at (405) 702-4217.

Sincerely,

Phillip Fielder

Phillip Fielder, P.E.
Chief Engineer
AIR QUALITY DIVISION

Enclosures

Department of Environmental Quality (DEQ)
Air Quality Division (AQD)
Acronym List
10-16-20

ACFM	Actual Cubic Feet per Minute
AD	Applicability Determination
AFRC	Air-to-Fuel Ratio Controller
API	American Petroleum Institute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BAE	Baseline Actual Emissions
BHP	Brake Horsepower (bhp)
BTU	British thermal unit (Btu)
C&E	Compliance and Enforcement
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS	Chemical Abstract Service
CAAA	Clean Air Act Amendments
CC	Catalytic Converter
CCR	Continuous Catalyst Regeneration
CD	Consent Decree
CEM	Continuous Emission Monitor
CFC	Chlorofluorocarbon
CFR	Code of Federal Regulations
CI	Compression Ignition
CNG	Compressed Natural Gas
CO	Carbon Monoxide or Consent Order
COA	Capable of Accommodating
COM	Continuous Opacity Monitor
D	Day
DEF	Diesel Exhaust Fluid
DG	Demand Growth
DSCF	Dry Standard (At Standard Conditions) Cubic Foot (Feet)
EGU	Electric Generating Unit
EI	Emissions Inventory
EPA	Environmental Protection Agency
ESP	Electrostatic Precipitator
EUG	Emissions Unit Group
EUSGU	Electric Utility Steam Generating Unit
FCE	Full Compliance Evaluation
FCCU	Fluid Catalytic Cracking Unit
FIP	Federal Implementation Plan
FR	Federal Register
GACT	Generally Achievable Control Technology
GAL	Gallon (gal)
GDF	Gasoline Dispensing Facility
GEP	Good Engineering Practice
GHG	Greenhouse Gases
GR	Grain(s) (gr)
HAP	Hazardous Air Pollutants
HC	Hydrocarbon
HCFC	Hydroclorofluorocarbon
H_2CO	Formaldehyde
HON	Hazardous Organic NESHAP
HP	Horsepower (hp)
HR	Hour (hr)
H_2S	Hydrogen Sulfide
I&M	Inspection and Maintenance
IBR	Incorporation by Reference
ICE	Internal Combustion Engine
LAER	Lowest Achievable Emission Rate
LB	Pound(s) [Mass] (lb, lbs, lbm)
LB/HR	Pound(s) per Hour (lb/hr)
LDAR	Leak Detection and Repair
LNG	Liquefied Natural Gas
LT	Long Ton(s) (metric)
M	Thousand (Roman Numeral)
MAAC	Maximum Acceptable Ambient Concentration
MACT	Maximum Achievable Control Technology
MM	Prefix used for Million (Thousand-Thousand)
MMBTU	Million British Thermal Units (MMBtu)
MMBTUH	Million British Thermal Units per Hour (MMBtu/hr)
MMSCF	Million Standard Cubic Feet (MMscf)
MMSCFD	Million Standard Cubic Feet per Day
MSDS	Material Safety Data Sheet
MWC	Municipal Waste Combustor
MWe	Megawatt Electrical
NA	Nonattainment
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NH_3	Ammonia
NMHC	Non-methane Hydrocarbon
NGL	Natural Gas Liquids
NO_2	Nitrogen Dioxide
NOx	Nitrogen Oxides
NOI	Notice of Intent
NSCR	Non-Selective Catalytic Reduction
NSPS	New Source Performance Standards
NSR	New Source Review
O_3	Ozone
O&G	Oil and Gas

O&M	Operation and Maintenance
O&NG	Oil and Natural Gas
OAC	Oklahoma Administrative Code
OC	Oxidation Catalyst
PAH	Polycyclic Aromatic Hydrocarbons
PAE	Projected Actual Emissions
PAL	Plant-wide Applicability Limit
Pb	Lead
PBR	Permit by Rule
PCB	Polychlorinated Biphenyls
PCE	Partial Compliance Evaluation
PEA	Portable Emissions Analyzer
PFAS	Per-and Polyfluoroalkyl Substance
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter with an Aerodynamic Diameter <= 2.5 Micrometers
PM_{10}	Particulate Matter with an Aerodynamic Diameter <= 10 Micrometers
POM	Particulate Organic Matter or Polycyclic Organic Matter
ppb	Parts per Billion
ppm	Parts per Million
ppmv	Parts per Million Volume
ppmvd	Parts per Million Dry Volume
PSD	Prevention of Significant Deterioration
psi	Pounds per Square Inch
psia	Pounds per Square Inch Absolute
psig	Pounds per Square Inch Gage
RACT	Reasonably Available Control Technology
RATA	Relative Accuracy Test Audit
RFG	Refinery Fuel Gas
RICE	Reciprocating Internal Combustion Engine
RO	Responsible Official
ROAT	Regional Office at Tulsa
RVP	Reid Vapor Pressure
SCC	Source Classification Code
SCF	Standard Cubic Foot
SCFD	Standard Cubic Feet per Day
SCFM	Standard Cubic Feet per Minute
SCR	Selective Catalytic Reduction
SER	Significant Emission Rate
SI	Spark Ignition
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SNCR	Selective Non-Catalytic Reduction
SO_2	Sulfur Dioxide
SOx	Sulfur Oxides
SOP	Standard Operating Procedure
SRU	Sulfur Recovery Unit
T	Tons
TAC	Toxic Air Contaminant
THC	Total Hydrocarbons
TPY	Tons per Year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulates
TV	Title V of the Federal Clean Air Act
$\mu g/m^3$	Micrograms per Cubic Meter
US EPA	U. S. Environmental Protection Agency
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
VOL	Volatile Organic Liquid
VRT	Vapor Recovery Tower
VRU	Vapor Recovery Unit
YR	Year
2SLB	2-Stroke Lean Burn
4SLB	4-Stroke Lean Burn
4SRB	4-Stroke Rich Burn